



Wolyniec Construction Inc.

294 Freedom Road

• P.O.Box 666

• Williamsport, PA 17703

Phone (570) 326-4428 • Fax (570) 326-4012

Accident & Incident Reporting Procedures

1. Always report any accidents or near misses to Employers. An Accident/Injury Report needs to be filled out within 7 days and given to. (Steve Schenck, President)
2. Any injuries needing first aid or medical attention should be reported to Employer as soon as possible.
3. In case of Emergency employees should call 911 or Emergency Response Number (800) 423-9300 for instructions.
4. Make sure all Bulletin Board Postings have the address of the nearest hospital along with our office location and/or job site address.
5. Anyone witnessing and accident should report what he or she saw to Employer.
6. All accidents involving medical treatment should have an investigation conducted to determine the cause by the Safety Committee.
7. Always report any unsafe conditions or unsafe acts, no matter how minor, to your Employer.
8. Drug testing is mandatory with all accidents.
9. Take Pictures with phone or camera of accident.

Updated May 2016

Safety Committee Members 2017

Wolyniec Construction, Inc.

**If You have any questions regarding any safety procedure, here are
your representatives**

Steven W. Schenck – President (Chairman)

Jack Hauser – General Manager

Evan Wolyniec – Surveyor, Estimator, Project Manager

Mark Gargas – Shop Manager

Alec Dempsey – Mechanic/Truck Driver

David Sanders – Truck/Mixer Driver

Ryan Hite – Truck/Mixer Driver

SDS

Safety Data Sheets

Emergency Numbers:

911

Emergency Response Number

800-424-9300

Accident & Incident Reporting Procedures

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Accident Investigation Report Form

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13-Apr-17

***Added**

Manufacturer	Product Name	Emergency Phone #	Revised
3M	Scotchkote 413/215PC Cold Weather Grade Part B	800-364-3577	June 13,2014
3M	Scotchkote 413/215PC Cold Weather Grade Part A	800-364-3577	June 18 2017
Ankem Inc.	Cleaning Compounds	800-424-9300	May-11
Barton Solvents, Inc.	EF-Coat	800-424-9300	Aug. 2005
Carboline	Carbozinc 859 A	412-681-6669	June 15 2016
Carboline	Carbozinc 859 B	412-681-6669	Aug 13 2015
Carboline	Carbomastic 15 Part A	412-681-6669	June 10 2015
Carboline	Carbomastic 15 Part B	412-681-6669	June 25 2015
Carboline	Carbothane 134 HS Part A	412-681-6669	Sept 16 2015
Carboline	Urethane Converter 900	412-681-6669	March 18 2016
Chevron	Diesel Fuel #2 GTL Diesel 10-30%	800-424-9300	May 8 2015
Chevron	Diesel Fuel #2 GTL Diesel 3-10%	800-424-9300	April 22 2016
Dayton Superior	Sure Anchor I (J-51) ICBO Part B	800-424-9300	March 14 2016
Dayton Superior	Anti Spall J33 Concrete Sealer (69180/69179)	800-424-9300	Jan. 18, 2015
Dayton Superior	Sure Anchor I Hardener (J-51) MSDS No. 3360	800-424-9300	Jan 22 2016
Dayton Superior	Sure Anchor I Resin (J-51) MSDS No. 3365	800-424-9300	Jan 22 2016
*Dayton Superior	Day-Chem Anti Spall (J-33) MSDS No. 3250	800-424-9300	Aug 24 2016
EMS Environmental Manf. Solutions	SynClean HD	800-424-9300	May 20 2015
EMS Environmental Manf. Solutions	Ready-Mix Truck Wash & Wax	800-424-9300	May 20 2015
EMS Environmental Manf. Solutions	Barracuda 10K	800-424-9300	May 19 2015
EMS Environmental Manf. Solutions	Prep-Wash	800-424-9300	May 20 2015
Euclid Chemical Company	Thin Patch	800-321-9300	July 29 2015
Euclid Chemical Company	Duralprep AC Part A (TD2353899)	800-424-9300	July 30 2015
Euclid Chemical Company	Dural 100 Type III Part A (TD63323)	800-424-9300	July 30 2015
Euclid Chemical Company	Duralprep AC Part B (TD235383 7CK)	800-424-9300	July 30 2015
Euclid Chemical Company	Eucobar Version 4.0 (28 55)	822-424-9300	Aug 30 2016

	Super Diamond Clear Version		
Euclid Chemical Company	3.1 TB-55 (359T 55)	800-424-9300	July 18 2016
Euclid Chemical Company	Airextra (730-0001)	800-424-9300	Sept 21 2015
	Flexocrete Gel Concrete Gray		
Euclid Chemical Company	Verison 1.1 (TD5343101520)	800-424-9300	July 8 2012
	Dural Fast Set Epoxy Gel 1:1		
Euclid Chemical Company	Part B (B5323NC)	800-424-9300	Jan 14 2016
*Euclid Chemical Company	Eucon MRC	416-421-3300	July 31 2015
*Euclid Chemical Company	Eucon Dura-Plus	416-421-3300	Aug 17 2015
*Euclid Chemical Company	Eucon Reduce	416-421-3300	Aug 17 2015
*Euclid Chemical Company	EUCOBond LS-12/24 Cans/CS	416-421-3300	Aug 13 2015
	Mobil Delvac 1300 Super 15W-		
Exxon Mobil Corporation	40 (20152040N010)	800-424-9300	March 2 2015
	Mobilfluid 424 Hydraulic Fluid		
Exxon Mobil Corporation	(522334-00	609-737-4411	Feb 23 2016
	Mobil Multipurpose ATF (64742-		
Exxon Mobil Corporation	56-9	800-424-9300	Feb 23 2016
Gardner Denver, Inc.	AEON-PD #76 PTO Fluid	217-222-5400	April 14 2015
	Limestone, Crushed Stone (CAS-		
Hanson	#14808-60-7)	800-424-9300	June 1 2015
	Natural Sand, Crushed Stone		
Hanson	(CAS- #14808-60-7)	800-424-9300	June 1 2015
	Hit - Hy 150 Max Methacrylate		
Hilti Corporation	Resin & Hardener	800-424-9300	May 18 2015
	Safety Boosters Cartridges for		
Hilti Corporation	Power Tools	800-424-9300	Aug 8 2016
Hilti Corporation	CI 060 EP Epoxy Injection Resin	800-424-9300	May-13
	CFR-1 Cleaner - Cleaning agent		
Hilti Corporation	for Hilti Foam Dispensers	800-424-9300	Dec 3 2013
	Spray Lubricant for Cleaning		
Hilti Corporation	Hilti Power Actuated Tools	800-424-9300	May 18 2015
	CF 128-DW Insulating Foam for		
Hilti Corporation	Doors and Windows	800-424-9300	April 2 2016
	Hit-Re 500 SD High Strength		
Hilti Corporation	Epoxy Anchoring Concrete	800-424-9300	Sept 9 2013
Hotsy	Tubmate All Purpose	303-623-5716	Sept 15 2014
	Si-prime impregnating Silans		
Klaas Coatings	Sealer KLASS-002	866-317-3633	May 7 2015

	Si-Rex03 Resin Emulsion Paint		
Klaas Coatings	KLAAS-003	866-317-3633	May 7 2015
Lafarge North America	LaFarge Portland Cement	800-451-8346	April 23 2015
	Liquid Roc 300 Polyester		
MKT Fastening LLC	Capules/Hammer Capule	800-424-9300	Sept 8 2015
MRC polymerc Inc.	Emarex Polyamide Resin	773-619-5652	April 24 2015
Nox-Crete Manufacturing	Cure & Seal 150E	402-341-2080	Apr-14
	MultiMesh Nylon 6,6		
Nycom, Inc.	Ployamide Fiber	423-282-4242	Feb 26 2016
	Argon Compressed Rare Gas (P-4563-I)		
Praxair		800-424-9300	Oct 3 2014
	Hydrogen, Compressed (P-4604-H)		
Praxair		800-424-9300	June 3 2015
	Helium, Refrigerated Liquid (P-4600-H)		
Praxair		800-424-9300	Oct 21 2014
	Polypropylene Fibers for		
Propex Operating Company	Concrete Fibermesh	800-424-9300	June 12 2016
Royston Laboratories Division	104 CM Dod. Synthetic Rubber		
Chase Corporation	Adhesive (CAS #108-88-3)	412-828-1500	Dec. 1998
	ShellSol OMS Industrial Solvent		
Shell Chemicals Americas Inc.	(Q7432)	855-697-4355	Sept 21 2016
Tamms	Duralprep A.C.	800-862-2667	July 30 2015
Valspar	Greenbar Touchup Coating Kit	888-345-5732	Apr-12
	Certi-Vex Envio Cure White		
Vexcon Chemicals	#100, #500, #1000	800-424-9300	April 20 2015
	Cert-Vex Envio-Cure 100-500-		
Vexcon Chemicals, Inc.	1000	800-424-9300	
W. M. Barr	Klean Strip Paint Thinner	901-775-0100	April 20 2015
W.R. Grace Construction			
Products	Duraccel M	617-876-1400	April 22 2015
W.R. Grace Construction			
Products	Daracem 55	800-424-9300	Feb 8 2016
W.R. Grace Construction			
Products	Daravair At 30`	800-424-9300	April 14 2015
W.R. Grace Construction			
Products	Daravair At 60	800-424-9300	Feb 8 2016
W.R. Grace Construction			
Products	Daratard 17	800-424-9300	May 19 2015
W.R. Grace Construction			
Products	Daratard 37	800-424-9300	June 6 2016
W.R. Grace Construction			
Products	Daratard HC	800-424-9300	Feb 18 2016
W.R. Grace Construction			
Products	Polarset	800-424-9300	March 5 2012
W.R. Grace Construction			
Products	Daraset 400	800-424-9300	Feb 17 2016

[illegible]



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

SCOTCHKOTE 413/215 PC Cold Weather Grade, Part A

1.2. Recommended use and restrictions on use

Recommended use

Coating, Part A of 2 Part Epoxy Coating System

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Electrical Markets Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Liquid: Category 3.
Serious Eye Damage/Irritation: Category 2B.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.
Carcinogenicity: Category 1A.

2.2. Label elements

Signal word
Danger

Symbols

Flame | Exclamation mark | Health Hazard |

Pictograms

**Hazard Statements**

Flammable liquid and vapor.

Causes eye irritation.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

May cause cancer.

Precautionary Statements**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

IF exposed or concerned: Get medical advice/attention.

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
4,4'-ISOPROPYLIDENEDIPHENOL-	25068-38-6	30 - 40 Trade Secret *

EPICHLOROHYDRIN POLYMER		
CALCIUM CARBONATE	1317-65-3	30 - 40 Trade Secret *
1-METHOXY-2-PROPANOL	107-98-2	10 - 20 Trade Secret *
TITANIUM DIOXIDE	13463-67-7	5 - 15 Trade Secret *
C.I. PIGMENT YELLOW 42	51274-00-1	1 - 4 Trade Secret *
ETHYLBENZENE	100-41-4	< 1 Trade Secret *
ETHYL ALCOHOL	64-17-5	< 0.5 Trade Secret *
QUARTZ SILICA	14808-60-7	< 0.25 Trade Secret *
METHYL ALCOHOL	67-56-1	< 0.20 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance

Aldehydes
Carbon monoxide
Carbon dioxide
Hydrogen Chloride
Oxides of Nitrogen

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid eye contact. Avoid breathing of vapors created during cure cycle. Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
ETHYLBENZENE	100-41-4	ACGIH	TWA:20 ppm	
ETHYLBENZENE	100-41-4	CMRG	TWA:25 ppm;STEL:75 ppm	
ETHYLBENZENE	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	

1-METHOXY-2-PROPANOL	107-98-2	ACGIH	TWA:50 ppm;STEL:100 ppm	
CALCIUM CARBONATE	1317-65-3	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
TITANIUM DIOXIDE	13463-67-7	ACGIH	TWA:10 mg/m3	
TITANIUM DIOXIDE	13463-67-7	CMRG	TWA(as respirable dust):5 mg/m3	
TITANIUM DIOXIDE	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
QUARTZ SILICA	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	
QUARTZ SILICA	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
ETHYL ALCOHOL	64-17-5	ACGIH	STEL:1000 ppm	
ETHYL ALCOHOL	64-17-5	OSHA	TWA:1900 mg/m3(1000 ppm)	
METHYL ALCOHOL	67-56-1	ACGIH	TWA:200 ppm;STEL:250 ppm	Skin Notation
METHYL ALCOHOL	67-56-1	OSHA	TWA:260 mg/m3(200 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Wear protective gloves and eye/face protection. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Wear protective gloves.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Odor, Color, Grade:	Green Liquid
Odor threshold	No Data Available
pH	No Data Available
Melting point	Not Applicable
Boiling Point	> 148 °F
Flash Point	125 °F [Test Method: Tagliabue Closed Cup]
Evaporation rate	< 1 [Ref Std: BUOAC=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1 % volume
Flammable Limits(UEL)	36.5 % volume
Vapor Pressure	13 mmHg [Test Method: Calculated] [Details: @25C]
Vapor Density	> 1 [Ref Std: AIR=1]
Density	1.54 g/ml
Specific Gravity	1.54 [Ref Std: WATER=1]
Solubility in Water	Negligible
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	1,000 centipoise
Volatile Organic Compounds	112 g/l [Test Method: tested per EPA method 24] [Details: For coating mixture of Parts A and B]
Percent volatile	14.7 %
VOC Less H2O & Exempt Solvents	No Data Available

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents
Reducing agents

10.6. Hazardous decomposition products

Substance

Condition

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Vapors released during curing may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient	C.A.S. No.	Class Description	Regulation
ETHYLBENZENE	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
TITANIUM DIOXIDE	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Additional Information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption

of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Rat	LD50 > 1,000 mg/kg
CALCIUM CARBONATE	Dermal	Rat	LD50 > 2,000 mg/kg
CALCIUM CARBONATE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3.0 mg/l
CALCIUM CARBONATE	Ingestion	Rat	LD50 6,450 mg/kg
1-METHOXY-2-PROPANOL	Dermal	Rabbit	LD50 11,000-13,800 mg/kg
1-METHOXY-2-PROPANOL	Inhalation-Vapor (4 hours)	Rat	LC50 56 mg/l
1-METHOXY-2-PROPANOL	Ingestion	Rat	LD50 6,100 mg/kg
TITANIUM DIOXIDE	Dermal	Rabbit	LD50 > 10,000 mg/kg
TITANIUM DIOXIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
TITANIUM DIOXIDE	Ingestion	Rat	LD50 > 10,000 mg/kg
C.I. PIGMENT YELLOW 42	Ingestion	Rat	LD50 > 5,000 mg/kg
ETHYLBENZENE	Dermal	Rabbit	LD50 15,433 mg/kg
ETHYLBENZENE	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
ETHYLBENZENE	Ingestion	Rat	LD50 4,769 mg/kg
ETHYL ALCOHOL	Dermal	Rabbit	LD50 > 15,800 mg/kg
ETHYL ALCOHOL	Inhalation-Vapor (4 hours)	Rat	LC50 124.7 mg/l
ETHYL ALCOHOL	Ingestion	Rat	LD50 17,800 mg/kg
QUARTZ SILICA	Dermal		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Ingestion		LD50 estimated to be > 5,000 mg/kg
METHYL ALCOHOL	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
METHYL ALCOHOL	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
METHYL ALCOHOL	Ingestion		LD50 estimated to be 50 - 300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Mild irritant
CALCIUM CARBONATE	Rabbit	No significant irritation
1-METHOXY-2-PROPANOL	Not available	Minimal irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
ETHYLBENZENE	Rabbit	Mild irritant
ETHYL ALCOHOL	Rabbit	No significant irritation
QUARTZ SILICA		No significant irritation
METHYL ALCOHOL	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Moderate irritant
CALCIUM CARBONATE	Rabbit	No significant irritation

1-METHOXY-2-PROPANOL	Not available	Mild irritant
TITANIUM DIOXIDE	Rabbit	No significant irritation
ETHYLBENZENE	Rabbit	Moderate irritant
ETHYL ALCOHOL	Rabbit	Moderate irritant
METHYL ALCOHOL	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Human and animal	Sensitizing
1-METHOXY-2-PROPANOL	Guinea pig	Not sensitizing
TITANIUM DIOXIDE	Human and animal	Not sensitizing
ETHYLBENZENE	Human	Not sensitizing
ETHYL ALCOHOL	Human	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Human	Some positive data exist, but the data are not sufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	In Vitro	Some positive data exist, but the data are not sufficient for classification
1-METHOXY-2-PROPANOL	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In vivo	Not mutagenic
ETHYLBENZENE	In vivo	Not mutagenic
ETHYLBENZENE	In Vitro	Some positive data exist, but the data are not sufficient for classification
ETHYL ALCOHOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
ETHYL ALCOHOL	In vivo	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In Vitro	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In vivo	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
1-METHOXY-2-PROPANOL	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
TITANIUM DIOXIDE	Ingestion	Multiple animal species	Not carcinogenic
TITANIUM DIOXIDE	Inhalation	Rat	Carcinogenic
ETHYLBENZENE	Inhalation	Multiple animal	Carcinogenic

ETHYL ALCOHOL	Ingestion	species Multiple animal species	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	Inhalation	Human and animal	Carcinogenic
METHYL ALCOHOL	Inhalation	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation
CALCIUM CARBONATE	Ingestion	Not toxic to development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
1-METHOXY-2-PROPANOL	Inhalation	Not toxic to male reproduction	Rat	NOAEL 11.0 mg/l	2 generation
1-METHOXY-2-PROPANOL	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,328 mg/kg/day	2 generation
1-METHOXY-2-PROPANOL	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.7 mg/l	2 generation
1-METHOXY-2-PROPANOL	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,328 mg/kg	2 generation
1-METHOXY-2-PROPANOL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 370 mg/kg	during gestation
1-METHOXY-2-PROPANOL	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 3.7 mg/l	2 generation
ETHYLBENZENE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 4.3 mg/l	premating & during gestation
ETHYL ALCOHOL	Inhalation	Not toxic to development	Rat	NOAEL 38 mg/l	during gestation
ETHYL ALCOHOL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5,200 mg/kg/day	premating & during gestation
METHYL ALCOHOL	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,600 mg/kg/day	21 days
METHYL ALCOHOL	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
METHYL ALCOHOL	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CALCIUM CARBONATE	Inhalation	respiratory system	All data are negative	Rat	NOAEL 0.812 mg/l	90 minutes
1-METHOXY-2-PROPANOL	Dermal	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 1,800 mg/kg	13 weeks
1-METHOXY-2-PROPANOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ETHYLBENZENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ETHYLBENZENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
ETHYL ALCOHOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 2.6 mg/l	30 minutes
ETHYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
ETHYL ALCOHOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL not available	
ETHYL ALCOHOL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 3,000 mg/kg	
METHYL ALCOHOL	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
METHYL ALCOHOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
METHYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
METHYL ALCOHOL	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
METHYL ALCOHOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-ISOPROPYLDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER	Dermal	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-ISOPROPYLDENEDIPH ENOL-EPICHLOROHYDRIN POLYMER	Ingestion	auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
CALCIUM CARBONATE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
1-METHOXY-2-PROPANOL	Dermal	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 1,800 mg/kg/day	13 weeks
1-METHOXY-2-PROPANOL	Dermal	hematopoietic system	All data are negative	Rabbit	NOAEL 1,000 mg/kg/day	3 weeks
1-METHOXY-2-PROPANOL	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for	Rat	NOAEL 3.7 mg/l	13 weeks

			classification			
1-METHOXY-2-PROPANOL	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 11 mg/l	13 weeks
1-METHOXY-2-PROPANOL	Inhalation	hematopoietic system	All data are negative	Rat	NOAEL 2.2 mg/l	10 days
1-METHOXY-2-PROPANOL	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 920 mg/kg/day	13 weeks
TITANIUM DIOXIDE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.010 mg/l	2 years
TITANIUM DIOXIDE	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
ETHYLBENZENE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
ETHYLBENZENE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
ETHYLBENZENE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.4 mg/l	28 days
ETHYLBENZENE	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	5 days
ETHYLBENZENE	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3.3 mg/l	103 weeks
ETHYLBENZENE	Inhalation	bone, teeth, nails, and/or hair muscles	All data are negative	Multiple animal species	NOAEL 4.2 mg/l	90 days
ETHYLBENZENE	Inhalation	heart immune system respiratory system	All data are negative	Multiple animal species	NOAEL 3.3 mg/l	2 years
ETHYLBENZENE	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 680 mg/kg/day	6 months
ETHYL ALCOHOL	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
ETHYL ALCOHOL	Inhalation	hematopoietic system immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 25 mg/l	14 days
ETHYL ALCOHOL	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
ETHYL ALCOHOL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 3,000 mg/kg/day	7 days
QUARTZ SILICA	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
METHYL ALCOHOL	Inhalation	liver	All data are negative	Rat	NOAEL 6.55 mg/l	4 weeks
METHYL ALCOHOL	Inhalation	respiratory system	All data are negative	Rat	NOAEL 13.1 mg/l	6 weeks
METHYL ALCOHOL	Ingestion	liver nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	90 days

Aspiration Hazard

Name	Value
ETHYLBENZENE	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
ETHYLBENZENE	100-41-4	< 1

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 2 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: *2 Flammability: 2 Physical Hazard: 0 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

SCOTCHKOTE 413/215PC Cold Weather Grade, Part B

1.2. Recommended use and restrictions on use

Recommended use

Coating, Part B of a 2 Part Epoxy Coating System

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Electrical Markets Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Flammable Liquid: Category 3.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Reproductive Toxicity: Category 2.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (central nervous system): Category 3.
Specific Target Organ Toxicity (respiratory irritation): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements

Signal word
Danger

Symbols

Flame | Corrosion | Exclamation mark | Health Hazard |

Pictograms



Hazard Statements

Flammable liquid and vapor.

Causes skin irritation.

May cause respiratory irritation.

May cause drowsiness or dizziness.

Suspected of damaging fertility or the unborn child.

Suspected of causing cancer.

Causes damage to organs:
sensory organs |

Causes damage to organs through prolonged or repeated exposure:
nervous system |

May cause damage to organs through prolonged or repeated exposure:
sensory organs |

Precautionary Statements

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

IF exposed or concerned: Get medical advice/attention.

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.
Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns. May cause chemical respiratory tract burns.

59% of the mixture consists of ingredients of unknown acute dermal toxicity.

59% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
MERCAPTAN-TERMINATED EPOXY CURING AGENT	Unknown	50 - 60 Trade Secret *
1-METHOXY-2-PROPANOL	107-98-2	15 - 25 Trade Secret *
MERCAPTAN BLEND	Unknown	10 - 20 Trade Secret *
XYLENE	1330-20-7	< 1.5 Trade Secret *
ETHYLBENZENE	100-41-4	< 1.5 Trade Secret *
ETHYL ALCOHOL	64-17-5	< 0.5 Trade Secret *
METHYL ALCOHOL	67-56-1	< 0.2 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. Get immediate medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Contain spill. Cover spill area with a fire-extinguishing foam. An appropriate aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing of vapors created during cure cycle. Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
ETHYLBENZENE	100-41-4	ACGIH	TWA:20 ppm	
ETHYLBENZENE	100-41-4	CMRG	TWA:25 ppm;STEL:75 ppm	
ETHYLBENZENE	100-41-4	OSHA	TWA:435 mg/m3(100 ppm)	
1-METHOXY-2-PROPANOL	107-98-2	ACGIH	TWA:50 ppm;STEL:100 ppm	
XYLENE	1330-20-7	ACGIH	TWA:100 ppm;STEL:150 ppm	
XYLENE	1330-20-7	CMRG	TWA:50 ppm;STEL:75 ppm	
XYLENE	1330-20-7	OSHA	TWA:435 mg/m3(100 ppm)	
ETHYL ALCOHOL	64-17-5	ACGIH	STEL:1000 ppm	
ETHYL ALCOHOL	64-17-5	OSHA	TWA:1900 mg/m3(1000 ppm)	
METHYL ALCOHOL	67-56-1	ACGIH	TWA:200 ppm;STEL:250 ppm	Skin Notation
METHYL ALCOHOL	67-56-1	OSHA	TWA:260 mg/m3(200 ppm)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CELL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Wear eye/face protection. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Wear protective gloves and protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Coveralls - Disposable, laminate Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Odor, Color, Grade:	Clear Liquid
Odor threshold	No Data Available
pH	Not Applicable
Melting point	Not Applicable
Boiling Point	> 148 °F
Flash Point	112 °F [Test Method: Tagliabue Closed Cup]
Evaporation rate	< 1 [Ref Std: BUOAC=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1 %
Flammable Limits(UEL)	36 %
Vapor Pressure	12 mmHg [Test Method: Calculated] [Details: @25C]
Vapor Density	> 1 [Ref Std: AIR=1]
Density	1.09 g/ml
Specific Gravity	1.09 [Ref Std: WATER=1]
Solubility in Water	Negligible
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	800 centipoise
Volatile Organic Compounds	112 g/l [Test Method: tested per EPA method 24] [Details: For coating mixture of Parts A and B]
Percent volatile	19.8 %
VOC Less H2O & Exempt Solvents	No Data Available

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Sparks and/or flames

10.5. Incompatible materials

Strong oxidizing agents

Reducing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

May be harmful if inhaled.

Respiratory Tract Corrosion: Signs/symptoms may include nasal discharge, severe nose and throat pain, chest tightness and pain, coughing up blood, wheezing, and breathlessness, possibly progressing to respiratory failure.

May cause target organ effects after inhalation.

Skin Contact:

May be harmful in contact with skin.

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

May cause target organ effects after ingestion.

Target Organ Effects:

Single exposure may cause:

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient	C.A.S. No.	Class Description	Regulation
ETHYLBENZENE	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Additional Information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE 2,000 - 5,000 mg/kg
Overall product	Inhalation-Vapor (4 hr)		No data available; calculated ATE 20 - 50 mg/l
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
1-METHOXY-2-PROPANOL	Dermal	Rabbit	LD50 11,000-13,800 mg/kg
1-METHOXY-2-PROPANOL	Inhalation-Vapor (4 hours)	Rat	LC50 56 mg/l
1-METHOXY-2-PROPANOL	Ingestion	Rat	LD50 6,100 mg/kg
XYLENE	Dermal	Rabbit	LD50 > 4,200 mg/kg
XYLENE	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
XYLENE	Ingestion	Rat	LD50 3,523 mg/kg
ETHYLBENZENE	Dermal	Rabbit	LD50 15,433 mg/kg
ETHYLBENZENE	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
ETHYLBENZENE	Ingestion	Rat	LD50 4,769 mg/kg
ETHYL ALCOHOL	Dermal	Rabbit	LD50 > 15,800 mg/kg
ETHYL ALCOHOL	Inhalation-Vapor (4 hours)	Rat	LC50 124.7 mg/l
ETHYL ALCOHOL	Ingestion	Rat	LD50 17,800 mg/kg
METHYL ALCOHOL	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
METHYL ALCOHOL	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
METHYL ALCOHOL	Ingestion		LD50 estimated to be 50 - 300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
1-METHOXY-2-PROPANOL	Not available	Minimal irritation
XYLENE	Rabbit	Mild irritant
ETHYLBENZENE	Rabbit	Mild irritant
ETHYL ALCOHOL	Rabbit	No significant irritation
METHYL ALCOHOL	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
1-METHOXY-2-PROPANOL	Not available	Mild irritant
XYLENE	Rabbit	Mild irritant
ETHYLBENZENE	Rabbit	Moderate irritant
ETHYL ALCOHOL	Rabbit	Moderate irritant
METHYL ALCOHOL	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
1-METHOXY-2-PROPANOL	Guinea pig	Not sensitizing
ETHYLBENZENE	Human	Not sensitizing
ETHYL ALCOHOL	Human	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
1-METHOXY-2-PROPANOL	In Vitro	Not mutagenic
XYLENE	In Vitro	Not mutagenic
XYLENE	In vivo	Not mutagenic
ETHYLBENZENE	In vivo	Not mutagenic
ETHYLBENZENE	In Vitro	Some positive data exist, but the data are not sufficient for classification
ETHYL ALCOHOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
ETHYL ALCOHOL	In vivo	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
1-METHOXY-2-PROPANOL	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
XYLENE	Dermal	Rat	Not carcinogenic
XYLENE	Ingestion	Multiple animal species	Not carcinogenic
XYLENE	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
ETHYLBENZENE	Inhalation	Multiple animal species	Carcinogenic

ETHYL ALCOHOL	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
METHYL ALCOHOL	Inhalation	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
1-METHOXY-2-PROPANOL	Inhalation	Not toxic to male reproduction	Rat	NOAEL 11.0 mg/l	2 generation
1-METHOXY-2-PROPANOL	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,328 mg/kg/day	2 generation
1-METHOXY-2-PROPANOL	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.7 mg/l	2 generation
1-METHOXY-2-PROPANOL	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,328 mg/kg	2 generation
1-METHOXY-2-PROPANOL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 370 mg/kg	during gestation
1-METHOXY-2-PROPANOL	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 3.7 mg/l	2 generation
XYLENE	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
XYLENE	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
XYLENE	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
XYLENE	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	during organogenesis
XYLENE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	during gestation
ETHYLBENZENE	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 4.3 mg/l	prematuring & during gestation
ETHYL ALCOHOL	Inhalation	Not toxic to development	Rat	NOAEL 38 mg/l	during gestation
ETHYL ALCOHOL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 5,200 mg/kg/day	prematuring & during gestation
METHYL ALCOHOL	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,600 mg/kg/day	21 days
METHYL ALCOHOL	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
METHYL ALCOHOL	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis

Lactation

Name	Route	Species	Value
XYLENE	Ingestion	Mouse	Does not cause effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
1-METHOXY-2-PROPANOL	Dermal	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 1,800 mg/kg	13 weeks
1-METHOXY-2-PROPANOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
XYLENE	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
XYLENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
XYLENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
XYLENE	Inhalation	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.5 mg/l	not available
XYLENE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg	not applicable
ETHYLBENZENE	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
ETHYLBENZENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
ETHYL ALCOHOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 2.6 mg/l	30 minutes
ETHYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
ETHYL ALCOHOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL not available	
ETHYL ALCOHOL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 3,000 mg/kg	
METHYL ALCOHOL	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
METHYL ALCOHOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
METHYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
METHYL ALCOHOL	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
METHYL ALCOHOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
1-METHOXY-2-PROPANOL	Dermal	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rabbit	NOAEL 1,800 mg/kg/day	13 weeks
1-METHOXY-2-PROPANOL	Dermal	hematopoietic system	All data are negative	Rabbit	NOAEL 1,000	3 weeks

					mg/kg/day	
1-METHOXY-2-PROPANOL	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.7 mg/l	13 weeks
1-METHOXY-2-PROPANOL	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 11 mg/l	13 weeks
1-METHOXY-2-PROPANOL	Inhalation	hematopoietic system	All data are negative	Rat	NOAEL 2.2 mg/l	10 days
1-METHOXY-2-PROPANOL	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 920 mg/kg/day	13 weeks
XYLENE	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
XYLENE	Inhalation	auditory system	May cause damage to organs through prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
XYLENE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
XYLENE	Inhalation	heart endocrine system hematopoietic system muscles kidney and/or bladder respiratory system	All data are negative	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
XYLENE	Ingestion	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	2 weeks
XYLENE	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,500 mg/kg/day	90 days
XYLENE	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
XYLENE	Ingestion	heart skin endocrine system bone, teeth, nails, and/or hair hematopoietic system immune system nervous system respiratory system	All data are negative	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
ETHYLBENZENE	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
ETHYLBENZENE	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
ETHYLBENZENE	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.4 mg/l	28 days
ETHYLBENZENE	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	5 days
ETHYLBENZENE	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3.3 mg/l	103 weeks
ETHYLBENZENE	Inhalation	bone, teeth, nails, and/or hair muscles	All data are negative	Multiple animal species	NOAEL 4.2 mg/l	90 days
ETHYLBENZENE	Inhalation	heart immune system respiratory system	All data are negative	Multiple animal species	NOAEL 3.3 mg/l	2 years
ETHYLBENZENE	Ingestion	liver kidney and/or	Some positive data exist, but the	Rat	NOAEL 680	6 months

		bladder	data are not sufficient for classification		mg/kg/day	
ETHYL ALCOHOL	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
ETHYL ALCOHOL	Inhalation	hematopoietic system immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 25 mg/l	14 days
ETHYL ALCOHOL	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
ETHYL ALCOHOL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 3,000 mg/kg/day	7 days
METHYL ALCOHOL	Inhalation	liver	All data are negative	Rat	NOAEL 6.55 mg/l	4 weeks
METHYL ALCOHOL	Inhalation	respiratory system	All data are negative	Rat	NOAEL 13.1 mg/l	6 weeks
METHYL ALCOHOL	Ingestion	liver nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	90 days

Aspiration Hazard

Name	Value
XYLENE	Aspiration hazard
ETHYLBENZENE	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
XYLENE	1330-20-7	< 1.5
XYLENE (Benzene, 1,2-dimethyl-)	1330-20-7	< 1.5
XYLENE (Benzene, 1,3-dimethyl-)	1330-20-7	< 1.5
XYLENE (Benzene, 1,4-dimethyl-)	1330-20-7	< 1.5
XYLENE (Benzene, dimethyl-)	1330-20-7	< 1.5
ETHYLBENZENE	100-41-4	< 1.5

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information**NFPA Hazard Classification**

Health: 3 Flammability: 2 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: *3 Flammability: 2 Physical Hazard: 0 Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® III) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

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Supersedes Date: 02/16/12

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MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND MANUFACTURER'S INFORMATION					
NFPA Rating: Health-0; Flammability-0; Reactivity-0; Special-			HMIS Rating: Health-0; Flammability-0; Reactivity-0; Personal Protection-A		
Manufacturer's Name: Ankem Inc. Address: 3333 Earhart #240 Carrollton, TX 75006			DOT Classification: Cleaning Compounds Identity (trade name as used on label): DUST FREE		
Date Prepared: 05/12/11 Prepared By: R.J.			MSDS Number: NA Revision - 2		
Information Calls: (972)720-0400 EMERGENCY RESPONSE NUMBER: 1(800)424-9300			NOTICE: JUDGMENT BASED ON INDIRECT TEST DATA		
SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION					
COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	SARA III LIST	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
Calcium Chloride	10043-52-4	N/A	N/A	N/A	☐
Magnesium Chloride	7786-30-3	N/A	N/A	N/A	
All other ingredients are proprietary trade secrets and/or (Non-Hazardous)					
SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS					
Boiling Point: 212+			Specific Gravity (H2O=1): 1.1		
Vapor Pressure: PSIG @ 70°F (Aerosols): N/A			Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): N/D		
Vapor Density (Air = 1): N/D			Evaporation Rate (water = 1): 1.0		
Solubility in Water: 100%			Water Reactive: No		
Appearance and Odor: Milky					

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA <input type="checkbox"/>		
FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) N/A	Auto Ignition Temperature N/A	Flammability Limits in Air by % in Volume: % LEL: N/A % UEL: N/A
FLASH POINT AND METHOD USED (non-aerosols): Non-combustible.		SPECIAL FIRE FIGHTING PROCEDURES: Use water spray to cool fire-exposed containers.
EXTINGUISHER MEDIA: Use media appropriate for surrounding fire.		
Unusual Fire & Explosion Hazards: None		

SECTION 4 - REACTIVITY HAZARD DATA <input type="checkbox"/>	
STABILITY <input checked="" type="checkbox"/> STABLE <input type="checkbox"/> UNSTABLE <input type="checkbox"/>	HAZARDOUS POLYMERIZATION <input type="checkbox"/> WILL <input checked="" type="checkbox"/> WILL NOT OCCUR
Incompatibility (Mat. to avoid): None	Conditions to Avoid: None

Hazardous Decomposition Products: None

SECTION 5 - HEALTH HAZARD DATA <input type="checkbox"/>	
PRIMARY ROUTES OF ENTRY: <input type="checkbox"/> INHALATION <input checked="" type="checkbox"/> INGESTION <input type="checkbox"/> SKIN ABSORPTION <input checked="" type="checkbox"/> EYE <input type="checkbox"/> NOT HAZARDOUS	

ACUTE EFFECTS ☐
Inhalation: N/A

Eye Contact: Mild irritant	Skin Contact: Will cause dryness
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Ingestion: Will cause GI tract distress. Give four glasses of water or citrus and refer to physician as soon as possible.

CHRONIC EFFECTS: None known.

Medical Conditions Generally Aggravated by Exposure: None known.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush with water for 15 minutes.

Skin Contact: Remove contaminated clothing. Flush skin with plenty of water.

Inhalation: N/A

Ingestion: DO NOT INDUCE VOMITING. Drink 3 to 4 glasses of water. Get immediate medical attention.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES <input type="checkbox"/>
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Respiratory Protection (specify type): N/A.

Protective Gloves: N/A	Eye Protection: Glasses recommended.
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Ventilation Requirements: N/A

Other Protective Clothing & Equipment: N/A

Hygienic Work Practices: Do not eat, drink or smoke in work area. Wash hands after handling.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Collect spilled material with absorbant & wash off residue with water.

Waste Disposal Methods: Dispose of in accordance with all local, state and federal regulations.

Precautions To Be Taken In Handling & Storage: Store in original shipping containers. Keep closed when not in use. Shelf life 1 year. Protect from extreme heat and cold.

Other Precautions &/or Special Hazards: **KEEP OUT OF REACH OF CHILDREN.** Read & follow label directions.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only

Material Safety Data Sheet

EF-Coat

Wolyniec Gust
WNSP



Section 1. Chemical Product and Company Identification

Common name : EF-Coat
Supplier : Barton Solvents, Inc.
1920 N.E. Broadway, P.O. Box 221
Des Moines, IA 50301

Material uses : Form Release Agent
Code : 80003440
Validation date : 8/16/2005.
Print date : 8/16/2005.
Responsible name : Barton Solvents, Inc.
In case of emergency : CHEMTREC (800) 424-9300

509-250232

Section 2. Composition, Information on Ingredients

United States

Name		% by weight	
Heavy Aliphatic Naphtha	8008-20-6	>9	Not available.
Severely Solvent Refined Heavy Paraffinic Petroleum Oil	64741-88-4	>9	Not available.
Severely Solvent Refined Light Paraffinic Petroleum Oil	64741-89-5	>9	Not available.

Section 3. Hazards Identification

Physical state : Liquid.
Emergency overview : No specific hazard.
Routes of entry : Ingestion. Skin contact. Eye contact.
Potential acute health effects
Eyes : This product may irritate eyes upon contact.
Skin : This product may irritate skin upon contact.
Inhalation : Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.
Ingestion : Aspiration hazard if swallowed- can enter lungs and cause damage. Harmful if swallowed.
Potential chronic health effects : **CARCINOGENIC EFFECTS:** Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
Medical conditions aggravated by overexposure : Repeated or prolonged exposure is not known to aggravate medical condition.
See toxicological information (section 11)

Section 4. First Aid Measures

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

EF-Coat

Ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the product : Combustible.

Flash point : The lowest known value is Closed cup: >71.111°C (160°F). (Tagliabue.). (Heavy Aliphatic Naphtha)

Flammable limits : The greatest known range is Lower: 0.7% Upper: 6% (Heavy Aliphatic Naphtha)

Fire fighting media and instructions : Use an extinguishing agent suitable for surrounding fires.

No specific hazard.

Special protective equipment for fire-fighters : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

Section 6. Accidental Release Measures

Personal precautions : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.

Section 7. Handling and Storage

Handling : Wash thoroughly after handling.

Storage : Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls, Personal Protection

Engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Personal protection in case of a large spill : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Consult local authorities for acceptable exposure limits.

EF-Coat

Section 9. Physical and Chemical Properties

Physical state	: Liquid.
Color	: Yellowish.
Odor	: Slight.
Boiling/condensation point	: The lowest known value is >204.44°C (400°F) (Heavy Aliphatic Naphtha).
Specific gravity	: Weighted average: 0.82 (Water = 1)
Vapor density	: The highest known value is 10 (Air = 1) (Severely Solvent Refined Heavy Paraffinic Petroleum Oil). Weighted average: 7.78 (Air = 1)
Volatility	: <75% (v/v).
Evaporation rate	: 7 (Heavy Aliphatic Naphtha) compared to Ether (anhydrous).
VOC	: Not available
Viscosity	: Dynamic: The highest known value is 1.7 cP (Heavy Aliphatic Naphtha)
Dispersion properties	: Is not dispersed in cold water, hot water. See solubility in methanol, acetone.
Solubility	: Insoluble in cold water, hot water.

Section 10. Stability and Reactivity

Stability and reactivity	: The product is stable.
Hazardous polymerization	: Will not occur.

Section 11. Toxicological Information

Other toxic effects on humans	: Not considered to be toxic for humans.
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Specific effects

Carcinogenic effects	: No known significant effects or critical hazards.
Mutagenic effects	: No known significant effects or critical hazards.
Reproduction toxicity	: No known significant effects or critical hazards.

Section 12. Ecological Information

Section 13. Disposal Considerations

Waste disposal	: The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
----------------	--

Consult your local or regional authorities.

Section 14. Transport Information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	NA1993	Combustible Liquids, n.o.s. (Petroleum Distillates)	DOT CLASS: Combustible liquid	III		-

Section 15. Regulatory Information

HCS Classification : Not regulated.
 U.S. Federal regulations : TSCA: No products were found.
 SARA 302/304/311/312 extremely hazardous substances: No products were found.
 SARA 302/304 emergency planning and notification: No products were found.
 SARA 302/304/311/312 hazardous chemicals: EF-Coat
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: EF-Coat:
 Fire hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: No products were found.
 Clean air act (CAA) 112 accidental release prevention: No products were found.
 Clean air act (CAA) 112 regulated flammable substances: No products were found.
 Clean air act (CAA) 112 regulated toxic substances: No products were found.
 State regulations : No products were found.

Section 16. Other Information

Hazardous Material
Information System (U.S.A.) :

Health	1
Fire hazard	2
Reactivity	0
Personal protection	C

National Fire Protection
Association (U.S.A.) :



Other special considerations : Storage Information Update, 06-14-00; Updated 08/16/2005;
 Date of printing : 8/16/2005.
 Date of issue : 8/16/2005.
 Date of previous issue : No Previous Validation.
 Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



MATERIAL SAFETY DATA SHEET

BAYER CORPORATION
COATINGS AND COLORANTS DIV
100 BAYER ROAD
PITTSBURGH, PA 15205
TELEPHONE : 412-777-2000

J&F READY MIXED CONCRETE
294 FREEDOM ROAD
WILLIAMSPORT PA 17701

ORDER NO. : 4416812-00
P.O. NUMBER : 35771/VERBAL DANICE
CUSTOMER NO : 041014-001

DATE : 07/30/02

ATTN: SAFETY DEPARTMENT

THANK YOU FOR YOUR RECENT ORDER OF:

PRODUCT NAME

PRODUCT CODE

CC16

AT16

COMMUNICATION OF THE HEALTH AND SAFETY INFORMATION IN A MATERIAL SAFETY DATA SHEET (MSDS) IS AN IMPORTANT PART OF BAYER CORPORATION'S PRODUCT SAFETY PROGRAM. WE PROVIDE THIS INFORMATION TO OUR CUSTOMERS AND ENCOURAGE THEM TO BECOME FAMILIAR WITH THE CONTENT OF THE MSDS AND THE LAWS PERTAINING TO ITS USE IN THE WORKPLACE. A NEW MSDS WILL BE MAILED TO YOUR COMPANY AT THE TIME OF YOUR RE-ORDER IF THE ATTACHED MSDS IS REVISED.

UNDER THE OSHA HAZARD COMMUNICATION STANDARD AND SOME STATE RIGHT TO KNOW LAWS, CERTAIN REQUIREMENTS RELATED TO AN MSDS MUST BE MET. EMPLOYERS USING THIS MATERIAL IN THEIR OPERATIONS MUST MAKE THE MSDS AVAILABLE TO ALL EMPLOYEES WORKING WITH OR OTHERWISE HANDLING THIS PRODUCT. DISTRIBUTORS RECEIVING THIS INFORMATION ARE OBLIGATED TO CONVEY A COPY OF THE MSDS TO THEIR CUSTOMERS AND AFFILIATES.

WE BELIEVE THAT THE ATTACHED INFORMATION WILL FULFILL YOUR REQUIREMENTS. SHOULD YOU NEED ADDITIONAL HEALTH AND SAFETY INFORMATION, PLEASE CONTACT THE PRODUCT SAFETY DEPARTMENT AT 800-662-2927.

TO REQUEST AN MSDS FOR OTHER BAYER CORPORATION PRODUCTS, PLEASE CONTACT OUR MSDS COORDINATOR AT 800-662-2927 X2042, BY FAX AT 412-777-7484 OR AT MSDS@BAYER.COM.

AT BAYER CORPORATION, WE HAVE TAKEN THE INITIATIVE IN ADVANCING THE SCIENCE OF THE SAFE HANDLING AND STORAGE OF CHEMICALS, BOTH AT OUR SITES AND AT OUR CUSTOMERS' SITES. WE CONSIDER THIS CONTINUOUS IMPROVEMENT EFFORT PROGRESSIVE PRODUCT STEWARDSHIP. AND WE CALL IT OUR BAYCARE (SM) PROGRAM. CONTACT OUR PRODUCT SAFETY DEPARTMENT FOR MORE DETAILS.



Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

- 1.1 Product Identifier** 0486A1NL
- | | | | |
|----------------------|----------------------|-------------------------|------------|
| Product Name: | CARBOZINC 859 PART A | Revision Date: | 06/15/2016 |
| | | Supersedes Date: | 06/17/2015 |
- 1.2 Relevant identified uses of the substance or mixture and uses advised against** Component of multicomponent industrial coatings - Industrial use.
- 1.3 Details of the supplier of the safety data sheet**
- | | |
|-------------------------------|--|
| Manufacturer: | Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146 |
| | Regulatory / Technical Information:
Contact Carboline Technical Services at
1-800-848-4645 |
| Datasheet Produced by: | Schlereth, Ken - ehs@stoncor.com |
- 1.4 Emergency telephone number:** CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, Chronic, category 3
Eye Irritation, category 2
Flammable Liquid, category 2
Reproductive Toxicity, category 1A
STOT, repeated exposure, category 2
STOT, single exposure, category 3, NE
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements**Symbol(s) of Product****Signal Word**

Danger

Named Chemicals on Label

N-BUTANOL, METHYL ETHYL KETONE, TOLUENE, CARBON BLACK, EPOXY RESIN

GHS HAZARD STATEMENTS

Flammable Liquid, category 2	H225	Highly flammable liquid and vapour.
Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Reproductive Toxicity, category 1A	H360-1A	May damage fertility or the unborn child.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment, Chronic, category 3	H412	Harmful to aquatic life with long lasting effects.

GHS PRECAUTION PHRASES

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P235	Keep cool.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P332+313	If skin irritation occurs: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

3 Composition/Information On Ingredients**3.2 Mixtures**

Hazardous Ingredients

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>%</u>
108-88-3	TOLUENE	10-25
25036-25-3	EPOXY RESIN	10-25
13463-67-7	TITANIUM DIOXIDE	10-25
25068-38-6	EPOXY RESIN	2.5-10
78-93-3	METHYL ETHYL KETONE	2.5-10
9003-53-6	POLYSTYRENE	1.0-2.5
68002-19-7	MODIFIED UREA-FORMALDEHYDE RESIN	1.0-2.5
68515-43-5	1,2-BENZENEDICARBOXYLIC ACID, DI-C9-11-BRANCHED AND LINEAR ALKYL ESTERS	1.0-2.5
108-38-3	META-XYLENE	1.0-2.5
71-36-3	N-BUTANOL	1.0-2.5
108-65-6	1-METHOXY-2-PROPANOL ACETATE	1.0-2.5
1333-86-4	CARBON BLACK	0.1-1.0
100-41-4	ETHYL BENZENE	0.1-1.0

<u>CAS-No.</u>	<u>GHS Symbols</u>	<u>GHS Hazard Statements</u>	<u>M-Factors</u>
108-88-3	GHS02-GHS07-GHS08	H225-315-319-336-361-373	0
25036-25-3	GHS07	H315-317-319	0
13463-67-7			0
25068-38-6	GHS07-GHS09	H315-317-319-335-411	0
78-93-3	GHS02-GHS07	H225-319-336	0
9003-53-6	GHS08	H360	0
68002-19-7		H413	0
68515-43-5			0
108-38-3	GHS02-GHS07	H226-312-315-332	0
71-36-3	GHS02-GHS05-GHS07	H226-302-315-318-335-336	0
108-65-6	GHS02	H226	0
1333-86-4	GHS07-GHS08	H319-335-351-372	0
100-41-4	GHS02-GHS07	H225-332	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures**4.1 Description of First Aid Measures**

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

When symptoms persist or in all cases of doubt seek medical advice.

5. Fire-fighting Measures**5.1 Extinguishing Media:**

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Provide adequate ventilation. Prevent the creation of flammable or explosive concentrations of vapour

in air and avoid vapour concentration higher than the occupational exposure limits. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Electrical installations / working materials must comply with the technological safety standards. Wear shoes with conductive soles.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Cool containers / tanks with water spray. Flammable.

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation. Evacuate personnel to safe areas. Evacuate personnel to safe areas. Remove all sources of ignition. Remove all sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7 Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.

STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	%	ACGIH TLV- TWA	ACGIH TLV- STEL	OSHA PEL- TWA	OSHA PEL- CEILING	OEL Note
TOLUENE	10-25	20 PPM	N/E	375 MGM3	N/E	
EPOXY RESIN	10-25	N/E	N/E	N/E	N/E	
TITANIUM DIOXIDE	10-25	10 MGM3	N/E	10 MGM3	N/E	
EPOXY RESIN	2.5-10	N/E	N/E	N/E	N/E	
METHYL ETHYL KETONE	2.5-10	200 PPM	300 PPM	590 MGM3	N/E	
POLYSTYRENE	1.0-2.5	N/E	N/E	N/E	N/E	
MODIFIED UREA-FORMALDEHYDE RESIN	1.0-2.5	N/E	N/E	N/E	N/E	
1,2-BENZENEDICARBOXYLIC ACID, DI-C9-11-BRANCHED AND LINEAR ALKYL ESTERS	1.0-2.5	N/E	N/E	N/E	N/E	
META-XYLENE	1.0-2.5	100 PPM	150 PPM	435 MG/M3	N/E	
N-BUTANOL	1.0-2.5	20 PPM	50 ppm	300.0 MG/M3	150 MGM3	
1-METHOXY-2-PROPANOL ACETATE	1.0-2.5	N/E	N/E	N/E	N/E	
CARBON BLACK	0.1-1.0	3.0 MG/M3	N/E	3.5 MG/M3	N/E	
ETHYL BENZENE	0.1-1.0	20 PPM	N/E	435 MGM3	N/E	

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Viscous Liquid, Various Colors
Physical State	Liquid
Odor	Solvent
Odor threshold	N/D
pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range (°C)	173 F (78 C) - 500 F (260 C)

Flash Point, (°C)	9
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	0.9 - 11.2
Vapour Pressure, mmHg	N/D
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	N/D
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other Information

VOC Content g/l: 326

Specific Gravity (g/cm³) 1.30

10. Stability and Reactivity**10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

11. Toxicological Information

1.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: N/D

Inhalation LC50: N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.
Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
108-88-3	TOLUENE	5000 mg/kg rat oral	12267 mg/kg, dermal, rabbit	8000 ppm/4 hrs, rat, inhalation
25036-25-3	EPOXY RESIN	>2000 mg/kg, oral, rat	>2000 mg/kg, dermal, rat	Not Available
13463-67-7	TITANIUM DIOXIDE	25000 mg/kg, oral (rat)	Not Available	Not Available
25068-38-6	EPOXY RESIN	11400 mg/kg, rat, oral	23000 mg/kg, dermal, rabbit	>20 mL/kg skin, sensitizer
78-93-3	METHYL ETHYL KETONE	2194 mg/kg rat, oral	Not Available	34.5 mg/L/ 4 hour rat, inhalation
9003-53-6	POLYSTYRENE	Not Available		Not Available
68002-19-7	MODIFIED UREA-FORMALDEHYDE RESIN	5000 mg/kg, oral, rat		Not Available
68515-43-5	1,2-BENZENEDICARBOXYLIC ACID, DI-C9-11-BRANCHED AND LINEAR ALKYL ESTERS	>5000 MG/KG, ORAL, RAT	Not Available	Not Available
108-38-3	META-XYLENE	Not Available	Not Available	Not Available
71-36-3	N-BUTANOL	790 mg/kg rat, oral	3400 mg/kg, dermal, rabbit	8000 ppm / 4hrs rat, inhalation
108-65-6	1-METHOXY-2-PROPANOL ACETATE	8532 mg/kg, oral (rat)	>5000 mg/kg	101 ppm/4 hr, rat, inh
1333-86-4	CARBON BLACK	8000 mg/kg oral, rat	Not Available	Not Available
100-41-4	ETHYL BENZENE	3500 mg/kg rat, oral	>5000 mg/l, dermal rabbit	17.2 mg/L Inh, Rat, 4Hr

Additional Information:

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

12 Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	Unknown
IC50 72hr (Algae):	Unknown
LC50 96hr (fish):	Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
108-88-3	TOLUENE	6 mg/l (Daphnia magna)	12.5 mg/L (Algae)	5.8 mg/L (Fish)
25036-25-3	EPOXY RESIN	No information	No information	No information
13463-67-7	TITANIUM DIOXIDE	No information	No information	No information
25068-38-6	EPOXY RESIN	2.1 mg/l (daphnia)	11 mg/l (algae)	1.3 mg/l (fish)
78-93-3	METHYL ETHYL KETONE	308 mg/l (Daphnia magna)	No information	2993 mg/l (Pimephales promelas)
9003-53-6	POLYSTYRENE	No information	No information	No information
68002-19-7	MODIFIED UREA-FORMALDEHYDE RESIN	No information	No information	No information
68515-43-5	1,2-BENZENEDICARBOXYLIC ACID, DI-C9-11-BRANCHED AND LINEAR ALKYL ESTERS	No information	No information	No information
108-38-3	META-XYLENE	No information	No information	No information
71-36-3	N-BUTANOL	1328 mg/l (Daphnia magna)	225 mg/l (Algae)	1376 mg/l (Fathead minnow)
108-65-6	1-METHOXY-2-PROPANOL ACETATE	408 mg/l (Daphnia Magna)	>1000 mg/l (Green Algae)	161 mg/l (Fathead Minnow)
1333-86-4	CARBON BLACK	No information	No information	No information
100-41-4	ETHYL BENZENE	1.8 mg/l (Daphnia Magna)	4.6 mg/l (Green Algae)	4.2 mg/l (Rainbow Trout)

13 Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1	UN number	UN 1263
14.2	UN proper shipping name	Paint
	Technical name	N/A
14.3	Transport hazard class(es)	3
	Subsidiary shipping hazard	N/A
14.4	Packing group	II
14.5	Environmental hazards	Marine Pollutant: Yes (Epoxy Resin)
14.6	Special precautions for user	Unknown
	EmS-No.:	F-E, S-E
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Unknown

15. Regulatory Information

- 15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -**CERCLA - Sara Hazard Category**

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
TOLUENE	108-88-3
META-XYLENE	108-38-3
N-BUTANOL	71-36-3
ETHYL BENZENE	100-41-4

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

<u>Chemical Name</u>	<u>CAS-No.</u>
MODIFIED UREA-FORMALDEHYDE RESIN	68002-19-7

U.S. State Regulations: As follows -**New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

<u>Chemical Name</u>	<u>CAS-No.</u>
ANHYDROUS ALUMINUM SILICATE	66402-68-4
NEPHELINE SYENITE	37244-96-5
BLACK IRON OXIDE	1317-61-9

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Chemical Name</u>	<u>CAS-No.</u>
ANHYDROUS ALUMINUM SILICATE	66402-68-4
NEPHELINE SYENITE	37244-96-5
BLACK IRON OXIDE	1317-61-9
IRON OXIDE	1332-37-2
YELLOW IRON OXIDE	51274-00-1

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

<u>Chemical Name</u>	<u>CAS-No.</u>
TITANIUM DIOXIDE	13463-67-7
CARBON BLACK	1333-86-4
ETHYL BENZENE	100-41-4
FORMALDEHYDE	50-00-0
STYRENE	100-42-5
MICROCRYSTALLINE SILICA	14808-60-7
BENZENE	71-43-2

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

<u>Chemical Name</u>	<u>CAS-No.</u>
TOLUENE	108-88-3
BENZENE	71-43-2

International Regulations: As follows -**Canadian DSL:**

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Reasons for revision

No Information

No Information



Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier 0486C1NL

Product Name: CARBOZINC 859 PART B Revision Date: 08/13/2015

Supersedes Date: 06/17/2015

1.2 Relevant identified uses of the substance or mixture and uses advised against
Component of multicomponent industrial coatings - Industrial use.

1.3 Details of the supplier of the safety data sheet

Manufacturer: Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146

Regulatory / Technical Information:
Contact Carboline Technical Services at
1-800-848-4645

Datasheet Produced by: Schlereth, Ken - ehs@stoncor.com

1.4 Emergency telephone number: CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Flammable Liquid, category 2
Reproductive Toxicity, category 2
STOT, repeated exposure, category 2
STOT, single exposure, category 3, NE
Skin Corrosion, category 1
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

ISOPROPANOL, TOLUENE, DIAMINOCYCLOHEXANE, POLYOXYPROPYLENEDIAMINE

GHS HAZARD STATEMENTS

Flammable Liquid, category 2	H225	Highly flammable liquid and vapour.
Skin Corrosion, category 1	H314-1	Causes severe skin burns and eye damage.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Reproductive Toxicity, category 2	H361	Suspected of damaging fertility or the unborn child.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS PRECAUTION PHRASES

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P235	Keep cool.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Not applicable

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	Chemical Name	%
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108-88-3	TOLUENE	25-50
67-63-0	ISOPROPANOL	10-25
68515-43-5	1,2-BENZENEDICARBOXYLIC ACID, DI-C9-11-BRANCHED AND LINEAR ALKYL ESTERS	2.5-10
90-72-2	TRIS-2,4,6- (DIMETHYLAMINOMETHYL)PHENOL	2.5-10
100-51-6	BENZYL ALCOHOL	2.5-10
9046-10-0	POLYOXYPROPYLENEDIAMINE	2.5-10
694-83-7	DIAMINOCYCLOHEXANE	2.5-10
108-38-3	META-XYLENE	1.0-2.5
100-41-4	ETHYL BENZENE	0.1-1.0

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
108-88-3	GHS02-GHS07-GHS08	H225-315-319-336-361-373	0
67-63-0	GHS02-GHS07	H225-319-336	0
68515-43-5			0
90-72-2	GHS07	H315-319-302	0
100-51-6	GHS07	H302-312-319-332	0
9046-10-0	GHS05-GHS07	H302-312-314-412	0
694-83-7	GHS05-GHS07	H314-317	0
108-38-3	GHS02-GHS07	H226-312-315-332	0
100-41-4	GHS02-GHS07	H225-332	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Provide adequate ventilation. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Electrical installations / working materials must comply with the technological safety standards. Wear shoes with conductive soles.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Cool containers / tanks with water spray. Flammable. Evacuate personnel to safe areas. Use NIOSH approved respiratory protection. Use water spray to cool unopened containers.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.

STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits
(US)

Name	%	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	OEL Note
TOLUENE	25-50	20 PPM	N/E	375 MGM3	N/E	
ISOPROPANOL	10-25	200 PPM	400 PPM	980 MGM3	N/E	
1,2-BENZENEDICARBOXYLIC ACID, DI-C9-11-BRANCHED AND LINEAR ALKYL ESTERS	2.5-10	N/E	N/E	N/E	N/E	
TRIS-2,4,6- (DIMETHYLAMINOMETHYL) PHENOL	2.5-10	N/E	N/E	N/E	N/E	
BENZYL ALCOHOL	2.5-10	N/E	N/E	N/E	N/E	
POLYOXYPROPYLENEDIAMINE	2.5-10	N/E	N/E	N/E	N/E	

DIAMINOCYCLOHEXANE	2.5-10	N/E	N/E	N/E	N/E
META-XYLENE	1.0-2.5	100 PPM	150 PPM	435 MG/M3	N/E
ETHYL BENZENE	0.1-1.0	20 PPM	N/E	435 MGM3	N/E

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Thin, Brown Liquid
Physical State	Liquid
Odor	Solvent
Odor threshold	N/D
pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range (°C)	176 F (80 C) - 284 F (140 C)
Flash Point, (°C)	3
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	1.0 - 12.0
Vapour Pressure, mmHg	N/D
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	N/D
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined

Oxidising properties

Not determined

9.2 Other Information**VOC Content g/l:**

326

Specific Gravity (g/cm3)

0.88

10. Stability and Reactivity**10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition productsCarbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.**11. Toxicological Information****1.1 Information on toxicological effects****Acute Toxicity:****Oral LD50:** N/D**Inhalation LC50:** N/D**Irritation:** Unknown**Corrosivity:** Unknown**Sensitization:** Unknown**Repeated dose toxicity:** Unknown**Carcinogenicity:** Unknown**Mutagenicity:** Unknown**Toxicity for reproduction:** Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.
Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
108-88-3	TOLUENE	5000 mg/kg rat oral	12267 mg/kg, dermal, rabbit	8000 ppm/4 hrs, rat, inhalation

67-63-0	ISOPROPANOL	4720 mg/kg rat, oral		22500 ppm/8hrs rat, inhalation
68515-43-5	1,2-BENZENEDICARBOXYLIC ACID, DI-C9-11-BRANCHED AND LINEAR ALKYL ESTERS	>5000 MG/KG, ORAL, RAT		Not Available
90-72-2	TRIS-2,4,6- (DIMETHYLAMINOMETHYL) PHENOL	2169 mg/kg oral		Not Available
100-51-6	BENZYL ALCOHOL	1230 mg/kg rat, oral	2000 mg/kg, dermal, rabbit	1000 ppm / 8 hrs rat, inhalation
9046-10-0	POLYOXYPROPYLENEDIAMINE	480 mg/kg, oral, rat	1550 mg/kg, dermal, rabbit	Not Available
694-83-7	DIAMINOCYCLOHEXANE	4556 mg/kg, rat, oral		Not Available
108-38-3	META-XYLENE	Not Available		Not Available
100-41-4	ETHYL BENZENE	3500 mg/kg rat, oral	>5000 mg/l, dermal rabbit	17.2 mg/L Inh, Rat, 4Hr

Additional Information:

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	Unknown
IC50 72hr (Algae):	Unknown
LC50 96hr (fish):	Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
108-88-3	TOLUENE	6 mg/l (Daphnia magna)	12.5 mg/L (Algae)	5.8 mg/L (Fish)
67-63-0	ISOPROPANOL	No information	No information	No information
68515-43-5	1,2-BENZENEDICARBOXYLIC ACID, DI-C9-11-BRANCHED AND LINEAR ALKYL ESTERS	No information	No information	No information
90-72-2	TRIS-2,4,6- (DIMETHYLAMINOMETHYL) PHENOL	No information	No information	No information
100-51-6	BENZYL ALCOHOL	No information	No information	No information
9046-10-0	POLYOXYPROPYLENEDIAMINE	No information	No information	No information
694-83-7	DIAMINOCYCLOHEXANE	No information	No information	No information
108-38-3	META-XYLENE	No information	No information	No information

100-41-4 ETHYL BENZENE

No information

No information

No information

13. Disposal Considerations

- 13.1 WASTE TREATMENT METHODS:** Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

- | | |
|---|----------|
| 14.1 UN number | UN 1263 |
| 14.2 UN proper shipping name | Paint |
| Technical name | N/A |
| 14.3 Transport hazard class(es) | 3 |
| Subsidiary shipping hazard | N/A |
| 14.4 Packing group | II |
| 14.5 Environmental hazards | Unknown |
| 14.6 Special precautions for user | Unknown |
| EmS-No.: | F-E, S-E |
| 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code | Unknown |

15. Regulatory Information

- 15.1 Safety, health and environmental regulations/legislation for the substance or mixture:**

U.S. Federal Regulations: As follows -**CERCLA - Sara Hazard Category**

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
TOLUENE	108-88-3
ISOPROPANOL	67-63-0
META-XYLENE	108-38-3
ETHYL BENZENE	100-41-4

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

<u>Chemical Name</u>	<u>CAS-No.</u>
No TSCA 12(b) components exist in this product.	

U.S. State Regulations: As follows -**New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name**CAS-No.**

No NJ Right-To-Know components exist in this product.

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name**CAS-No.**

CYCLOALIPHATIC AMINE

TRADE SECRET

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name**CAS-No.**

ETHYL BENZENE

100-41-4

BENZENE

71-43-2

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name**CAS-No.**

TOLUENE

108-88-3

BENZENE

71-43-2

International Regulations: As follows -**Canadian DSL:**

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Reasons for revision

No Information

No Information



Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

- 1.1 **Product Identifier** 0185A1NL
- Product Name:** CARBOMASTIC 15 PART A **Revision Date:** 06/10/2015
- Supersedes Date:** 12/03/2015
- 1.2 **Relevant identified uses of the substance or mixture and uses advised against** Component of multicomponent industrial coatings - Industrial use.
- 1.3 **Details of the supplier of the safety data sheet**
- Manufacturer:** Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146
- Regulatory / Technical Information:**
Contact Carboline Technical Services at
1-800-848-4645
- Datasheet Produced by:** Burst, Chris - ehs@stoncor.com
- 1.4 **Emergency telephone number:** CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, Chronic, category 2
Eye Irritation, category 2
Reproductive Toxicity, category 1A
STOT, single exposure, category 3, RTI
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

EPOXY RESIN

GHS HAZARD STATEMENTS

Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Reproductive Toxicity, category 1A	H360-1A	May damage fertility or the unborn child.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.

GHS PRECAUTION PHRASES

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention
P332+313	If skin irritation occurs: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.

2.3 Other hazards

Not applicable

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3 Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>%</u>
25068-38-6	EPOXY RESIN	50-75
9003-53-6	POLYSTYRENE	10-25
7429-90-5	ALUMINUM (DUST OR FUME)	10-25
101-02-0	TRIPHENYL PHOSPHITE	10-25
28553-12-0	DIISONONYL PHTHALATE	0.1-1.0
1333-86-4	CARBON BLACK	0.1-1.0

<u>CAS-No.</u>	<u>GHS Symbols</u>	<u>GHS Hazard Statements</u>	<u>M-Factors</u>
25068-38-6	GHS07-GHS09	H315-317-319-335-411	0
9003-53-6	GHS08	H360	0
7429-90-5	GHS02	H261	0
101-02-0	GHS06-GHS09	H302-311-315-319-330-400	0
28553-12-0			0
1333-86-4	GHS08	H351	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures**4.1 Description of First Aid Measures**

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to eyes and skin. May be harmful if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures**5.1 Extinguishing Media:**

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Vapors may spread long distances and ignite.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Evacuate personnel to safe areas. Use NIOSH approved respiratory protection. Use water spray to cool unopened containers.

6. Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage**7.1 Precautions for safe handling**

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.

STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection**8.1 Control parameters**

**Ingredients with Occupational Exposure Limits
(US)**

Name	%	ACGIH TLV-	ACGIH TLV-	OSHA PEL-	OSHA PEL-	OEL Note
		TWA	STEL	TWA	CEILING	
EPOXY RESIN	50-75	N/E	N/E	N/E	N/E	
POLYSTYRENE	10-25	N/E	N/E	N/E	N/E	
ALUMINUM (DUST OR FUME)	10-25	10 MG/M3 (metal dust)	N/E	15 MG/M3	N/E	
TRIPHENYL PHOSPHITE	10-25	NE	N/E	NE	NE	
DIISONONYL PHTHALATE	0.1-1.0	N/E	N/E	N/E	N/E	
CARBON BLACK	0.1-1.0	3.0 MG/M3	N/E	3.5 MG/M3	N/E	

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls**Personal Protection**

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Use only in an area equipped with explosion proof exhaust ventilation. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Viscous Liquid, Aluminum,

Physical State Liquid

Odor Epoxy

Odor threshold

pH Not Determined

Melting point / freezing point (°C) N/A

Boiling point/range (°C) Not Determined - .

Flash Point, (°C) 94

Evaporation rate

Flammability (solid, gas)

Upper/lower flammability or explosive limits Not determined

Vapour Pressure, mmHg Not Determined

Vapour density

Relative density

Solubility in / Miscibility with water Not Determined

Partition coefficient: n-octanol/water

Auto-ignition temperature (°C)

Decomposition temperature (°C)

Viscosity Unknown

Explosive properties

Oxidising properties

9.2 Other information

VOC Content g/l: 88

Specific Gravity (g/cm³) 1.24

10. Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition productsCarbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.**11. Toxicological Information****11.1 Information on toxicological effects****Acute Toxicity:**Oral LD₅₀: N/DInhalation LC₅₀: N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.

Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD₅₀</u>	<u>Dermal LD₅₀</u>	<u>Vapor LC₅₀</u>
25068-38-6	EPOXY RESIN	11400 mg/kg, rat, oral	23000 mg/kg, dermal, rabbit	>20 mL/kg skin, sensitizer
9003-53-6	POLYSTYRENE	Not Available		Not Available
7429-90-5	ALUMINUM (DUST OR FUME)	Not Available		Not Available
101-02-0	TRIPHENYL PHOSPHITE	1600 mg/kg, oral, rat		>6700 mg/m ³ 3 hr, rat
1333-86-4	CARBON BLACK	8000 mg/kg oral, rat		Not Available

Additional Information:

Irritating to eyes and skin. May be harmful if swallowed.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	Unknown
IC50 72hr (Algae):	Unknown
LC50 96hr (fish):	Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
25068-38-6	EPOXY RESIN	2.1 mg/l (daphnia)	11 mg/l (algae)	1.3 mg/l (fish)
9003-53-6	POLYSTYRENE	No information	No information	No information
7429-90-5	ALUMINUM (DUST OR FUME)	No information	No information	No information
101-02-0	TRIPHENYL PHOSPHITE	No information	No information	No information
28553-12-0	DIISONONYL PHTHALATE	No information	No information	No information
1333-86-4	CARBON BLACK	No information	No information	No information

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1 UN number	None
14.2 UN proper shipping name	Paint, Not Regulated
Technical name	N/A
14.3 Transport hazard class(es)	None
Subsidiary shipping hazard	N/A
14.4 Packing group	N/A
14.5 Environmental hazards	Marine Pollutant: Yes
14.6 Special precautions for user	Unknown
EmS-No.:	N/A
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Unknown

15. Regulatory Information

15.1

Safety, health and environmental regulations/legislation for the substance or mixture:**U.S. Federal Regulations: As follows -****CERCLA - Sara Hazard Category**

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name**CAS-No.**

ALUMINUM (DUST OR FUME)

7429-90-5

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

Chemical Name**CAS-No.**

No TSCA 12(b) components exist in this product.

U.S. Clean Air Act:

EPA Coating Category:

EPA VOC Content Limit (g/l):

Product VOC Content (g/l)

Thinning Recommendations:

Application Recommendations:

May be harmful if swallowed.

U.S. State Regulations: As follows -**New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name**CAS-No.**

YELLOW IRON OXIDE

51274-00-1

Pennsylvania Right-To-Know:

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name**CAS-No.**

YELLOW IRON OXIDE

51274-00-1

IRON OXIDE

1332-37-2

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name**CAS-No.**

DIISONONYL PHTHALATE

28553-12-0

CARBON BLACK

1333-86-4

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

International Regulations: As follows -

*** Canadian DSL:**

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H261	In contact with water releases flammable gas.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Reasons for revision

No Information

No Information



Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

- 1.1 Product Identifier** 0185B1NL
- Product Name:** CARBOMASTIC 15 PART B **Revision Date:** 06/25/2015
- Supersedes Date:** 05/28/2015
- 1.2 Relevant identified uses of the substance or mixture and uses advised against** Component of multicomponent industrial coatings - Industrial use.
- 1.3 Details of the supplier of the safety data sheet**
- Manufacturer:** Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146
- Regulatory / Technical Information:**
Contact Carboline Technical Services at
1-800-848-4645
- Datasheet Produced by:** Burst, Chris - ehs@stoncor.com
- 1.4 Emergency telephone number:** CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Acute Toxicity, Inhalation, category 4
Carcinogenicity, category 1A
Serious Eye Damage, category 1
Flammable Liquid, category 3
Reproductive Toxicity, category 1A
STOT, single exposure, category 1
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

ETHYL BENZENE, BENZYL ALCOHOL, PARA-XYLENE, META-XYLENE, ISOPHORONEDIAMINE, MICROCRYSTALLINE SILICA

GHS HAZARD STATEMENTS

Flammable Liquid, category 3	H226	Flammable liquid and vapour.
Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Serious Eye Damage, category 1	H318	Causes serious eye damage.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
Carcinogenicity, category 1A	H350-1A	May cause cancer.
Reproductive Toxicity, category 1A	H360-1A	May damage fertility or the unborn child.
STOT, single exposure, category 1	H370	Causes damage to organs.

GHS PRECAUTION PHRASES

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P307+311	IF exposed, call a POISON CENTER or doctor/physician.
P308+313	IF exposed or concerned: Get medical advice/attention
P308+P313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P332+313	If skin irritation occurs: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Not applicable

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	Chemical Name	%
14808-60-7	MICROCRYSTALLINE SILICA	25-50
12001-26-2	MICA	10-25
TRADE		
SECRET	AMINE COMPOUND	2.5-10
100-51-6	BENZYL ALCOHOL	2.5-10
2855-13-2	ISOPHORONEDIAMINE	2.5-10
108-88-3	TOLUENE	2.5-10
108-38-3	META-XYLENE	2.5-10
108-65-6	1-METHOXY-2-PROPANOL ACETATE	1.0-2.5
106-42-3	PARA-XYLENE	1.0-2.5
100-41-4	ETHYL BENZENE	1.0-2.5
9003-53-6	POLYSTYRENE	1.0-2.5

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
14808-60-7	GHS08	H350-370	0
12001-26-2	GHS07	H319-335	0
TRADE			0
SECRET			
100-51-6	GHS07	H302-312-319-332	0
2855-13-2	GHS05-GHS07	H302-312-314-317-412	0
108-88-3	GHS02-GHS07-GHS08	H225-315-319-336-361-373	0
108-38-3	GHS02-GHS07	H226-312-315-332	0
108-65-6	GHS02	H226	0
106-42-3	GHS02-GHS07-GHS08	H226-312-315-332-335-371	0
100-41-4	GHS02-GHS07	H225-332	0
9003-53-6	GHS08	H360	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Provide adequate ventilation. Prevent the creation of flammable or explosive concentrations of vapour

in air and avoid vapour concentration higher than the occupational exposure limits. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Electrical installations / working materials must comply with the technological safety standards. Wear shoes with conductive soles.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Cool containers / tanks with water spray. Flammable. Evacuate personnel to safe areas. Use NIOSH approved respiratory protection. Use water spray to cool unopened containers.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation. Evacuate personnel to safe areas. Evacuate personnel to safe areas. Remove all sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.

STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	%	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	OEL Note
MICROCRYSTALLINE SILICA	25-50	0.025 MG/M3 (respirable)	N/E	0.1 MG/M3	N/E	
MICA	10-25	3 MGM3	N/E	3 MGM3	N/E	
AMINE COMPOUND	2.5-10	N/E	N/E	N/E	N/E	
BENZYL ALCOHOL	2.5-10	N/E	N/E	N/E	N/E	
ISOPHORONEDIAMINE	2.5-10	N/E	N/E	N/E	N/E	
TOLUENE	2.5-10	20 PPM	N/E	375 MGM3	N/E	
META-XYLENE	2.5-10	100 PPM	150 PPM	435 MG/M3	N/E	
1-METHOXY-2-PROPANOL ACETATE	1.0-2.5	N/E	N/E	N/E	N/E	
PARA-XYLENE	1.0-2.5	100 PPM	150 PPM	435 MGM3	N/E	
ETHYL BENZENE	1.0-2.5	20 PPM	N/E	435 MGM3	N/E	
POLYSTYRENE	1.0-2.5	N/E	N/E	N/E	N/E	

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Viscous Liquid
Physical State	Liquid
Odor	Epoxy
Odor threshold	N/D
pH	Not Determined
Melting point / freezing point (°C)	N/A
Boiling point/range (°C)	232F (111C) - 300F (148C)
Flash Point, (°C)	24
Evaporation rate	Slower than Ether

Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	1.0% - 13.1%
Vapour Pressure, mmHg	Not Determined
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	Not Determined
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined
Oxidising properties	Not determined
9.2 Other Information	
VOC Content g/l:	88
Specific Gravity (g/cm3)	1.56

10. Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

11. Toxicological Information

1.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: N/D

Inhalation LC50: N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.
Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
14808-60-7	MICROCRYSTALLINE SILICA	Not Available		Not Available
12001-26-2	MICA	Not Available		Not Available
TRADE SECRET	AMINE COMPOUND	NOT AVAILABLE		NOT AVAILABLE
100-51-6	BENZYL ALCOHOL	1230 mg/kg rat, oral	2000 mg/kg, dermal, rabbit	1000 ppm / 8 hrs rat, inhalation
2855-13-2	ISOPHORONEDIAMINE	500 mg/kg oral		Not Available
108-88-3	TOLUENE	5000 mg/kg rat oral	12267 mg/kg, dermal, rabbit	8000 ppm/4 hrs, rat, inhalation
108-38-3	META-XYLENE	Not Available		Not Available
108-65-6	1-METHOXY-2-PROPANOL ACETATE	8532 mg/kg, oral (rat)	>5000 mg/kg	101 ppm/4 hr, rat, inh
106-42-3	PARA-XYLENE	Not Available		Not Available
100-41-4	ETHYL BENZENE	3500 mg/kg rat, oral	>5000 mg/l, dermal rabbit	17.2 mg/L Inh, Rat, 4Hr
9003-53-6	POLYSTYRENE	Not Available		Not Available

Additional Information:

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	Unknown
IC50 72hr (Algae):	Unknown
LC50 96hr (fish):	Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
14808-60-7	MICROCRYSTALLINE SILICA	No information	No information	No information
12001-26-2	MICA	No information	No information	No information
TRADE SECRET	AMINE COMPOUND	No information	No information	No information
100-51-6	BENZYL ALCOHOL	No information	No information	No information
2855-13-2	ISOPHORONEDIAMINE	No information	No information	No information
108-88-3	TOLUENE	6 mg/l (Daphnia magna)	12.5 mg/L (Algae)	5.8 mg/L (Fish)
108-38-3	META-XYLENE	No information	No information	No information
108-65-6	1-METHOXY-2-PROPANOL ACETATE	No information	No information	No information
106-42-3	PARA-XYLENE	No information	No information	No information
100-41-4	ETHYL BENZENE	No information	No information	No information
9003-53-6	POLYSTYRENE	No information	No information	No information

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

4.1	UN number	UN1263
14.2	UN proper shipping name	Paint
	Technical name	N/A
14.3	Transport hazard class(es)	3
	Subsidiary shipping hazard	N/A
14.4	Packing group	III
14.5	Environmental hazards	Unknown
14.6	Special precautions for user	Unknown
	EmS-No.:	F-E, S-E
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Unknown

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -**CERCLA - SARA Hazard Category**

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

SARA Section 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
TOLUENE	108-88-3
META-XYLENE	108-38-3
PARA-XYLENE	106-42-3
ETHYL BENZENE	100-41-4

Toxic Substances Control Act

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

<u>Chemical Name</u>	<u>CAS-No.</u>
----------------------	----------------

No TSCA 12(b) components exist in this product.

U.S. Clean Air Act

EPA Coating Category:

EPA VOC Content Limit (g/l):

Product VOC Content (g/l)

Thinning Recommendations:

Application Recommendations:

Harmful if swallowed.

U.S. State Regulations: As follows -**New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name

HYDROCARBON RESIN

CAS-No.

TRADE SECRET

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name

HYDROCARBON RESIN

CAS-No.

TRADE SECRET

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name

MICROCRYSTALLINE SILICA

CAS-No.

14808-60-7

ETHYL BENZENE

100-41-4

BENZENE

71-43-2

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name

TOLUENE

CAS-No.

108-88-3

BENZENE

71-43-2

International Regulations: As follows -**Canadian DSL:**

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H360	May damage fertility or the unborn child.
H361	Suspected of damaging fertility or the unborn child.
H370	Causes damage to organs.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Reasons for revision

☐ No Information

No Information





Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

- 1.1 Product Identifier 0848A1NL
- Product Name: CARBOTHANE 134 HS PART A Revision Date: 09/16/2015
- Supercedes Date: New SDS
- 1.2 Relevant identified uses of the substance or mixture and uses advised against Component of multicomponent industrial coatings - Industrial use.
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer: Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146
- Regulatory / Technical Information:
Contact Carboline Technical Services at
1-800-848-4645
- Datasheet Produced by: Burst, Chris - ehs@stoncor.com
- 1.4 Emergency telephone number: CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Carcinogenicity, category 1A
Eye Irritation, category 2
Flammable Liquid, category 2
STOT, single exposure, category 1
STOT, single exposure, category 3, NE

2.2 Label elements**Symbol(s) of Product****Signal Word**

Danger

Named Chemicals on Label

METHYL ETHYL KETONE, N-BUTYL ACETATE, MICROCRYSTALLINE SILICA

GHS HAZARD STATEMENTS

Other EU extensions	EUH208	Contains BIS 1,2,6-PENTAMINE, METHYL SEBACATE. May produce an allergic reaction.
Flammable Liquid, category 2	H225	Highly flammable liquid and vapour.
Eye Irritation, category 2	H319	Causes serious eye irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.
Carcinogenicity, category 1A	H350-1A	May cause cancer.
STOT, single exposure, category 1	H370	Causes damage to organs.

GHS PRECAUTION PHRASES

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P235	Keep cool.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P307+311	IF exposed, call a POISON CENTER or doctor/physician.
P308+313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients**3.2 Mixtures****Hazardous Ingredients**

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>%</u>
14808-60-7	MICROCRYSTALLINE SILICA	25-50
13463-67-7	TITANIUM DIOXIDE	25-50
78-93-3	METHYL ETHYL KETONE	10-25

123-86-4	N-BUTYL ACETATE	2.5-10
142-92-7	HEXYL ACETATE	2.5-10
763-69-9	ETHOXYPROPIONATE	1.0-2.5
1333-86-4	CARBON BLACK	1.0-2.5
108-65-6	1-METHOXY-2-PROPANOL ACETATE	1.0-2.5
108-38-3	META-XYLENE	1.0-2.5
110-43-0	METHYL N-AMYL KETONE	0.1-1.0
123-54-6	2,4-PENTANEDIONE	0.1-1.0
100-41-4	ETHYL BENZENE	0.1-1.0
68987-63-3	COPPER COMPOUNDS	<0.1

<u>CAS-No.</u>	<u>GHS Symbols</u>	<u>GHS Hazard Statements</u>	<u>M-Factors</u>
14808-60-7	GHS08	H350-370	0
13463-67-7			0
78-93-3	GHS02-GHS07	H225-319-336	0
123-86-4	GHS02-GHS07	H226-336	0
142-92-7	GHS02	H226	0
763-69-9	GHS02	H226	0
1333-86-4	GHS08	H351	0
108-65-6	GHS02	H226	0
108-38-3	GHS02-GHS07	H226-312-315-332	0
110-43-0	GHS02-GHS07	H226-302-332	0
123-54-6	GHS02-GHS07	H226-302	0
100-41-4	GHS02-GHS07	H225-332	0
68987-63-3			0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Provide adequate ventilation. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Electrical installations / working materials must comply with the technological safety standards. Wear shoes with conductive soles.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Cool containers / tanks with water spray. Flammable.

6 Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures**

For personal protection see section 8. Ensure adequate ventilation. Evacuate personnel to safe areas. Evacuate personnel to safe areas. Remove all sources of ignition. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage**7.1 Precautions for safe handling**

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Do not breathe vapours or spray mist. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks.

STORAGE CONDITIONS: Keep container closed when not in use. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection**8.1 Control parameters****Ingredients with Occupational Exposure Limits (US)**

<u>Name</u>	<u>%</u>	<u>ACGIH TLV-TWA</u>	<u>ACGIH TLV-STEL</u>	<u>OSHA PEL-TWA</u>	<u>OSHA PEL-CEILING</u>	<u>OEL Note</u>
MICROCRYSTALLINE SILICA	25-50	0.025 MG/M3 (respirable)	N/E	0.1 MG/M3 (respirable)	N/E	
TITANIUM DIOXIDE	25-50	10 MGM3	N/E	10 MGM3	N/E	
METHYL ETHYL KETONE	10-25	200 PPM	300 PPM	590 MGM3	N/E	
N-BUTYL ACETATE	2.5-10	150 PPM	200 PPM	710 MG/M3	N/E	
HEXYL ACETATE	2.5-10	N/E	N/E	N/E	NE	

ETHOXYPROPIONATE	1.0-2.5	N/E	N/E	N/E	N/E
CARBON BLACK	1.0-2.5	3.0 MG/M3	N/E	3.5 MG/M3	N/E
1-METHOXY-2-PROPANOL ACETATE	1.0-2.5	N/E	N/E	N/E	N/E
META-XYLENE	1.0-2.5	100 PPM	150 PPM	435 MG/M3	N/E
METHYL N-AMYL KETONE	0.1-1.0	50 PPM	N/E	465 MG/M3	N/E
2,4-PENTANEDIONE	0.1-1.0	25 PPM	N/E	N/E	N/E
ETHYL BENZENE	0.1-1.0	20 PPM	N/E	435 MG/M3	N/E
COPPER COMPOUNDS	<0.1	N/E	N/E	N/E	N/E

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Viscous Liquid, Various Colors
Physical State	Liquid
Odor	Solvent
Odor threshold	N/D
pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range (°C)	173 F (78 C) - 284 F (140 C)
Flash Point, (°C)	6
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	0.5 - 12.7
Vapour Pressure, mmHg	N/D
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	N/D
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined

Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other Information

VOC Content g/l:	288
Specific Gravity (g/cm3)	app. 1.38

10. Stability and Reactivity**10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

11. Toxicological Information**11.1 Information on toxicological effects****Acute Toxicity:**

Oral LD50:	N/D
Inhalation LC50:	N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.
Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
14808-60-7	MICROCRYSTALLINE SILICA	Not Available	Not Available	Not Available
13463-67-7	TITANIUM DIOXIDE	25000 mg/m3, oral (rat)		Not Available
78-93-3	METHYL ETHYL KETONE	2194 mg/kg rat, oral		34.5 mg/L/ 4 hour rat, inhalation
123-86-4	N-BUTYL ACETATE	10760 mg/kg, rat, oral	14112 mg/kg (rabbit)	21 mg/l/4/h, Inh. rat
142-92-7	HEXYL ACETATE	36230 mg/kg, oral, rat	5000 mg/kg, dermal, rat	Not Available
763-69-9	ETHOXYPROPIONATE	5000 mg/kg, oral, rat	4080 mg/kg, dermal, rat	Not Available
1333-86-4	CARBON BLACK	8000 mg/kg oral, rat		Not Available
108-65-6	1-METHOXY-2-PROPANOL ACETATE	8532 mg/kg, oral (rat)	>5000 mg/kg	101 ppm/4 hr, rat, inh
108-38-3	META-XYLENE	Not Available		Not Available
110-43-0	METHYL N-AMYL KETONE	1670 mg/kg rat oral		2000 ppm, 4 hours
123-54-6	2,4-PENTANEDIONE	55 mg/kg oral, rat		10 mg/24 hours rabbit
100-41-4	ETHYL BENZENE	3500 mg/kg rat, oral	>5000 mg/l, dermal rabbit	17.2 mg/L Inh, Rat, 4Hr

Additional Information:

Harmful if swallowed. Irritating to eyes and skin. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	Unknown
IC50 72hr (Algae):	Unknown
LC50 96hr (fish):	Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
14808-60-7	MICROCRYSTALLINE SILICA	No information	No information	No information
13463-67-7	TITANIUM DIOXIDE	No information	No information	No information
78-93-3	METHYL ETHYL KETONE	308 mg/l (Daphnia magna)	No information	2993 mg/l (Pimephales promelas)
123-86-4	N-BUTYL ACETATE	44 mg/l (Daphnia magna)	674.7 mg/L (Green Algae)	18 mg/l (Fathead minnow)
142-92-7	HEXYL ACETATE	No information	No information	3.7 mg/L (fish)

763-69-9	ETHOXYPROPIONATE	785 mg/l (daphnia magna)	115 mg/l (algae)	67.65 mg/l (fathead minnow)
1333-86-4	CARBON BLACK	No information	No information	No information
108-65-6	1-METHOXY-2-PROPANOL ACETATE	No information	No information	No information
108-38-3	META-XYLENE	No information	No information	No information
110-43-0	METHYL N-AMYL KETONE	No information	No information	No information
123-54-6	2,4-PENTANEDIONE	No information	No information	No information
100-41-4	ETHYL BENZENE	No information	No information	No information
68987-63-3	COPPER COMPOUNDS	No information	No information	No information

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1	UN number	UN1263
14.2	UN proper shipping name	Paint
	Technical name	N/A
14.3	Transport hazard class(es)	3
	Subsidiary shipping hazard	N/A
14.4	Packing group	II
14.5	Environmental hazards	Unknown
14.6	Special precautions for user	Unknown
	EmS-No.:	F-E, S-E
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Unknown

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Sara Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS-No.</u>
META-XYLENE	108-38-3
ETHYL BENZENE	100-41-4
COPPER COMPOUNDS	68987-63-3

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

Chemical Name**CAS-No.**

No TSCA 12(b) components exist in this product.

U.S. State Regulations: As follows -**New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

Chemical Name**CAS-No.**

ACRYLIC COPOLYMER

TRADE SECRET

COLOR PIGMENT

5567-15-7

YELLOW PIGMENT

31837-42-0

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

Chemical Name**CAS-No.**

ACRYLIC COPOLYMER

TRADE SECRET

COLOR PIGMENT

5567-15-7

YELLOW PIGMENT

31837-42-0

IRON OXIDE

1332-37-2

AZO PIGMENT

2786-76-7

COLOR PIGMENT

15793-73-4

YELLOW IRON OXIDE

51274-00-1

COPPER PHTHALOCYANATE

147-14-8

YELLOW PIGMENT

TRADE SECRET

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

Chemical Name**CAS-No.**

MICROCRYSTALLINE SILICA

14808-60-7

TITANIUM DIOXIDE

13463-67-7

CARBON BLACK

1333-86-4

ETHYL BENZENE

100-41-4

BENZENE

71-43-2

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

Chemical Name**CAS-No.**

TOLUENE

108-88-3

BENZENE

71-43-2

International Regulations: As follows -**Canadian DSL:**

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H351	Suspected of causing cancer.
H370	Causes damage to organs.

Reasons for revision

No Information

No Information



Safety Data Sheet
prepared to UN GHS Revision 3

1. Identification of the Substance/Mixture and the Company/Undertaking

- 1.1 Product Identifier 0848B1NL
- Product Name: URETHANE CONVERTER 900 Revision Date: 03/18/2016
- Supersedes Date: 08/11/2015
- 1.2 Relevant identified uses of the substance or mixture and uses advised against Component of multicomponent industrial coatings - Industrial use.
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer: Carboline Company
2150 Schuetz Road
St. Louis, MO USA 63146
- Regulatory / Technical Information:
Contact Carboline Technical Services at
1-800-848-4645
- Datasheet Produced by: Burst, Chris - ehs@stoncor.com
- 1.4 Emergency telephone number: CHEMTREC 1-800-424-9300 (Inside US)
CHEMTREC +1 703 5273887 (Outside US)
HEALTH - Pittsburgh Poison Control 1-412-681-6669

2. Hazard Identification

2.1 Classification of the substance or mixture

Acute Toxicity, Inhalation, category 4
Hazardous to the aquatic environment, Chronic, category 2
Flammable Liquid, category 3
Respiratory Sensitizer, category 1
STOT, single exposure, category 3, RT1
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

HEXAMETHYLENE DIISOCYANATE, HOMOPOLYMER OF HDI, AROMATIC HYDROCARBON

GHS HAZARD STATEMENTS

Flammable Liquid, category 3	H226	Flammable liquid and vapour.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
Respiratory Sensitizer, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.

GHS PRECAUTION PHRASES

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P285	In case of inadequate ventilation wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P341	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P391	Collect spillage.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3 Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

CAS-No.	Chemical Name	%
28182-81-2	HOMOPOLYMER OF HDI	75-100
123-86-4	N-BUTYL ACETATE	2.5-10
64742-95-6	AROMATIC HYDROCARBON	2.5-10

822-06-0

HEXAMETHYLENE DIISOCYANATE

0.1-1.0

CAS-No.	GHS Symbols	GHS Hazard Statements	M-Factors
28182-81-2	GHS07-GHS09	H317-332-335-411	0
123-86-4	GHS02-GHS07	H226-336	0
64742-95-6	GHS02-GHS07-GHS09	H226-315-319-335-336-411	0
822-06-0	GHS06-GHS08	H302-315-317-319-330-334-335	0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

May be harmful if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

When symptoms persist or in all cases of doubt seek medical advice.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: Humid air and/or water will produce carbon dioxide which will pressurize the container.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation. Use personal protective equipment. Use personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so.

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7 Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING : Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Ensure all equipment is electrically grounded before beginning transfer operations. Do not use sparking tools. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Avoid breathing vapors, mist or gas.

PROTECTION AND HYGIENE MEASURES : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, flames and sparks. Exposure to moisture.

STORAGE CONDITIONS: Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits
(US)

<u>Name</u>	<u>%</u>	<u>ACGIH TLV- TWA</u>	<u>ACGIH TLV- STEL</u>	<u>OSHA PEL- TWA</u>	<u>OSHA PEL- CEILING</u>	<u>OEL Note</u>
HOMOPOLYMER OF HDI	75-100	N/E	N/E	N/E	N/E	
N-BUTYL ACETATE	2.5-10	150 PPM	200 PPM	710 MG/M3	N/E	
AROMATIC HYDROCARBON	2.5-10	N/E	N/E	N/E	N/E	
HEXAMETHYLENE DIISOCYANATE	0.1-1.0	0.005 PPM	N/E	N/E	N/E	

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Colorless, Mobil Liquid
Physical State	Liquid
Odor	Slight Odor

Odor threshold	N/D
pH	N/D
Melting point / freezing point (°C)	N/D
Boiling point/range (°C)	262 F (128 C) - 262F (128C)
Flash Point, (°C)	53
Evaporation rate	Slower Than Ether
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	0.9 - 7.6
Vapour Pressure, mmHg	N/D
Vapour density	Heavier than Air
Relative density	Not determined
Solubility in / Miscibility with water	Reacts
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	Unknown
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other Information

VOC Content g/l:	See Part A MSDS
Specific Gravity (g/cm ³)	1.12

10. Stability and Reactivity

10.1 Reactivity

Water reactive

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks. Exposure to moisture.

10.5 Incompatible materials

Never allow product to get in contact with water during storage. Water in the container will lead to increased pressure and risk of explosion. Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

11. Toxicological Information

1.1 Information on toxicological effects

Acute Toxicity:

Oral LD50: N/D

Inhalation LC50: N/D

Irritation: Unknown

Corrosivity: Unknown

Sensitization: Unknown

Repeated dose toxicity: Unknown

Carcinogenicity: Unknown

Mutagenicity: Unknown

Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.
Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
28182-81-2	HOMOPOLYMER OF HDI	5000 mg/kg, oral, rat		390 mg/m3, inhalation, rat
123-86-4	N-BUTYL ACETATE	10760 mg/kg, rat, oral	14112 mg/kg (rabbit)	21 mg/l/4/h, Inh. rat
64742-95-6	AROMATIC HYDROCARBON	4700 mg/kg, oral, rat		3670 ppm/8 hours, rat, inhalation
822-06-0	HEXAMETHYLENE DIISOCYANATE	710 mg/kg, oral rat	>7000 mg/kg, dermal, rat	23 ppm / 4 hrs

Additional Information:

May be harmful if swallowed.

12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): Unknown

IC50 72hr (Algae): Unknown

LC50 96hr (fish): Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XI

12.6 Other adverse effects: Unknown

CAS-No.	Chemical Name	EC50 48hr	IC50 72hr	LC50 96hr
28182-81-2	HOMOPOLYMER OF HDI	>100 mg/l (Zebra Fish)	No information	>100 mg/l (Zebra Fish)
123-86-4	N-BUTYL ACETATE	44 mg/l (Daphnia magna)	674.7 mg/L (Green Algae)	18 mg/l (Fathead minnow)
64742-95-6	AROMATIC HYDROCARBON	No information	No information	No information
822-06-0	HEXAMETHYLENE DIISOCYANATE	No information	No information	No information

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1 UN number	UN1263
14.2 UN proper shipping name	Paint
Technical name	N/A
14.3 Transport hazard class(es)	3
Subsidiary shipping hazard	N/A
14.4 Packing group	III
14.5 Environmental hazards	Unknown
14.6 Special precautions for user	Unknown
EmS-No.:	F-E, S-E
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Unknown

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

U.S. Federal Regulations: As follows -

CERCLA - Sara Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Acute Health Hazard

Sara Section 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

Chemical Name	CAS-No.
HEXAMETHYLENE DIISOCYANATE	822-06-0

Toxic Substances Control Act:

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

Chemical Name	CAS-No.
---------------	---------

No TSCA 12(b) components exist in this product.

U.S. State Regulations: As follows -

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product.

No NJ Right-To-Know components exist in this product.

Pennsylvania Right-To-Know

The following non-hazardous ingredients are present in the product at greater than 3%.

No PA Right-To-Know components exist in this product.

California Proposition 65:

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

<u>Chemical Name</u>	<u>CAS-No.</u>
----------------------	----------------

ETHYL BENZENE	100-41-4
---------------	----------

CUMENE	98-82-8
--------	---------

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

<u>Chemical Name</u>	<u>CAS-No.</u>
----------------------	----------------

TOLUENE	108-88-3
---------	----------

International Regulations: As follows -

Canadian DSL:

No Information

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Reasons for revision

No Information

No Information

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Diesel Fuel No. 2 / GTL Diesel

Product Use: Fuel

Company Identification

Chevron Products Company
Marketing, MSDS Coordinator
6001 Bollinger Canyon Road
San Ramon, CA 94583
United States of America

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

MSDS Requests: <http://www.chevron.com/contact/>
Technical Information: (510) 242-5357

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Flammable liquid: Category 3. Aspiration toxicant: Category 1. Carcinogen: Category 1B. Skin irritation: Category 2. Target organ toxicant (repeated exposure): Category 2. Target organ toxicant (central nervous system): Category 3. Acute inhalation toxicant: Category 4. Acute aquatic toxicant: Category 2. Chronic aquatic toxicant: Category 2.



Signal Word: Danger

Physical Hazards: Flammable liquid and vapor.

Health Hazards: May be fatal if swallowed and enters airways. May cause cancer. Causes skin irritation. Harmful if inhaled. May cause drowsiness or dizziness.

Target Organs: May cause damage to organs (Blood/Blood Forming Organs, Liver, Thymus) through prolonged or repeated exposure.

Environmental Hazards: Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS:

General: Keep out of reach of children. Read label before use.

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. -- No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting/equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Use personal protective equipment as required. Wash thoroughly after handling. Avoid release to the environment.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. IF SWALLOWED: Immediately call a poison center or doctor/physician. Do NOT induce vomiting. Call a poison center or doctor/physician if you feel unwell. In case of fire: Use media specified in the SDS to extinguish. Specific treatment (see Notes to Physician on this label). Collect spillage.

Storage: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

HAZARDS NOT OTHERWISE CLASSIFIED: Not Applicable

SECTION 3 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Diesel Fuel No. 2	68476-34-6	95 - 100 %vol/vol
Distillates (Fischer-Tropsch), C8-26	848301-67-7	0 - 25 %vol/vol
Fatty Acid Methyl Esters (FAME)	Mixture	0 - 5 %vol/vol
Alkanes, C10-20 Branched & Linear	928771-01-1	0 - 5 %vol/vol
Naphthalene	91-20-3	0.02 - 0.2 %vol/vol
Total sulfur	Mixture	0 - 5000 ppm (weight)

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin causes irritation. Skin contact may cause drying or defatting of the skin. Symptoms may include pain, itching, discoloration, swelling, and blistering. Contact with the skin is not expected to cause an allergic skin response.

Ingestion: Highly toxic; may be fatal if swallowed. Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.

Inhalation: Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:

Cancer: Prolonged or repeated exposure to this material may cause cancer. Whole diesel engine exhaust has been classified as a Group 2A carcinogen (probably carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit based on animal data: Liver
Blood/Blood Forming Organs Thymus Risk depends on duration and level of exposure. See Section 11 for additional information.

Indication of any immediate medical attention and special treatment needed

Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Unusual Fire Hazards: See Section 7 for proper handling and storage.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. All equipment used when handling the product must be grounded. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive force. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 29C (85F).

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling. Keep out of the reach of children.

Unusual Handling Hazards: WARNING! Do not use as portable heater or appliance fuel. Toxic fumes may accumulate and cause death. Slow heat generation may occur with oil-soaked rags, spent filter aids and spent absorbent material and may cause spontaneous combustion if stored near combustibles and not handled properly. Store biodiesel soaked rags, filter aids, and spill absorbent material in approved safety disposal containers and dispose of properly. Biodiesel soaked rags may be washed with soap and water and allowed to dry in well ventilated area.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces. USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should

read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include: Chlorinated Polyethylene (or Chlorosulfonated Polyethylene), Nitrile Rubber, Polyurethane, Viton.

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors.

When used as a fuel, this material can produce carbon monoxide in the exhaust. Determine if airborne concentrations are below the occupational exposure limit for carbon monoxide. If not, wear an approved positive-pressure air-supplying respirator.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Diesel Fuel No. 2	ACGIH	100 mg/m3	--	--	Skin A3 total hydrocarbon
Diesel Fuel No. 2	CVX	--	1000 mg/m3	--	--
Distillates (Fischer-Tropsch), C8-26	Not Applicable	--	--	--	--
Fatty Acid Methyl Esters (FAME)	Not Applicable	--	--	--	--
Alkanes, C10-20 Branched & Linear	Not Applicable	--	--	--	--
Naphthalene	ACGIH	10 ppm (weight)	15 ppm (weight)	--	Skin
Naphthalene	OSHA Z-1	50 mg/m3	--	--	--
Total sulfur	Not Applicable	--	--	--	--
Total sulfur	Not Applicable	--	--	--	--

Consult local authorities for appropriate values.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Varies depending on specification
Physical State: Liquid
Odor: Petroleum odor
Odor Threshold: No data available
pH: Not Applicable
Vapor Pressure: 0.54 kPa (Approximate) @ 25 °C (77 °F)
Vapor Density (Air = 1): >1
Initial Boiling Point: 175.6°C (348°F) - 370°C (698°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: Not Applicable
Viscosity: 1.3 cSt - 4.5 cSt @ 40°C (104°F)
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): No Data Available

Flashpoint: (Pensky-Martens Closed Cup) 52 °C (125 °F) (Min)

Autoignition: 208 °C (406 °F)

Flammability (Explosive) Limits (% by volume in air): Lower: 0.6 Upper: 4.7

SECTION 10 STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Avoid contact with heat, sparks, fire and oxidizing agents

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: None known (None expected)

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for similar materials.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for similar materials.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: Refer to ADDITIONAL TOXICOLOGY INFORMATION below. Whole diesel engine exhaust has been classified as a Group 2A carcinogen (probably carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

The National Institute of Occupational Safety and Health (NIOSH) has recommended that whole diesel exhaust be regarded as potentially causing cancer. This recommendation was based on test results showing increased lung cancer in laboratory animals exposed to whole diesel exhaust.

This product contains gas oils.

CONCAWE (product dossier 95/107) has summarized current health, safety and environmental data available for a number of gas oils, typically hydrodesulfurized middle distillates, CAS 64742-80-9, straight-run middle distillates, CAS 64741-44-2, and/or light cat-cracked distillate CAS 64741-59-9.

CARCINOGENICITY: All materials tested have caused the development of skin tumors in mice, but all featured severe skin irritation and sometimes a long latency period before tumors developed. Straight-run and cracked gas oil samples were studied to determine the influence of dermal irritation on the carcinogenic activity of middle distillates. At non-irritant doses the straight-run gas oil was not carcinogenic, but at irritant doses, weak activity was demonstrated. Cracked gas oils, when diluted with mineral oil, demonstrated carcinogenic activity irrespective of the occurrence of skin irritation. Gas oils were tested on male mice to study tumor initiating/promoting activity. The results demonstrated that while a straight-run gas oil sample was neither an initiator or promotor, a blend of straight-run and FCC stock was both a tumor initiator and a promotor.

GENOTOXICITY: Hydrotreated & hydrodesulfurized gas oils range in activity from inactive to weakly positive in in-vitro bacterial mutagenicity assays. Mouse lymphoma assays on straight-run gas oils without subsequent hydrodesulphurization gave positive results in the presence of S9 metabolic activation. In-vivo bone marrow cytogenetics and sister chromatic exchange assay exhibited no activity for straight-run components with or without hydrodesulphurization. Thermally or catalytically cracked gas oils tested with in-vitro bacterial mutagenicity assays in the presence of S9 metabolic activation were shown to be mutagenic. In-vitro sister chromatic exchange assays on cracked gas oil gave equivocal results both with and without S9 metabolic activation. In-vivo bone marrow cytogenetics assay was inactive for two cracked gas oil samples. Three hydrocracked gas oils were tested with in-vitro bacterial mutagenicity assays with S9, and one of the three gave positive results. Twelve distillate fuel samples were tested with in-vitro bacterial mutagenicity assays & with S9 metabolic activation and showed negative to weakly positive results. In one series, activity was shown to be related to the PCA content of samples tested. Two in-vivo studies were also conducted. A mouse dominant lethal assay was negative for a sample of diesel fuel. In the other study, 9 samples of No 2 heating oil containing 50% cracked stocks caused a slight increase in the number of chromosomal aberrations in bone marrow cytogenetics assays. **DEVELOPMENTAL**

TOXICITY: Diesel fuel vapor did not cause fetotoxic or teratogenic effects when pregnant rats were exposed on days 6-15 of pregnancy. Gas oils were applied to the skin of pregnant rats daily on days 0-19 of gestation. All but one (coker light gas oil) caused fetotoxicity (increased resorptions, reduced litter weight, reduced litter size) at dose levels that were also maternally toxic.

This product contains naphthalene.

GENERAL TOXICITY: Exposure to naphthalene has been reported to cause methemoglobinemia and/or hemolytic anemia, especially in humans deficient in the enzyme glucose-6-phosphate dehydrogenase. Laboratory animals given repeated oral doses of naphthalene have developed cataracts. **REPRODUCTIVE TOXICITY AND BIRTH DEFECTS:** Naphthalene did not cause birth defects when administered orally to rabbits, rats, and mice during pregnancy, but slightly reduced litter size in mice at dose levels that were lethal to the pregnant females. Naphthalene has been reported to cross the human placenta. **GENETIC TOXICITY:** Naphthalene caused chromosome aberrations and sister chromatid exchanges in Chinese hamster ovary cells, but was not a mutagen in several other in-vitro tests. **CARCINOGENICITY:** In a study conducted by the National Toxicology Program (NTP), mice exposed to 10 or 30 ppm of naphthalene by inhalation daily for two years had chronic inflammation of the nose and lungs and increased incidences of metaplasia in those tissues. The incidence of benign lung tumors (alveolar/bronchiolar adenomas) was significantly increased in the high-dose female group but not in the male groups. In another two-year inhalation study conducted by NTP, exposure of rats to 10, 30, and 60 ppm naphthalene caused increases in the incidences of a variety of nonneoplastic lesions in the nose. Increases in nasal tumors were seen in both sexes, including olfactory neuroblastomas in females at 60 ppm and adenomas of the respiratory epithelium in males at all exposure levels. The relevance of these effects to humans has not been established. No carcinogenic effect was reported in a 2-year feeding study in rats receiving naphthalene at 41 mg/kg/day.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. A series of studies on the acute toxicity of 4 diesel fuel samples were conducted by one laboratory using water accommodated fractions. The range of effective (EC50) or lethal concentrations (LC50) expressed as loading rates were:

48 hour(s) EC50: 20-210 mg/l (Daphnia magna)
96 hour(s) LC50: 21-210 mg/l (Salmo gairdneri)
72 hour(s) EC50: 2.6-25 mg/l (Selenastrum capricornutum)

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. On release to the environment the lighter components of diesel fuel will generally evaporate but depending on local environmental conditions (temperature, wind, mixing or wave action, soil type, etc.) the remainder may become dispersed in the water column or absorbed to soil or sediment. Diesel fuel would not be expected to be readily biodegradable. In a modified Strum test (OECD method 301B) approximately 40% biodegradation was recorded over 28 days. However, it has been shown that most hydrocarbon components of diesel fuel are degraded in soil in the presence of oxygen. Under anaerobic conditions, such as in anoxic sediments, rates of biodegradation are negligible. The product has not been tested. The statement has been derived from products of a similar structure and composition.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.
Octanol/Water Partition Coefficient: No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by international, country, or local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point (PM Closed Cup) >= 23 deg C but <= 60 deg C: UN1202, GAS OIL, 3, III; OPTIONAL DISCLOSURE: UN1202, GAS OIL, 3, III, MARINE POLLUTANT (DIESEL FUEL) Optional disclosure per 49 CFR when Flash Point (PM Closed Cup) >= 38 deg C < 93 deg C per 49 173.150 (f): UN1202, GAS OIL, COMBUSTIBLE LIQUID, III; NON-BULK PACKAGES ARE EXEMPTED FROM THE PROVISIONS OF 49 CFR IN USA JURISDICTIONS Optional disclosure as a GHS Environmental Hazard/Marine Pollutant when Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

IMO/IMDG Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point (PM Closed Cup) >= 23 deg C, <= 60 deg C: UN1202, GAS OIL, 3, III, FLASH POINT SEE SECTION 5 OR 9, MARINE POLLUTANT (DIESEL FUEL); OPTIONAL DISCLOSURE: UN1268, PETROLEUM DISTILLATES, N.O.S. (DIESEL FUEL), 3, III, FLASH POINT SEE SECTION 5 OR 9, MARINE POLLUTANT (DIESEL FUEL) For packages with a Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

ICAO/IATA Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point (PM Closed Cup) >= 23 deg C, <= 60 deg C: UN1202, GAS OIL, 3, III For packages with a Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:

Not applicable

SECTION 15. REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

- | | |
|---------------------------------------|-----|
| 1. Immediate (Acute) Health Effects: | YES |
| 2. Delayed (Chronic) Health Effects: | YES |
| 3. Fire Hazard: | YES |
| 4. Sudden Release of Pressure Hazard: | NO |
| 5. Reactivity Hazard: | NO |

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK

02=NTP Carcinogen

06=NJ RTK

07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Naphthalene

01-2B, 02, 03, 04, 05, 06, 07

Diesel Fuel No. 2

07

CERCLA REPORTABLE QUANTITIES(RQ)/EPCRA 302 THRESHOLD PLANNING QUANTITIES(TPQ):

Component	Component RQ	Component TPQ	Product RQ
Naphthalene	100 lbs	None	50000 lbs

CHEMICAL INVENTORIES:

AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: DIESEL FUEL

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 1 Flammability: 2 Reactivity: 0

HMIS RATINGS: Health: 2* Flammability: 2 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Safety Data Sheet: 1 - 16
Revision Date: MAY 08, 2015

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
HMIS - Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to the 29 CFR 1910.1200 (2012) by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet



SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

DIESEL FUEL No. 2

Product Use: Fuel Oil

Product Number(s): 180004, 180005, 180006, 180007, 180008, 180009, 180010, 180011, 180012, 180013, 180014, 180015, 180016, 180017, 180020, 180178, 180179, 180181, 180182, 180184, 180185, 180191, 180205, 180206

Company Identification

Chevron Canada Ltd.
1200-1050 West Pender Street
Vancouver, BC V6E 3T4
Canada

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

Technical Information: (510) 242-5357

SPECIAL NOTES: This SDS covers all Chevron, Texaco and Calco CARB & non-CARB Diesel No. 2 Fuels. The sulfur content is less than 0.5% (mass). Red dye is added to non-taxable fuel. (SDS 6894)

SPECIAL NOTES: This SDS covers all Chevron and Calco CARB Low Sulfur Diesel No. 2 Fuels. Red dye is added to non-taxable fuel. (SDS 7098)

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION: Flammable liquid: Category 3. Aspiration toxicant: Category 1. Carcinogen: Category 1B. Skin irritation: Category 2. Target organ toxicant (repeated exposure): Category 2. Target organ toxicant (central nervous system): Category 3. Acute inhalation toxicant: Category 4. Acute aquatic toxicant: Category 2. Chronic aquatic toxicant: Category 2.



Signal Word: Danger

Physical Hazards: Flammable liquid and vapour (H226).

Health Hazards: May be fatal if swallowed and enters airways (H304). May cause cancer (H350). Causes skin irritation (H315). Harmful if inhaled (H332). May cause drowsiness or dizziness (H336).

Target Organs:

May cause damage to organs (Blood/Blood Forming Organs, Liver, Thymus) through prolonged or repeated exposure (H373).

Environmental Hazards: Toxic to aquatic life with long lasting effects (H411).

PRECAUTIONARY STATEMENTS:

General: Keep out of reach of children (P102). Read label before use (P103).

Prevention: Keep away from heat, sparks, open flames and other ignition sources. No smoking (P210). Ground and bond container and receiving equipment (P240). Keep container tightly closed (P233). Use explosion-proof electrical/ventilating/lighting equipment (P241). Use non-sparking tools (P242). Take action to prevent static discharge (P243). Do not handle until all safety precautions have been read and understood (P202). Obtain special instructions before use (P201). Wear protective gloves/protective clothing/eye protection/face protection (P280). Do not breathe dust/fume/gas/mist/vapours/spray (P260). Wash thoroughly after handling (P264). Use only outdoors or in a well-ventilated area (P271). Avoid release to the environment (P273).

Response: IF exposed or concerned: Get medical advice/attention (P308+P313). IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340). Call a POISON CENTER/doctor if you feel unwell (P312). IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower (P303+P361+P353). If skin irritation occurs: Get medical advice/attention (P332+P313). IF SWALLOWED: Immediately call a POISON CENTER/doctor (P301+P310). Do NOT induce vomiting (P331). Specific treatment (see Notes to Physician on this label) (P321). In case of fire: Use media specified in the SDS to extinguish (P370+P378). Collect spillage (P391).

Storage: Store locked up (P405). Store in a well-ventilated place. Keep container tightly closed (P403+P233). Store in a well-ventilated place. Keep cool (P403+P235).

Disposal: Dispose of contents/container in accordance with applicable local/regional/national/international regulations (P501).

SECTION 3. COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Diesel Fuel No. 2	68476-34-6	95 - 100 %volume
Fatty Acid Methyl Esters (FAME)	Mixture	0 - 5 %volume
Alkanes,C10-C20-Branched And Linear	928771-01-1	0 - 5 %volume
Naphthalene	91-20-3	0.02 - 0.2 %volume
Total sulfur	Mixture	0 - 5000 ppm (weight)

Information on ingredients that are considered Controlled Products and/or that appear on the WHMIS Ingredient Disclosure List (IDL) is provided as required by the Canadian Hazardous Products Act (HPA, Sections 13 and 14). Ingredients considered hazardous under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, are also listed. See Section 15 for additional regulatory information.

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.

Most important symptoms and effects, both acute and delayed

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin causes irritation. Symptoms may include pain, itching, discoloration, swelling, and blistering. Contact with the skin is not expected to cause an allergic skin response.

Ingestion: Highly toxic; may be fatal if swallowed. Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death. May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.

Inhalation: Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:

Cancer: Whole diesel engine exhaust has been classified as a Group 2A carcinogen (probably carcinogenic to humans) by the International Agency for Research on Cancer (IARC). Prolonged or repeated exposure to this material may cause cancer. Contains naphthalene, which has been classified as a Group 2B carcinogen (possibly carcinogenic to humans) by the International Agency for Research on Cancer (IARC).

Target Organs: Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit based on animal data: Liver Blood/Blood Forming Organs Thymus See Section 11 for additional information. Risk depends on duration and level of exposure.

Indication of any immediate medical attention and special treatment needed

Note to Physicians: Ingestion of this product or subsequent vomiting may result in aspiration of light hydrocarbon liquid, which may cause pneumonitis.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Unusual Fire Hazards: See Section 7 for proper handling and storage.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in the vicinity of the spill or released vapor. If this material is released into the work area, evacuate the area immediately. Monitor area with combustible gas indicator.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. All equipment used when handling the product must be grounded. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities as appropriate or required.

SECTION 7 HANDLING AND STORAGE

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Precautionary Measures: Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive force. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 29C (85F).

Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Do not breathe mist. Wash thoroughly after handling. Keep out of the reach of children.

Unusual Handling Hazards: WARNING! Do not use as portable heater or appliance fuel. Toxic fumes may accumulate and cause death. Slow heat generation may occur with oil-soaked rags, spent filter aids and spent absorbent material and may cause spontaneous combustion if stored near combustibles and not handled properly. Store biodiesel soaked rags, filter aids, and spill absorbent material in approved safety disposal containers and dispose of properly. Biodiesel soaked rags may be washed with soap and water and allowed to dry in well ventilated area.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

General Storage Information: DO NOT USE OR STORE near heat, sparks, flames, or hot surfaces . USE AND STORE ONLY IN WELL VENTILATED AREA. Keep container closed when not in use.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted.

Suggested materials for protective gloves include: Chlorinated Polyethylene (or Chlorosulfonated Polyethylene), Nitrile Rubber, Polyurethane, Viton.

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors.

When used as a fuel, this material can produce carbon monoxide in the exhaust. Determine if airborne concentrations are below the occupational exposure limit for carbon monoxide. If not, wear an approved positive-pressure air-supplying respirator.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Country/ Agency	TWA	STEL	Celling	Notation
Diesel Fuel No. 2	ACGIH	100 mg/m3	--	--	Skin A3 total hydrocarbon
Diesel Fuel No. 2	CVX	--	1000 mg/m3	--	--
Naphthalene	ACGIH	10 ppm (weight)	15 ppm	--	Skin A3

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard Z94.4-2011 Selection, Use and Care of Respirators.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Varies depending on specification

Physical State: Liquid

Odor: Petroleum odor

Odor Threshold: No data available

pH: Not Applicable

Vapor Pressure: 0.04 kPa (Approximate) @ 40 °C (104 °F)

Vapor Density (Air = 1): >1

Initial Boiling Point: 175.6°C (348°F) - 370°C (698°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable
Melting Point: Not Applicable
Specific Gravity: 0.80 - 0.88 @ 15.6°C (60.1°F) (Typical)
Viscosity: 1.90 cSt - 4.10 cSt @ 40°C (104°F)
Decomposition temperature: No data available
Octanol/Water Partition Coefficient: No data available

FLAMMABLE PROPERTIES:

Flammability (solid, gas): No Data Available

Flashpoint: (Pensky-Martens Closed Cup) 52 °C (125 °F) Minimum

Autoignition: 257 °C (494 °F)

Flammability (Explosive) Limits (% by volume in air): Lower: 0.6 Upper: 4.7

SECTION 10: STABILITY AND REACTIVITY

Reactivity: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions to Avoid: Avoid contact with heat, sparks, fire and oxidizing agents

Incompatibility With Other Materials: Not applicable

Hazardous Decomposition Products: None known (None expected)

Hazardous Polymerization: Hazardous polymerization will not occur.

Sensitivity to Mechanical Impact: No.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Serious Eye Damage/Irritation: The eye irritation hazard is based on evaluation of data for similar materials.

Skin Corrosion/Irritation: The skin irritation hazard is based on evaluation of data for similar materials.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials. For additional information on the acute toxicity of the components, call the technical information

center.

Acute Toxicity Estimate: Not Determined

Germ Cell Mutagenicity: The hazard evaluation is based on data for components or a similar material.

Carcinogenicity: The hazard evaluation is based on data for components or a similar material.

Reproductive Toxicity: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Single Exposure: The hazard evaluation is based on data for components or a similar material.

Specific Target Organ Toxicity - Repeated Exposure: The hazard evaluation is based on data for components or a similar material.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains naphthalene.

GENERAL TOXICITY: Exposure to naphthalene has been reported to cause methemoglobinemia and/or hemolytic anemia, especially in humans deficient in the enzyme glucose-6-phosphate dehydrogenase. Laboratory animals given repeated oral doses of naphthalene have developed cataracts.

REPRODUCTIVE TOXICITY AND BIRTH DEFECTS: Naphthalene did not cause birth defects when administered orally to rabbits, rats, and mice during pregnancy, but slightly reduced litter size in mice at dose levels that were lethal to the pregnant females. Naphthalene has been reported to cross the human placenta. **GENETIC TOXICITY:** Naphthalene caused chromosome aberrations and sister chromatid exchanges in Chinese hamster ovary cells, but was not a mutagen in several other in-vitro tests. **CARCINOGENICITY:** In a study conducted by the National Toxicology Program (NTP), mice exposed to 10 or 30 ppm of naphthalene by inhalation daily for two years had chronic inflammation of the nose and lungs and increased incidences of metaplasia in those tissues. The incidence of benign lung tumors (alveolar/bronchiolar adenomas) was significantly increased in the high-dose female group but not in the male groups. In another two-year inhalation study conducted by NTP, exposure of rats to 10, 30, and 60 ppm naphthalene caused increases in the incidences of a variety of nonneoplastic lesions in the nose. Increases in nasal tumors were seen in both sexes, including olfactory neuroblastomas in females at 60 ppm and adenomas of the respiratory epithelium in males at all exposure levels. The relevance of these effects to humans has not been established. No carcinogenic effect was reported in a 2-year feeding study in rats receiving naphthalene at 41 mg/kg/day.

This product contains gas oils.

CONCAWE (product dossier 95/107) has summarized current health, safety and environmental data available for a number of gas oils, typically hydrodesulfurized middle distillates, CAS 64742-80-9, straight-run middle distillates, CAS 64741-44-2, and/or light cat-cracked distillate CAS 64741-59-9.

CARCINOGENICITY: All materials tested have caused the development of skin tumors in mice, but all featured severe skin irritation and sometimes a long latency period before tumors developed. Straight-run and cracked gas oil samples were studied to determine the influence of dermal irritation on the carcinogenic activity of middle distillates. At non-irritant doses the straight-run gas oil was not

carcinogenic, but at irritant doses, weak activity was demonstrated. Cracked gas oils, when diluted with mineral oil, demonstrated carcinogenic activity irrespective of the occurrence of skin irritation. Gas oils were tested on male mice to study tumor initiating/promoting activity. The results demonstrated that while a straight-run gas oil sample was neither an initiator or promotor, a blend of straight-run and FCC stock was both a tumor initiator and a promotor.

GENOTOXICITY: Hydrotreated & hydrodesulfurized gas oils range in activity from inactive to weakly positive in in-vitro bacterial mutagenicity assays. Mouse lymphoma assays on straight-run gas oils without subsequent hydrodesulphurization gave positive results in the presence of S9 metabolic activation. In-vivo bone marrow cytogenetics and sister chromatic exchange assay exhibited no activity for straight-run components with or without hydrodesulphurization. Thermally or catalytically cracked gas oils tested with in-vitro bacterial mutagenicity assays in the presence of S9 metabolic activation were shown to be mutagenic. In-vitro sister chromatic exchange assays on cracked gas oil gave equivocal results both with and without S9 metabolic activation. In-vivo bone marrow cytogenetics assay was inactive for two cracked gas oil samples. Three hydrocracked gas oils were tested with in-vitro bacterial mutagenicity assays with S9, and one of the three gave positive results. Twelve distillate fuel samples were tested with in-vitro bacterial mutagenicity assays & with S9 metabolic activation and showed negative to weakly positive results. In one series, activity was shown to be related to the PCA content of samples tested. Two in-vivo studies were also conducted. A mouse dominant lethal assay was negative for a sample of diesel fuel. In the other study, 9 samples of No 2 heating oil containing 50% cracked stocks caused a slight increase in the number of chromosomal aberrations in bone marrow cytogenetics assays. **DEVELOPMENTAL TOXICITY:** Diesel fuel vapor did not cause fetotoxic or teratogenic effects when pregnant rats were exposed on days 6-15 of pregnancy. Gas oils were applied to the skin of pregnant rats daily on days 0-19 of gestation. All but one (coker light gas oil) caused fetotoxicity (increased resorptions, reduced litter weight, reduced litter size) at dose levels that were also maternally toxic.

The National Institute of Occupational Safety and Health (NIOSH) has recommended that whole diesel exhaust be regarded as potentially causing cancer. This recommendation was based on test results showing increased lung cancer in laboratory animals exposed to whole diesel exhaust.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

A series of studies on the acute toxicity of 4 diesel fuel samples were conducted by one laboratory using water accommodated fractions. The range of effective (EC50) or lethal concentrations (LC50) expressed as loading rates were: This material is expected to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

72 hour(s) EC50: 2.6-25 mg/l (*Selenastrum capricornutum*)

96 hour(s) LC50: 21-210 mg/l (*Salmo gairdneri*)

48 hour(s) EC50: 20-210 mg/l (*Daphnia magna*)

MOBILITY

No data available.

PERSISTENCE AND DEGRADABILITY

This material is not expected to be readily biodegradable. On release to the environment the lighter components of diesel fuel will generally evaporate but depending on local environmental conditions (temperature, wind, mixing or wave action, soil type, etc.) the remainder may become dispersed in the water column or absorbed to soil or sediment. Diesel fuel would not be expected to be readily biodegradable. In a modified Strum test (OECD method 301B) approximately 40% biodegradation was recorded over 28 days. However, it has been shown that most hydrocarbon components of diesel fuel are degraded in soil in the presence of oxygen. Under anaerobic conditions, such as in anoxic sediments, rates of biodegradation are negligible.

The product has not been tested. The statement has been derived from products of a similar structure and composition.

POTENTIAL TO BIOACCUMULATE

Bioconcentration Factor: No data available.

Octanol/Water Partition Coefficient: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by USEPA under RCRA (40CFR261), Environment Canada, or other State, Provincial, and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

TC Shipping Description: SEE IMO/IMDG SHIPPING DESCRIPTION OR REFERENCE BILL OF LADING

IMO/IMDG Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point (PM Closed Cup) >= 23 deg C, <= 60 deg C: UN1202, GAS OIL, 3, III, FLASH POINT SEE SECTION 5 OR 9, MARINE POLLUTANT (DIESEL FUEL); OPTIONAL DISCLOSURE: UN1268, PETROLEUM DISTILLATES, N.O.S. (DIESEL FUEL), 3, III, FLASH POINT SEE SECTION 5 OR 9, MARINE POLLUTANT (DIESEL FUEL) For packages with a Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

ICAO/IATA Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point

(PM Closed Cup) ≥ 23 deg C, ≤ 60 deg C: UN1202, GAS OIL, 3, III For packages with a Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

DOT Shipping Description: For packages with an Initial Boiling Point > 35 deg C and a Flash Point (PM Closed Cup) ≥ 23 deg C but ≤ 60 deg C: UN1202, GAS OIL, 3, III; OPTIONAL DISCLOSURE: UN1202, GAS OIL, 3, III, MARINE POLLUTANT (DIESEL FUEL) Optional disclosure per 49 CFR when Flash Point (PM Closed Cup) ≥ 38 deg C < 93 deg C per 49 173.150 (f): UN1202, GAS OIL, COMBUSTIBLE LIQUID, III; NON-BULK PACKAGES ARE EXEMPTED FROM THE PROVISIONS OF 49 CFR IN USA JURISDICTIONS Optional disclosure as a GHS Environmental Hazard/Marine Pollutant when Flash Point (PM Closed Cup) > 60 deg C: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(DIESEL FUEL), 9, III, MARINE POLLUTANT (DIESEL FUEL)

SECTION 15 REGULATORY INFORMATION

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1
01-2A=IARC Group 2A
01-2B=IARC Group 2B
35=WHMIS IDL

The following components of this material are found on the regulatory lists indicated.

Naphthalene 01-2B, 35

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

SECTION 16 OTHER INFORMATION

REVISION STATEMENT:

SECTION 02 - Composition information was modified.

Revision Date: April 22, 2016

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
GHS - Globally Harmonized System	CAS - Chemical Abstract Service Number

ACGIH - American Conference of Governmental Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	SDS - Safety Data Sheet
WHMIS - Workplace Hazardous Materials Information System	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration
NCEL - New Chemical Exposure Limit	EPA - Environmental Protection Agency
SCBA - Self-Contained Breathing Apparatus	

Prepared according to WHMIS 2015 by Chevron Energy Technology Company, 6001 Bollinger Canyon Road San Ramon, CA 94583.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/14/2016

Reviewed on 03/14/2016

1 Identification

- **Product identifier**
- **Trade name:** Sure Anchor™ I J51 - Part B
- **Article number:** 87-69359B
- **Application of the substance / the mixture**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Dayton® Superior
4226 Kansas Avenue
Kansas City, KS 66106

Tel.: (866) 329-8724

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call international number, +1 703 741-5970. Collect calls are accepted.

- **Information department:** Environmental, Health, and Safety department.

2 Hazard(s) identification

- **Classification of the substance or mixture**
Acute Tox. 4 H332 Harmful if inhaled.
Skin Corr. 1C H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



- **Signal word** Danger
- **Hazard-determining components of labeling:**
m-phenylenebis(methylamine)
nonylphenol
cyclohex-1,2-ylenediamine
hexamethylenediamine
- **Hazard statements**
Harmful if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
- **Precautionary statements**
Do not breathe dusts or mists.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

1477-55-0	m-phenylenebis(methylamine)	10-25%
25154-52-3	nonylphenol	10-25%
694-83-7	cyclohex-1,2-ylenediamine	≤ 10%
124-09-4	hexamethylenediamine	≤ 5%
110-60-1	tetramethylenediamine	≤ 1%
156-87-6	3-aminopropan-1-ol	≤ 1%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
In the event of persistent symptoms receive medical treatment.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
Immediately move exposed person to fresh air. If breathing difficulty persists or develops get prompt medical attention.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Immediately rinse with water.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Immediately call a doctor.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.

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Seek medical treatment.

- Information for doctor:

- Most important symptoms and effects, both acute and delayed No further relevant information available.

- Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- Extinguishing media

- Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- Special hazards arising from the substance or mixture No further relevant information available.

- Advice for firefighters

- Protective equipment:

Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

- Environmental precautions:

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

- Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- Handling:

- Precautions for safe handling

Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.

- Information about protection against explosions and fires: No special measures required.

- Conditions for safe storage, including any incompatibilities

- Storage:

- Requirements to be met by storerooms and receptacles: Store in a cool dry location.

- Information about storage in one common storage facility: Store away from incompatible materials.

- Further information about storage conditions: Keep receptacle tightly sealed.

- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.

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- Control parameters

- Components with limit values that require monitoring at the workplace:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

1477-55-0 m-phenylenebis(methylamine)
REL Ceiling limit value: 0.1 mg/m³

Skin

TLV Ceiling limit value: 0.1 mg/m³

Skin

124-09-4 hexamethylenediamine
TLV Long-term value: 2.3 mg/m³, 0.5 ppm

WEEL Long-term value: 1 ppm

- Additional information: The lists that were valid during the creation were used as basis.

- Exposure controls

- Personal protective equipment:

- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

- Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- Eye protection: Wear appropriate eye protection to prevent eye contact.

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Liquid

Color: Grey

Odor: Distinctive

Odor threshold: Not determined.

pH-value: Not determined.

- Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

Flash point: >94 °C (>201 °F)

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· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	370 °C (698 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	1.0 Vol %
Upper:	0.0 Vol %
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.776 g/cm ³ (14.821 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0 %
· Other information	No further relevant information available.
· Volatile Organic Compounds:	Not determined

10 Stability and reactivity

- **Reactivity** No decomposition if stored and applied as directed.
- **Chemical stability** No decomposition if stored and applied as directed
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Reacts with acids, alkalis and oxidizing agents.
- **Conditions to avoid** Keep away from heat and sources of ignition.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides

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11 Toxicological information

- Information on toxicological effects

- Acute toxicity:

- LD/LC50 values that are relevant for classification:

1477-55-0 m-phenylenebis(methylamine)

Oral	LD50	1040 mg/kg (rat)
Inhalative	LC50/4 h	2.4 mg/l (rat)

25154-52-3 nonylphenol

Oral	LD50	1620 mg/kg (rat)
------	------	------------------

124-09-4 hexamethylenediamine

Oral	LD50	750 mg/kg (rat)
Dermal	LD50	1110 mg/kg (rabbit)

- Primary irritant effect:

- on the skin: May cause skin irritation.

- on the eye: Strong caustic effect.

- Sensitization: Sensitization possible through skin contact.

- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

- NTP (National Toxicology Program)

None of the ingredients is listed.

- OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- Toxicity

- Aquatic toxicity: No further relevant information available.

- Persistence and degradability: No further relevant information available.

- Behavior in environmental systems:

- Bioaccumulative potential: No further relevant information available.

- Mobility in soil: No further relevant information available.

- Ecotoxicological effects:

- Remark: Toxic for fish

- Additional ecological information:

- General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

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- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- Recommendation:
Must not be disposed of as normal garbage. Do not allow product to reach sewage system.
It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to Federal, State, and Local regulations.

14 Transport information

- | | |
|------------------------------|---|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN1760 |
| · UN proper shipping name | |
| · DOT, IATA | Corrosive liquids, n.o.s. (nonylphenol) |
| · ADR | 1760 Corrosive liquids, n.o.s. (nonylphenol) |
| · IMDG | CORROSIVE LIQUID, N.O.S. (nonylphenol), MARINE POLLUTANT |
| · Transport hazard class(es) | |
| · DOT | |
| |  |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · ADR, IMDG | |
| |   |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · IATA | |
| |  |
| · Class | 8 Corrosive substances |

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· Label	8
· Packing group	
· DOT, ADR, IMDG, IATA	III
· Environmental hazards:	Product contains environmentally hazardous substances: nonylphenol
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Remarks:	Add "Marine Pollutant" to end of proper shipping name if shipping in a bulk container (>119 gallons).
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml Same as listed for Standard Shipments above.
· U.S. Domestic Ground Shipments:	
· U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments:	Same as listed for Standard Shipments above.
· Emergency Response Guide (ERG) Number:	Not determine
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1760 CORROSIVE LIQUIDS, N.O.S., 8, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

25154-52-3	nonylphenol	10-25%
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· TSCA (Toxic Substances Control Act):

All ingredients are listed.

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Proposition 65

Chemicals known to the State of California (Prop. 65) to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS05 GHS07 GHS08

Signal word Danger

Hazard-determining components of labeling:

m-phenylenebis(methylamine)

nonylphenol

cyclohex-1,2-ylenediamine

hexamethylenediamine

Hazard statements

Harmful if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

Precautionary statements

Do not breathe dusts or mists.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environmental, Health & Safety Department

· **Contact:** Environmental, Health & Safety Manager

· **Date of preparation / last revision** 03/14/2016 / 240

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Repr. 2: Reproductive toxicity, Hazard Category 2

US

Printing date 01/18/2015

Reviewed on 01/18/2015

1 Identification

• **Product identifier**

• **Trade name:** *Anti Spall J33*

• **Article number:** 83-69179

• **Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.

• **Application of the substance / the mixture**

• **Details of the supplier of the safety data sheet**

• **Manufacturer/Supplier:**

Dayton® Superior
4226 Kansas Avenue
Kansas City, KS 66106

Tel.: (866) 329-8724

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call international number, +1 703 741-5970. Collect calls are accepted.

• **Information department:** Environmental, Health, and Safety department.

2 Hazard(s) identification

• **Classification of the substance or mixture**

Flam. Liq. 3 H226 Flammable liquid and vapour.

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

• **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** May cause skin and eye irritation.

• **Information concerning particular hazards for human and environment:**

The product has to be labelled due to internationally acknowledged calculation procedures using the latest valid versions.

• **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

• **Label elements**

• **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS02 GHS08

• **Signal word** Danger

• **Hazard-determining components of labeling:**

Stoddard solvent

Distillates (petroleum), hydrotreated light

Naphtha (petroleum), hydrodesulfurized heavy

Solvent naphtha (petroleum), light arom.

• **Hazard statements**

Flammable liquid and vapour.

May cause genetic defects.

May cause cancer.

May be fatal if swallowed and enters airways.

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Trade name: Anti Spall J33

Precautionary statements

(Contd. of page 1)

- If medical advice is needed, have product container or label at hand.
- Keep out of reach of children.
- Read label before use.
- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Wear protective gloves/protective clothing/eye protection/face protection.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)

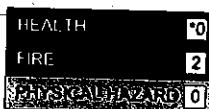


Health = 0

Fire = 2

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 0

Fire = 2

Reactivity = 0

- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

8052-41-3	Stoddard solvent	
64742-47-8	Distillates (petroleum), hydrotreated light	25-50%
64742-95-6	Solvent naphtha (petroleum), light arom.	10-25%
25551-13-7	Trimethylbenzene	≤ 5%
64742-88-7	Solvent naphtha (petroleum), medium aliph.	≤ 5%
95-63-6	1,2,4-trimethylbenzene	≤ 2.5%
108-67-8	mesitylene	≤ 2.5%
		≤ 2.5%

Additional information: For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

Description of first aid measures

- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: If skin irritation continues, consult a doctor.
- After eye contact:
Rinse opened eye for several minutes under running water. Then consult a doctor.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Seek medical treatment.

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Trade name: Anti Spall J33

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

(Contd. of page 2)

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**
 - Water
 - Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**

Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**

Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.
- **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
 - **Requirements to be met by storerooms and receptacles:** No special requirements.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:** Keep receptacle tightly sealed.
 - **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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Trade name: Anti Spall J33

(Contd. of page 3)

Control parameters

Components with limit values that require monitoring at the workplace:

8052-41-3 Stoddard solvent

PEL Long-term value: 2900 mg/m³, 500 ppm

REL Long-term value: 350 mg/m³

Ceiling limit value: 1800* mg/m³
*15-min

TLV Long-term value: 525 mg/m³, 100 ppm

95-63-6 1,2,4-trimethylbenzene

REL Long-term value: 125 mg/m³, 25 ppm

TLV Long-term value: 123 mg/m³, 25 ppm

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Wear appropriate eye protection to prevent eye contact.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:

Liquid

Color:

According to product specification

Odor:

Characteristic

Odour threshold:

Not determined.

pH-value:

Not determined.

Change in condition

Melting point/Melting range:

Undetermined.

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Trade name: Anti Spall J33

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Boiling point/Boiling range:	121 °C (250 °F)
· Flash point:	39 °C (102 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	210 °C (410 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	0.5 Vol %
Upper:	6.5 Vol %
· Vapor pressure at 20 °C (68 °F):	2 hPa (2 mm Hg)
· Density at 20 °C (68 °F):	0.82292 g/cm ³ (6.867 lbs/gal)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	10.2 %
Solids content:	29.8 %
· Other information	No further relevant information available.
· Volatile Organic Compounds:	Contains less than 400 g/L.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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Trade name: Anti Spall J33

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11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

64742-95-6 Solvent naphtha (petroleum), light arom.

Oral	LD50	>6800 mg/kg (rat)
Dermal	LD50	>3400 mg/kg (rab)
Inhalative	LC50/4 h	>10.2 mg/l (rat)

Primary irritant effect:

on the skin: No irritant effect known.

on the eye: No irritating effect known.

Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:
Carcinogenic.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

1330-20-7	xylene	
91-20-3	naphthalene	3
100-41-4	ethylbenzene	2B
7440-48-4	cobalt	2B
		2B

NTP (National Toxicology Program)

91-20-3	naphthalene	R
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OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Ecotoxicological effects:

Remark: Harmful to fish

Additional ecological information:

General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Water hazard class 1 (Self-assessment): slightly hazardous for water

Harmful to aquatic organisms

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

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Trade name: Anti Spall J33

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13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of as normal garbage. Do not allow product to reach sewage system.
It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to Federal, State, and Local regulations.

14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA**

UN1268

· **UN proper shipping name**

· **DOT**

· **ADR**

· **IMDG, IATA**

Petroleum distillates, n.o.s.
1268 Petroleum distillates, n.o.s.
PETROLEUM DISTILLATES, N.O.S.

· **Transport hazard class(es)**

· **DOT**



· **Class**

· **Label**

3 Flammable liquids
3

· **ADR, IMDG, IATA**



· **Class**

· **Label**

3 Flammable liquids
3

· **Packing group**

· **DOT, ADR, IMDG, IATA**

III

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

· **Danger code (Kemler):**

· **EMS Number:**

Warning: Flammable liquids
30
F-E, S-E

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

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Trade name: Anti Spall J33

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Transport/Additional information:

ADR

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

Combustible liquids, n.o.s. (Petroleum Distillates), NA1993, PG III

U.S. Domestic Ground Shipments:

U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments:

DOT: Not regulated (Reclassified as per 49CFR 173.150).

Emergency Response Guide (ERG) Number:

Not determine

IMDG

Limited quantities (LQ)

5L

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN1268, Petroleum distillates, n.o.s., 3, III

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Sara

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

95-63-6	1,2,4-trimethylbenzene	≤2.5%
98-82-8	cumene	≤1%
1330-20-7	xylene	≤0.1%
91-20-3	naphthalene	≤0.1%
100-41-4	ethylbenzene	≤0.1%
7440-48-4	cobalt	≤0.1%
7439-96-5	manganese	≤0.1%

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to the State of California (Prop. 65) to cause cancer:

64742-95-6	Solvent naphtha (petroleum), light arom.
98-82-8	cumene
91-20-3	naphthalene
100-41-4	ethylbenzene
7440-48-4	cobalt

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

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Trade name: Anti Spall J33

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• **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

• **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

• **Cancerogenity categories**

• **EPA (Environmental Protection Agency)**

98-82-8	cumene	
1330-20-7	xylene	D, CBD
91-20-3	naphthalene	I
100-41-4	ethylbenzene	C, CBD
7439-96-5	manganese	D
		D

• **TLV (Threshold Limit Value established by ACGIH)**

1330-20-7	xylene	
91-20-3	naphthalene	A4
100-41-4	ethylbenzene	A4
7440-48-4	cobalt	A3
		A3

• **MAK (German Maximum Workplace Concentration)**

91-20-3	naphthalene	
100-41-4	ethylbenzene	2
7440-48-4	cobalt	3A
		2

• **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

• **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS02



GHS08

• **Signal word** Danger

• **Hazard-determining components of labeling:**

Stoddard solvent
Distillates (petroleum), hydrotreated light
Naphtha (petroleum), hydrodesulfurized heavy
Solvent naphtha (petroleum), light arom.

• **Hazard statements**

Flammable liquid and vapour.
May cause genetic defects.
May cause cancer.
May be fatal if swallowed and enters airways.

• **Precautionary statements**

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.

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Trade name: Anti Spall J33

(Contd. of page 9)

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **National regulations:**

• **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

• **Water hazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The provided information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Department issuing MSDS:** Environmental, Health & Safety Department

• **Contact:** Environmental, Health & Safety Manager

• **Date of preparation / last revision** 01/18/2015 / 60

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Muta. 1B: Germ cell mutagenicity, Hazard Category 1B

Carc. 1B: Carcinogenicity, Hazard Category 1B

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

USA

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 01/22/2016

1 Identification

- **Product identifier**
- **Trade name:** Sure Anchor™ I J51 - Part A
- **Article number:** 87-69359A
- **Application of the substance / the mixture**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Dayton® Superior
4226 Kansas Avenue
Kansas City, KS 66106

Tel.: (866) 329-8724

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call international number, +1 703 741-5970. Collect calls are accepted.

- **Information department:** Environmental, Health, and Safety department.

2 Hazard(s) identification

- **Classification of the substance or mixture**
Eye Irrit. 2A H319 Causes serious eye irritation.
Carc. 2 H351 Suspected of causing cancer.
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07 GHS08

- **Signal word** Warning
- **Hazard-determining components of labeling:**
Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
- **Hazard statements**
Causes serious eye irritation.
Suspected of causing cancer.
- **Precautionary statements**
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 1

Reactivity = 0

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 1)

HMIS-ratings (scale 0 - 4)

HEALTH	1	Health = 1
FIRE	1	Fire = 1
PHYSICAL HAZARD	0	Reactivity = 0

- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

≤ 10%

- Additional information: For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

- Description of first aid measures
- General information:
 - Immediately remove any clothing soiled by the product.
 - In the event of persistent symptoms receive medical treatment.
 - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation:
 - Immediately move exposed person to fresh air. If breathing difficulty persists or develops get prompt medical attention.
- After skin contact:
 - Immediately wash with water and soap and rinse thoroughly.
 - If skin irritation continues, consult a doctor.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing:
 - Seek immediate medical advice.
 - Seek medical treatment.
- Information for doctor:
 - Most important symptoms and effects, both acute and delayed No further relevant information available.
 - Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
 - CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 2)

- **Advice for firefighters**

- **Protective equipment:**

Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:** Do not allow product to reach sewage system or any water course.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.

- **Information about protection against explosions and fires:** No special measures required.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:** cool and dry

- **Requirements to be met by storerooms and receptacles:** Store in a cool dry location.

- **Information about storage in one common storage facility:** Store away from incompatible materials.

- **Further information about storage conditions:** Keep receptacle tightly sealed.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

(Contd. on page 4)

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Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 3)

• **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

• **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

• **Eye protection:** Wear appropriate eye protection to prevent eye contact.

9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form: Liquid

Color: Clear

• **Odor:** Mild

• **Odor threshold:** Not determined.

• **pH-value:** Not determined.

• **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

• **Flash point:** > 93 °C (> 199 °F)

• **Flammability (solid, gaseous):** Not applicable.

• **Ignition temperature:**

Decomposition temperature: Not determined.

• **Auto igniting:** Product is not selfigniting.

• **Danger of explosion:** Product does not present an explosion hazard.

• **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

• **Vapor pressure:** Not determined.

• **Density at 20 °C (68 °F):** 1.2 g/cm³ (10.014 lbs/gal)

• **Relative density** Not determined.

• **Vapor density** Not determined.

• **Evaporation rate** Not determined.

• **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

• **Partition coefficient (n-octanol/water):** Not determined.

• **Viscosity:**

Dynamic at 20 °C (68 °F): 1000000 mPas

Kinematic: Not determined.

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Safety Data Sheet

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Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 4)

· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0 %
· Other information	No further relevant information available.
· Volatile Organic Compounds:	Not determined

10 Stability and reactivity

- **Reactivity** No decomposition if stored and applied as directed.
- **Chemical stability** No decomposition if stored and applied as directed
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Reacts with acids, alkalis and oxidizing agents.
- **Conditions to avoid** Keep away from heat and sources of ignition.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

· LD/LC50 values that are relevant for classification:

25085-99-8 Diglycidyl ether of bisphenol A homopolymer

Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	20000 mg/kg (rabbit)

- **Primary irritant effect:**
 - **on the skin:** May cause skin irritation.
 - **on the eye:**
 - Strong irritant with the danger of severe eye injury.
 - Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

- Carcinogenic categories

· IARC (International Agency for Research on Cancer)

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

2B

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

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Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 5)



12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of as normal garbage. Do not allow product to reach sewage system.
It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to Federal, State, and Local regulations.

14 Transport information

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, ADN, IATA · IMDG | <p>Not Regulated
UN3082</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, ADR, ADN, IATA · IMDG | <p>Not Regulated
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (epoxy resin), MARINE POLLUTANT</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT, ADR, ADN, IATA · Class · IMDG | <p>Not Regulated</p> |
|   | |
| <ul style="list-style-type: none"> · Class · Label | <p>9 Miscellaneous dangerous substances and articles
9</p> |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | <p>III</p> |

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Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 6)

· Environmental hazards:	
· Marine pollutant:	No Symbol (fish and tree)
· Special precautions for user	
· EMS Number:	F-A, S-F
· Stowage Category	A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Remarks:	Not Regulated for Transport.
· ADR	
· Remarks:	Not Regulated for Transport.
· U.S. Domestic Ground Shipments:	Same as listed for Standard Shipments above.
· U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments:	Same as listed for Standard Shipments above.
· Emergency Response Guide (ERG) Number:	Not determine
· UN "Model Regulation":	Not Regulated

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to the State of California (Prop. 65) to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

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Safety Data Sheet

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Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 7)

• **TLV (Threshold Limit Value established by ACGIH)**

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

A4

• **MAK (German Maximum Workplace Concentration)**

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

3B

• **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

• **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS07 GHS08

• **Signal word** Warning

• **Hazard-determining components of labeling:**

Talc ($Mg_3H_2(SiO_3)_4$)

• **Hazard statements**

Causes serious eye irritation.

Suspected of causing cancer.

• **Precautionary statements**

Wear eye protection / face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Department issuing SDS:** Environmental, Health & Safety Department

• **Contact:** Environmental, Health & Safety Manager

• **Date of preparation / last revision** 01/22/2016 / 174

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

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Safety Data Sheet
acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 8)

*PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A**Carc. 2: Carcinogenicity, Hazard Category 2*

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

1 Identification

- Product identifier
- Trade name: **Sure Anchor™ I J51 - Part A**
- Article number: 87-69359A
- Application of the substance / the mixture
- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
Dayton® Superior
4226 Kansas Avenue
Kansas City, KS 66106

Tel.: (866) 329-8724

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call international number, +1 703 741-5970. Collect calls are accepted.

- Information department: Environmental, Health, and Safety department.

2 Hazard(s) identification

- Classification of the substance or mixture
Eye Irrit. 2A H319 Causes serious eye irritation.
Carc. 2 H351 Suspected of causing cancer.
- Label elements
- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms



GHS07 GHS08

- Signal word Warning
- Hazard-determining components of labeling:
Talc ($Mg_3H_2(SiO_3)_4$)
- Hazard statements
Causes serious eye irritation.
Suspected of causing cancer.
- Precautionary statements
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- Classification system:
- NFPA ratings (scale 0 - 4)



Health = 1
Fire = 1
Reactivity = 0

(Contd. on page 2)

US

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Printing date 01/22/2016

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Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 1)

HMIS-ratings (scale 0 - 4)

HEALTH	1	Health = 1
FIRE	1	Fire = 1
PHYSICAL HAZARD	0	Reactivity = 0

- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

≤ 10%

- Additional information: For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

- Description of first aid measures
- General information:
 - Immediately remove any clothing soiled by the product.
 - In the event of persistent symptoms receive medical treatment.
 - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation:
 - Immediately move exposed person to fresh air. If breathing difficulty persists or develops get prompt medical attention.
- After skin contact:
 - Immediately wash with water and soap and rinse thoroughly.
 - If skin irritation continues, consult a doctor.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing:
 - Seek immediate medical advice.
 - Seek medical treatment.
- Information for doctor:
 - Most important symptoms and effects, both acute and delayed No further relevant information available.
 - Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents:
 - CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.

(Contd. on page 3)

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Safety Data Sheet

acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:**
Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** cool and dry
- **Requirements to be met by storerooms and receptacles:** Store in a cool dry location.
- **Information about storage in one common storage facility:** Store away from incompatible materials.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 3)

• **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

• **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

• **Eye protection:** Wear appropriate eye protection to prevent eye contact.

9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form: Liquid

Color: Clear

• **Odor:** Mild

• **Odor threshold:** Not determined.

• **pH-value:** Not determined.

• **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

• **Flash point:** > 93 °C (> 199 °F)

• **Flammability (solid, gaseous):** Not applicable.

• **Ignition temperature:**

Decomposition temperature: Not determined.

• **Auto igniting:** Product is not selfigniting.

• **Danger of explosion:** Product does not present an explosion hazard.

• **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

• **Vapor pressure:** Not determined.

• **Density at 20 °C (68 °F):** 1.2 g/cm³ (10.014 lbs/gal)

• **Relative density** Not determined.

• **Vapor density** Not determined.

• **Evaporation rate** Not determined.

• **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

• **Partition coefficient (n-octanol/water):** Not determined.

• **Viscosity:**

Dynamic at 20 °C (68 °F): 1000000 mPas

Kinematic: Not determined.

(Contd. on page 5)

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Safety Data Sheet

acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 4)

• Solvent content:	
• Organic solvents:	0.0 %
• Solids content:	100.0 %
• Other information	No further relevant information available.
• Volatile Organic Compounds:	Not determined

10 Stability and reactivity

- **Reactivity** No decomposition if stored and applied as directed.
- **Chemical stability** No decomposition if stored and applied as directed
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Reacts with acids, alkalis and oxidizing agents.
- **Conditions to avoid** Keep away from heat and sources of ignition.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

25085-99-8 Diglycidyl ether of bisphenol A homopolymer

Oral LD50 5000 mg/kg (rat)

Dermal LD50 20000 mg/kg (rabbit)

- **Primary irritant effect:**

- **on the skin:** May cause skin irritation.

- **on the eye:**

Strong irritant with the danger of severe eye injury.

Irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

14807-96-6 Talc (Mg3H2(SiO3)4)

2B

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 5)



12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of as normal garbage. Do not allow product to reach sewage system.
It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to Federal, State, and Local regulations.

14 Transport information

- | | |
|---|---|
| • UN-Number | Not Regulated |
| • DOT, ADR, ADN, IATA | UN3082 |
| • IMDG | |
| • UN proper shipping name | Not Regulated |
| • DOT, ADR, ADN, IATA | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, |
| • IMDG | N.O.S. (epoxy resin), MARINE POLLUTANT |
| • Transport hazard class(es) | |
| • DOT, ADR, ADN, IATA | |
| • Class | Not Regulated |
| • IMDG | |
|   | |
| • Class | 9 Miscellaneous dangerous substances and articles |
| • Label | 9 |
| • Packing group | |
| • DOT, ADR, IMDG, IATA | III |

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Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 6)

· Environmental hazards:

· Marine pollutant:

No

Symbol (fish and tree)

· Special precautions for user

· EMS Number:

F-A,S-F

· Stowage Category

A

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

· Transport/Additional information:

· DOT

· Remarks:

Not Regulated for Transport.

· ADR

· Remarks:

Not Regulated for Transport.

· U.S. Domestic Ground Shipments:

Same as listed for Standard Shipments above.

· U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments:

Same as listed for Standard Shipments above.

· Emergency Response Guide (ERG) Number:

Not determine

· UN "Model Regulation":

Not Regulated

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Proposition 65

· Chemicals known to the State of California (Prop. 65) to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 7)

• **TLV (Threshold Limit Value established by ACGIH)**

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

A4

• **MAK (German Maximum Workplace Concentration)**

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

3B

• **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

• **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS07 GHS08

• **Signal word** Warning

• **Hazard-determining components of labeling:**

Talc ($Mg_3H_2(SiO_3)_4$)

• **Hazard statements**

Causes serious eye irritation.

Suspected of causing cancer.

• **Precautionary statements**

Wear eye protection / face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If exposed or concerned: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Department issuing SDS:** Environmental, Health & Safety Department

• **Contact:** Environmental, Health & Safety Manager

• **Date of preparation / last revision** 01/22/2016 / 174

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

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Safety Data Sheet
acc. to OSHA HCS

Printing date 01/22/2016

Reviewed on 01/22/2016

Trade name: Sure Anchor™ I J51 - Part A

(Contd. of page 8)

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Carc. 2: Carcinogenicity, Hazard Category 2

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 03/14/2016

Reviewed on 03/14/2016

1 Identification

- Product identifier

- Trade name: Sure Anchor™ I J51 - Part B

- Article number: 87-69359B

- Application of the substance / the mixture

- Details of the supplier of the safety data sheet

- Manufacturer/Supplier:

Dayton® Superior

4226 Kansas Avenue

Kansas City, KS 66106

Tel.: (866) 329-8724

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call international number, +1 703 741-5970. Collect calls are accepted.

- Information department: Environmental, Health, and Safety department.

2 Hazard(s) identification

- Classification of the substance or mixture

Acute Tox. 4 H332 Harmful if inhaled.

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

- Label elements

- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms



GHS05



GHS07



GHS08

- Signal word Danger

- Hazard-determining components of labeling:

m-phenylenebis(methylamine)

nonylphenol

cyclohex-1,2-ylenediamine

hexamethylenediamine

- Hazard statements

Harmful if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

- Precautionary statements

Do not breathe dusts or mists.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Trade name: Sure Anchor™ I J51 - Part B

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	1	Fire = 1
PHYSICAL HAZARD	2	Reactivity = 2

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

1477-55-0	m-phenylenebis(methylamine)	10-25%
25154-52-3	nonylphenol	10-25%
694-83-7	cyclohex-1,2-ylenediamine	≤ 10%
124-09-4	hexamethylenediamine	≤ 5%
110-60-1	tetramethylenediamine	≤ 1%
156-87-6	3-aminopropan-1-ol	≤ 1%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
In the event of persistent symptoms receive medical treatment.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
Immediately move exposed person to fresh air. If breathing difficulty persists or develops get prompt medical attention.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Immediately rinse with water.
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Immediately call a doctor.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.

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- Seek medical treatment.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**
Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool dry location.
- **Information about storage in one common storage facility:** Store away from incompatible materials.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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- Control parameters

- Components with limit values that require monitoring at the workplace:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

1477-55-0 m-phenylenebis(methylamine)

REL Ceiling limit value: 0.1 mg/m³
Skin

TLV Ceiling limit value: 0.1 mg/m³
Skin

124-09-4 hexamethylenediamine

TLV Long-term value: 2.3 mg/m³, 0.5 ppm

WEEL Long-term value: 1 ppm

- Additional information: The lists that were valid during the creation were used as basis.

- Exposure controls

- Personal protective equipment:

- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

- Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- Eye protection: Wear appropriate eye protection to prevent eye contact.

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Liquid

Color: Grey

- Odor: Distinctive

- Odor threshold: Not determined.

- pH-value: Not determined.

- Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

- Flash point: >94 °C (>201 °F)

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· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	370 °C (698 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	1.0 Vol %
Upper:	0.0 Vol %
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.776 g/cm ³ (14.821 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0 %
· Other information	No further relevant information available.
· Volatile Organic Compounds:	Not determined

10 Stability and reactivity

- **Reactivity** No decomposition if stored and applied as directed.
- **Chemical stability** No decomposition if stored and applied as directed
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Reacts with acids, alkalis and oxidizing agents.
- **Conditions to avoid** Keep away from heat and sources of ignition.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides

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11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

1477-55-0 m-phenylenebis(methylamine)

Oral	LD50	1040 mg/kg (rat)
Inhalative	LC50/4 h	2.4 mg/l (rat)

25154-52-3 nonylphenol

Oral	LD50	1620 mg/kg (rat)
------	------	------------------

124-09-4 hexamethylenediamine

Oral	LD50	750 mg/kg (rat)
Dermal	LD50	1110 mg/kg (rabbit)

Primary irritant effect:

- on the skin: May cause skin irritation.

- on the eye: Strong caustic effect.

- Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity

- Aquatic toxicity: No further relevant information available.

- Persistence and degradability: No further relevant information available.

Behavior in environmental systems:

- Bioaccumulative potential: No further relevant information available.

- Mobility in soil: No further relevant information available.

Ecotoxicological effects:

- Remark: Toxic for fish

Additional ecological information:

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

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- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- Recommendation:
Must not be disposed of as normal garbage. Do not allow product to reach sewage system.
It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.
- Uncleaned packagings:
- Recommendation: Disposal must be made according to Federal, State, and Local regulations.

14 Transport information

- | | |
|---|--|
| • UN-Number | UN1760 |
| • DOT, ADR, IMDG, IATA | |
| • UN proper shipping name | Corrosive liquids, n.o.s. (nonylphenol) |
| • DOT, IATA | 1760 Corrosive liquids, n.o.s. (nonylphenol) |
| • ADR | CORROSIVE LIQUID, N.O.S. (nonylphenol), MARINE |
| • IMDG | POLLUTANT |
| • Transport hazard class(es) | |
| • DOT | |
|  | |
| • Class | 8 Corrosive substances |
| • Label | 8 |
| • ADR, IMDG | |
|   | |
| • Class | 8 Corrosive substances |
| • Label | 8 |
| • IATA | |
|  | |
| • Class | 8 Corrosive substances |

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• Label	8
• Packing group	
• DOT, ADR, IMDG, IATA	III
• Environmental hazards:	Product contains environmentally hazardous substances: nonylphenol
• Marine pollutant:	Yes
• Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
• Special precautions for user	Warning: Corrosive substances
• Danger code (Kemler):	80
• EMS Number:	F-A,S-B
• Stowage Category	A
• Stowage Code	SW2 Clear of living quarters.
• Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
• Transport/Additional information:	
• DOT	
• Remarks:	Add "Marine Pollutant" to end of proper shipping name if shipping in a bulk container (>119 gallons).
• ADR	
• Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
• U.S. Domestic Ground Shipments:	Same as listed for Standard Shipments above.
• U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments:	Same as listed for Standard Shipments above.
• Emergency Response Guide (ERG) Number:	Not determine
• IMDG	
• Limited quantities (LQ)	5L
• Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
• UN "Model Regulation":	UN 1760 CORROSIVE LIQUIDS, N.O.S., 8, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA

• Section 355 (extremely hazardous substances):

None of the ingredient is listed.

• Section 313 (Specific toxic chemical listings):

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

25154-52-3 nonylphenol

10-25%

• TSCA (Toxic Substances Control Act):

All ingredients are listed.

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Proposition 65

Chemicals known to the State of California (Prop. 65) to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS05



GHS07



GHS08

Signal word Danger

Hazard-determining components of labeling:

m-phenylenebis(methylamine)

nonylphenol

cyclohex-1,2-ylenediamine

hexamethylenediamine

Hazard statements

Harmful if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of damaging fertility or the unborn child.

Precautionary statements

Do not breathe dusts or mists.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Environmental, Health & Safety Department

· **Contact:** Environmental, Health & Safety Manager

· **Date of preparation / last revision** 03/14/2016 / 240

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Repr. 2: Reproductive toxicity, Hazard Category 2

US

Printing date 08/24/2016

Reviewed on 08/24/2016

1 Identification

- **Product identifier**
- **Trade name:** Anti Spall J33
- **Article number:** 83-69179
- **Application of the substance / the mixture**
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Dayton® Superior
4226 Kansas Avenue
Kansas City, KS 66106

Tel.: (866) 329-8724

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call international number, +1 703 741-5970. Collect calls are accepted.

- **Information department:** Environmental, Health, and Safety department.

2 Hazard(s) identification

- **Classification of the substance or mixture**

Flam. Liq. 3	H226 Flammable liquid and vapor.
Skin Irrit. 2	H315 Causes skin irritation.
Eye Irrit. 2B	H320 Causes eye irritation.
Carc. 1B	H350 May cause cancer.
STOT RE 1	H372 Causes damage to the central nervous system through prolonged or repeated exposure.
Asp. Tox. 1	H304 May be fatal if swallowed and enters airways.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



- **Signal word** *Danger*
- **Hazard-determining components of labeling:**
Stoddard solvent
Naphtha (petroleum), hydrosulfurized heavy
Distillates (petroleum), hydrotreated light
Solvent naphtha (petroleum), light arom.
- **Hazard statements**
Flammable liquid and vapor.
Causes skin and eye irritation.
May cause cancer.
Causes damage to the central nervous system through prolonged or repeated exposure.
May be fatal if swallowed and enters airways.
Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
Wear protective gloves / eye protection / face protection.
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• Classification system:

• NFPA ratings (scale 0 - 4)



• HMIS-ratings (scale 0 - 4)

HEALTH	2	Health = *2
FIRE	2	Fire = 2
PHYSICAL HAZARD	0	Reactivity = 0

• Other hazards

• Results of PBT and vPvB assessment

• PBT: Not applicable.

• vPvB: Not applicable.

3 Composition/information on ingredients

• Chemical characterization: Mixtures

• Description: Mixture of the substances listed below with nonhazardous additions.

• Dangerous components:

64742-47-8	Distillates (petroleum), hydrotreated light	10-25%
8052-41-3	Stoddard solvent	10-25%
64742-82-1	Naphtha (petroleum), hydrodesulfurized heavy	10-25%
64742-95-6	Solvent naphtha (petroleum), light arom.	≤ 2.5%
95-63-6	1,2,4-trimethylbenzene	≤ 2.5%
103-65-1	propylbenzene	≤ 1%
98-82-8	cumene	≤ 1%

• Additional information: For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

• Description of first aid measures

• After inhalation: Supply fresh air; consult doctor in case of complaints.

• After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

• After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

• After swallowing: Seek medical treatment.

• Information for doctor:

• Most important symptoms and effects, both acute and delayed No further relevant information available.

• Indication of any immediate medical attention and special treatment needed No further relevant information available.

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Reviewed on 08/24/2016

Trade name: Anti Spall J33

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO2, sand, extinguishing powder. Do not use water.
Foam
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**
Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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Trade name: Anti Spall J33

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- Control parameters

- Components with limit values that require monitoring at the workplace:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

8052-41-3 Stoddard solvent

PEL Long-term value: 2900 mg/m³, 500 ppm

REL Long-term value: 350 mg/m³
Ceiling limit value: 1800* mg/m³
*15-min

TLV Long-term value: 525 mg/m³, 100 ppm

95-63-6 1,2,4-trimethylbenzene

REL Long-term value: 125 mg/m³, 25 ppm

TLV Long-term value: 123 mg/m³, 25 ppm

- Additional information: The lists that were valid during the creation were used as basis.

- Exposure controls

- Personal protective equipment:

- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- Eye protection: Wear appropriate eye protection to prevent eye contact.

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

Form:

Liquid

Color:

According to product specification

- Odor:

Characteristic

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· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	121 °C (250 °F)
· Flash point:	39 °C (102 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	210 °C (410 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	0.5 Vol %
Upper:	6.5 Vol %
· Vapor pressure at 20 °C (68 °F):	2 hPa (2 mm Hg)
· Density at 20 °C (68 °F):	0.82292 g/cm ³ (6.867 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	3.0 %
Solids content:	29.8 %
· Other information	No further relevant information available.
· Volatile Organic Compounds:	Contains less than 400 g/L.

10 Stability and reactivity

- **Reactivity** No decomposition if stored and applied as directed.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Keep away from heat and sources of ignition.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

US

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Trade name: Anti Spall J33

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11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

64742-95-6 Solvent naphtha (petroleum), light arom.

Oral LD50 >6800 mg/kg (rat)

Dermal LD50 >3400 mg/kg (rab)

Inhalative LC50/4 h >10.2 mg/l (rat)

Primary irritant effect:

- on the skin: May cause skin irritation.

- on the eye: Strong irritant with the danger of severe eye injury.

- Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:
Carcinogenic.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

98-82-8 cumene

2B

1330-20-7 xylene

3

91-20-3 naphthalene

2B

100-41-4 ethylbenzene

2B

7440-48-4 cobalt

2B

NTP (National Toxicology Program)

98-82-8 cumene

R

91-20-3 naphthalene

R

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity

- Aquatic toxicity: No further relevant information available.

- Persistence and degradability No further relevant information available.

- Behavior in environmental systems:

- Bioaccumulative potential No further relevant information available.

- Mobility in soil No further relevant information available.

- Ecotoxicological effects:

- Remark: Harmful to fish

- Additional ecological information:

- General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Water hazard class 1 (Self-assessment): slightly hazardous for water

Harmful to aquatic organisms

- Results of PBT and vPvB assessment

- PBT: Not applicable.

- vPvB: Not applicable.

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Other adverse effects No further relevant information available.

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13 Disposal considerations

- Waste treatment methods

- Recommendation:

Must not be disposed of as normal garbage. Do not allow product to reach sewage system.

It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.

- Uncleaned packagings:

Recommendation: Disposal must be made according to Federal, State, and Local regulations.

14 Transport information

- UN-Number

- DOT, ADR, IMDG, IATA

UN1268

- UN proper shipping name

- DOT, IATA

- ADR

- IMDG

Petroleum distillates, n.o.s.

1268 Petroleum distillates, n.o.s.

PETROLEUM DISTILLATES, N.O.S.

- Transport hazard class(es)

- DOT



- Class

- Label

3 Flammable liquids

3

- ADR, IMDG, IATA



- Class

- Label

3 Flammable liquids

3

- Packing group

- DOT, ADR, IMDG, IATA

III

- Environmental hazards:

- Marine pollutant:

No

- Special precautions for user

- Danger code (Kemler):

- EMS Number:

Warning: Flammable liquids

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F-E,S-E

- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

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Transport/Additional information:

ADR

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

U.S. Domestic Ground Shipments:

Combustible liquids, n.o.s. (Petroleum Distillates), NA1993, PG III

U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments:

DOT: Not regulated (Reclassified as per 49CFR 173.150).

Emergency Response Guide (ERG) Number:

Not determine

IMDG

Limited quantities (LQ)

5L

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN 1268 PETROLEUM DISTILLATES, N.O.S., 3, III

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Sara

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

95-63-6	1,2,4-trimethylbenzene	≤2.5%
98-82-8	cumene	≤1%
1330-20-7	xylene	≤0.1%
91-20-3	naphthalene	≤0.1%
100-41-4	ethylbenzene	≤0.1%
7440-48-4	cobalt	≤0.1%
7439-96-5	manganese	≤0.1%

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to the State of California (Prop. 65) to cause cancer:

64742-95-6	Solvent naphtha (petroleum), light arom.
98-82-8	cumene
91-20-3	naphthalene
100-41-4	ethylbenzene
7440-48-4	cobalt

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

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Trade name: Anti Spall J33

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· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

98-82-8	cumene	D, CBD
1330-20-7	xylene	I
91-20-3	naphthalene	C, CBD
100-41-4	ethylbenzene	D
7439-96-5	manganese	D

· **TLV (Threshold Limit Value established by ACGIH)**

1330-20-7	xylene	A4
91-20-3	naphthalene	A4
100-41-4	ethylbenzene	A3
7440-48-4	cobalt	A3

· **MAK (German Maximum Workplace Concentration)**

91-20-3	naphthalene	2
100-41-4	ethylbenzene	3A
7440-48-4	cobalt	2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Stoddard solvent

Naphtha (petroleum), hydrosulfurized heavy

Distillates (petroleum), hydrotreated light

Solvent naphtha (petroleum), light arom.

· **Hazard statements**

Flammable liquid and vapor.

Causes skin and eye irritation.

May cause cancer.

Causes damage to the central nervous system through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Wear protective gloves / eye protection / face protection.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **National regulations:**

• **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

• **Water hazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The provided information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Department issuing SDS:** Environmental, Health & Safety Department

• **Contact:** Environmental, Health & Safety Manager

• **Date of preparation / last revision** 08/24/2016 / 65

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

Carc. 1B: Carcinogenicity, Hazard Category 1B

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

TECHNICAL DATA SHEET

DESCRIPTION

A uniform blend of mineral spirits and boiled linseed oil used for protecting exterior concrete. The Anti Spall J33 has a light amber color.

USE

Anti Spall J33 protects new and old concrete surfaces from progressive deterioration caused by freeze/thaw cycles and deicing salts. It is specially formulated to resist the penetration of water and deicing salts.

Anti Spall J33 is especially effective for providing maximum first-winter protection on newly placed concrete and is also effective for protecting older concrete surfaces. It is an ideal product for use on bridge decks, bridge superstructures, highways, parking garages, and concrete barrier rails, loading areas, runways, and many exterior concrete surfaces.

FEATURES

- Prolongs the life of concrete
- Resists freeze/thaw cycles and deicing salts
- Creates an effective barrier against the elements of weather
- Applies easily – by spray, roller or broom
- Dries quickly
- Provides protection for new and old concrete surfaces

PROPERTIES

Meets AASHTO M-233-86, standard specification for: "Boiled Linseed Oil Mixture for Treatment of Portland Cement Concrete." (AASHTO M-126 and M-128 have been discontinued). Boiled linseed oil meets ASTM Specification D-260 and Federal Specification TT-L-190-d. Mineral Spirits meets ASTM Specification D-235 and Federal Specification TT-L-291 -c. Formulations will conform to most state specifications for anti-spalling compounds.

Dry time: Approx. 2 hours at 70°F (21°C) for re-coating or light traffic. Wait 12 hours for heavy traffic. Dry time is temperature, humidity and wind dependent.

VOC

Complies with U.S. EPA requirements with less than 400 g/L

ESTIMATING GUIDE

Coverage: Two coats are recommended. Apply the first coat at 350 sq. ft./gal. (8.6 sq m/L). When the first coat is dry to the touch, apply the second coat at 600 sq. ft./gal. (14.7 sq m/L). When the second coat is totally dry, the surface is ready for traffic. Texture and absorption of surface will influence final coverage rates.

PACKAGING

ITEM #	PACKAGE	SIZE	
		Gallons	Liters
69180	Pail	5	18.93
69179	Drum	55	208.20

STORAGE

Store material in a horizontal position to prevent moisture accumulation on the drum head.

Shelf life is 24 months from date of manufacture in unopened containers.

APPLICATION

Surface Preparation: Surfaces should be clean of all dirt, oil, grease, curing compounds and other substances that would prevent proper penetration of the material. Prior to application, the surface should be thoroughly dry. Wait a minimum of 24 hours for a damp surface to dry out. New concrete should be cured for a minimum of 14 days before application of the anti-spalling sealer (28 days is preferred).

Placement: Application can be by tank sprayer, broom, roller or the use of spray bars for the larger jobs. Two coats are recommended. DO NOT OVER APPLY. ANY EXCESS OR PUDDLES OF MATERIAL MUST BE REMOVED WITH RAGS OR PAINT ROLLER. Do not apply in temperatures below 40°F (4°C). For maximum protection, apply Anti Spall J33 onto the concrete surface before it is exposed to deicing salts. Protect the spray from accidentally hitting nearby cars, buildings, grass and shrubs.

CLEAN UP

Tools and equipment: use mineral spirits, naphtha or xylene.

LIMITATIONS

FOR PROFESSIONAL USE ONLY

Product will turn the concrete to a dark amber color.

Do not over apply the product because a slippery or tacky surface may result.

Use less material on a dense or smooth troweled concrete surface.

Do not apply in temperatures below 40°F (4°C)

Anti Spall J33

Concrete Sealer

TECHNICAL DATA SHEET
CONTINUED

Sec
11
Sealers

PRECAUTIONS

READ MSDS PRIOR TO USING PRODUCT

- Keep material and containers away from high heat, open flames, sparks or other sources of ignition
- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (Goggles, Safety Glasses and/or Face Shield)
- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements

MANUFACTURER

Dayton Superior Corporation
1125 Byers Road
Miamisburg, OH 45342
Customer Service: 888-977-9600
Technical Services: 866-329-8724
Website: www.daytonsuperior.com

WARRANTY

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

Dayton shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, its obligations under any contract for sale of product, even if Dayton could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this contract, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.



Safety Data Sheet

acc. to OSHA HCS

Printing date 01/18/2015

Reviewed on 01/18/2015

1 Identification

- **Product identifier**

- **Trade name:** *Anti Spall J33*

- **Article number:** 83-69179

- **Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.

- **Application of the substance / the mixture**

- **Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**

Dayton® Superior
4226 Kansas Avenue
Kansas City, KS 66106

Tel.: (866) 329-8724

Emergency Telephone Number: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S., Canada, or the U.S. Virgin Islands, call ChemTrec at (800) 424-9300, 24 hours a day. Or, outside these areas, call international number, +1 703 741-5970. Collect calls are accepted.

- **Information department:** Environmental, Health, and Safety department.

2 Hazard(s) identification

- **Classification of the substance or mixture**

Flam. Liq. 3 H226 Flammable liquid and vapour.

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** May cause skin and eye irritation.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to internationally acknowledged calculation procedures using the latest valid versions.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Stoddard solvent

Distillates (petroleum), hydrotreated light

Naphtha (petroleum), hydrodesulfurized heavy

Solvent naphtha (petroleum), light arom.

- **Hazard statements**

Flammable liquid and vapour.

May cause genetic defects.

May cause cancer.

May be fatal if swallowed and enters airways.

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Precautionary statements

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 0

Fire = 2

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = *0

Fire = 2

Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

8052-41-3	Stoddard solvent	25-50%
64742-47-8	Distillates (petroleum), hydrotreated light	10-25%
64742-95-6	Solvent naphtha (petroleum), light arom.	≤ 5%
25551-13-7	Trimethylbenzene	≤ 5%
64742-88-7	Solvent naphtha (petroleum), medium aliph.	≤ 2.5%
95-63-6	1,2,4-trimethylbenzene	≤ 2.5%
108-67-8	mesitylene	≤ 2.5%

Additional information: For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

Description of first aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Seek medical treatment.

(Contd. on page 3)

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- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:**
Water
Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**
Because fire may produce thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**
Wear appropriate personal protective clothing to prevent eye and skin contact. Avoid breathing vapors or mists of this product. Use with adequate ventilation. Do not take internally.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

(Contd. on page 4)

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Control parameters

Components with limit values that require monitoring at the workplace:

8052-41-3 Stoddard solvent

PEL Long-term value: 2900 mg/m³, 500 ppm

REL Long-term value: 350 mg/m³
Ceiling limit value: 1800* mg/m³
*15-min

TLV Long-term value: 525 mg/m³, 100 ppm

95-63-6 1,2,4-trimethylbenzene

REL Long-term value: 125 mg/m³, 25 ppm

TLV Long-term value: 123 mg/m³, 25 ppm

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Wear appropriate eye protection to prevent eye contact.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Liquid

Color: According to product specification

Odor: Characteristic

Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: Undetermined.

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Boiling point/Boiling range:	121 °C (250 °F)
· Flash point:	39 °C (102 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	210 °C (410 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	0.5 Vol %
Upper:	6.5 Vol %
· Vapor pressure at 20 °C (68 °F):	2 hPa (2 mm Hg)
· Density at 20 °C (68 °F):	0.82292 g/cm ³ (6.867 lbs/gal)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	10.2 %
Solids content:	29.8 %
· Other information	No further relevant information available.
· Volatile Organic Compounds:	Contains less than 400 g/L.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

USA

(Contd. on page 6)

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Trade name: Anti Spall J33

(Contd. of page 5)

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

64742-95-6 Solvent naphtha (petroleum), light arom.

Oral LD50 >6800 mg/kg (rat)

Dermal LD50 >3400 mg/kg (rab)

Inhalative LC50/4 h >10.2 mg/l (rat)

Primary irritant effect:

- on the skin: No irritant effect known.

- on the eye: No irritating effect known.

- Sensitization: No sensitizing effects known.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:
Carcinogenic.

Carcinogenic categories

IARC (International Agency for Research on Cancer)

1330-20-7	xylene	3
91-20-3	naphthalene	2B
100-41-4	ethylbenzene	2B
7440-48-4	cobalt	2B

NTP (National Toxicology Program)

91-20-3	naphthalene	R
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OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity

- Aquatic toxicity: No further relevant information available.

- Persistence and degradability No further relevant information available.

- Bioaccumulative potential No further relevant information available.

- Mobility in soil No further relevant information available.

Ecotoxicological effects:

- Remark: Harmful to fish

Additional ecological information:

General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Water hazard class 1 (Self-assessment): slightly hazardous for water

Harmful to aquatic organisms

Results of PBT and vPvB assessment

- PBT: Not applicable.

- vPvB: Not applicable.

- Other adverse effects No further relevant information available.

USA

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/18/2015

Reviewed on 01/18/2015

Trade name: Anti Spall J33

(Contd. of page 6)

13 Disposal considerations

- Waste treatment methods

- Recommendation:

Must not be disposed of as normal garbage. Do not allow product to reach sewage system.

It is the generator's responsibility to determine if the waste meets applicable definitions of hazardous waste. State and local regulations may differ from federal disposal regulations. Dispose of waste material according to local, state, federal, and provincial environmental regulations.

- Uncleaned packagings:

- Recommendation: Disposal must be made according to Federal, State, and Local regulations.

14 Transport information

- UN-Number

- DOT, ADR, IMDG, IATA

UN1268

- UN proper shipping name

- DOT

Petroleum distillates, n.o.s.

- ADR

1268 Petroleum distillates, n.o.s.

- IMDG, IATA

PETROLEUM DISTILLATES, N.O.S.

- Transport hazard class(es)

- DOT



- Class

3 Flammable liquids

- Label

3

- ADR, IMDG, IATA



- Class

3 Flammable liquids

- Label

3

- Packing group

- DOT, ADR, IMDG, IATA

III

- Environmental hazards:

- Marine pollutant:

No

- Special precautions for user

Warning: Flammable liquids

- Danger code (Kemler):

30

- EMS Number:

F-E,S-E

- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

(Contd. on page 8)

USA

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/18/2015

Reviewed on 01/18/2015

Trade name: Anti Spall J33

(Contd. of page 7)

Transport/Additional information:

ADR

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

U.S. Domestic Ground Shipments:

Combustible liquids, n.o.s. (Petroleum Distillates), NA1993, PG III

U.S. Domestic Ground Non-Bulk (119 gal or less per container) Shipments:

DOT: Not regulated (Reclassified as per 49CFR 173.150).

Emergency Response Guide (ERG) Number:

Not determine

IMDG

Limited quantities (LQ)

5L

Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN1268, Petroleum distillates, n.o.s., 3, III

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Sara

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

Section 313 (Specific toxic chemical listings):

This product may contain 1 or more toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR part 372. If so, the chemicals are listed below.

95-63-6	1,2,4-trimethylbenzene	≤2.5%
98-82-8	cumene	≤1%
1330-20-7	xylene	≤0.1%
91-20-3	naphthalene	≤0.1%
100-41-4	ethylbenzene	≤0.1%
7440-48-4	cobalt	≤0.1%
7439-96-5	manganese	≤0.1%

TSCA (Toxic Substances Control Act):

All ingredients are listed.

Proposition 65

Chemicals known to the State of California (Prop. 65) to cause cancer:

64742-95-6	Solvent naphtha (petroleum), light arom.
98-82-8	cumene
91-20-3	naphthalene
100-41-4	ethylbenzene
7440-48-4	cobalt

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 01/18/2015

Reviewed on 01/18/2015

Trade name: Anti Spall J33

(Contd. of page 8)

• **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

• **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

• **Carcinogenicity categories**

• **EPA (Environmental Protection Agency)**

98-82-8	cumene	D, CBD
1330-20-7	xylene	I
91-20-3	naphthalene	C, CBD
100-41-4	ethylbenzene	D
7439-96-5	manganese	D

• **TLV (Threshold Limit Value established by ACGIH)**

1330-20-7	xylene	A4
91-20-3	naphthalene	A4
100-41-4	ethylbenzene	A3
7440-48-4	cobalt	A3

• **MAK (German Maximum Workplace Concentration)**

91-20-3	naphthalene	2
100-41-4	ethylbenzene	3A
7440-48-4	cobalt	2

• **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

• **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**



GHS02 GHS08

• **Signal word** Danger

• **Hazard-determining components of labeling:**

Stoddard solvent

Distillates (petroleum), hydrotreated light

Naphtha (petroleum), hydrodesulfurized heavy

Solvent naphtha (petroleum), light arom.

• **Hazard statements**

Flammable liquid and vapour.

May cause genetic defects.

May cause cancer.

May be fatal if swallowed and enters airways.

• **Precautionary statements**

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

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USA

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acc. to OSHA HCS

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Reviewed on 01/18/2015

Trade name: Anti Spall J33

(Contd. of page 9)

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

• **National regulations:**

• **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

• **Water hazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.

• **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The provided information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Department issuing MSDS:** Environmental, Health & Safety Department

• **Contact:** Environmental, Health & Safety Manager

• **Date of preparation / last revision** 01/18/2015 / 60

• **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Muta. 1B: Germ cell mutagenicity, Hazard Category 1B

Carc. 1B: Carcinogenicity, Hazard Category 1B

Asp. Tox. 1: Aspiration hazard, Hazard Category 1

USA

**Sure Anchor I Hardener (J-51)**

MSDS No. 3360

Date of Creation: 01/26/1999

Date of Update: 05/08/2001

Date Printed: 07/05/2001

Revision: 24

Section 1 - Chemical Product and Company Identification**Product/Chemical Name:** Sure Anchor I Hardener (J-51)**Chemical Formula:** N/A**CAS Number:** N/A**Other Designations:** N/A**Manufacturer:** Dayton Superior Chemical Division**Phone:** (800) 348-7351636 South 66th Terrace**Fax:** (913) 287-2716

Kansas City, KS 66111

HMIS**H** 2**F** 1**R** 0**PPE†**

†Sec. 8

EMERGENCY TELEPHONE NUMBER: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S, Canada, or the U.S. Virgin Islands, call CHEMTREC at 1-800-424-9300, 24 hours a day. Or, outside these areas, call (703) 527-3887. Collect calls are accepted.

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆**Sure Anchor I Hardener (J-51):**

- Is an amber liquid.
- Has an amine odor.
- Is non-combustible.
- Is corrosive
- Is not known to cause cancer in humans

Section 2 - Hazardous Ingredients/Composition

Ingredient Name	CAS Number	% wt
2,4,6-tris(Dimethylaminomethyl) phenol	000090-72-2	<5
Benzyl alcohol	000100-51-6	0 - 95
N-aminoethylpiperazine	000140-31-8	0 - 95
Bis(hexamethylene)triamine	000143-23-7	0 - 95
1,2-cyclohexanediamine	000694-83-7	0 - 95

Chemical Name	OSHA			NIOSH			ACGIH			Canada			NIOSH IDLH
	TWA	STEL	Ceil.	TWA	STEL	Ceil.	TWA	STEL	Ceil.	TWA	STEL	Ceil.	
	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	ppm mg/m ³	
2,4,6-tris(Dimethylaminomethyl) phenol													
Benzyl alcohol													
1-(2-Aminoethyl)piperazine													
Bis(hexamethylene)triamine													
Cyclohexanediamine													

Notes:

None

Section 3 - Physical and Chemical Properties**Physical Appearance:** Amber Liquid**Odor:** Amine odor**Vapor Pressure:** ND**Vapor Density (Air=1):** >1**Specific Gravity (H₂O=1, at 4 °C):** 1.6**pH:** ND**Water Solubility:** ND**Other Solubilities:** ND**Boiling Point:** ND**Freezing/Melting Point:** ND**% Volatile:** ND**Evaporation Rate (Butyl Acetate = 1):** >1

Revision: 24

Sure Anchor I Hardener (J-51)

MSDS No. 3360

Small Spills: This is one part of a multi part epoxy system. When possible, combine the spilled part with it's appropriate counterpart and allow the mixture to harden. Scrape the hardened material from the surface and dispose of through normal means. If the spilled material cannot be combined with it's counterpart, scoop the spilled material into an appropriate container for proper disposal.

Large Spills: This is one part of a multi-part epoxy system. If the situation warrants, the counterpart material may be mixed with this part and allowed to harden. The hardened material may be scraped off the surface and disposed of through normal means. If the situation prohibits the mixing of the counterpart to solidify and neutralize the material, then scrape the material from the surface with shovels, or powered industrial trucks and place material into appropriate containers for proper disposal.

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Wipe spilled material from tools and equipment using a DRY cloth or paper towel. Place used cloths/paper towels with contaminated material for proper disposal.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Disposal: This material may be a Characteristic Hazardous Waste (D002) when disposed of properly. Determination of waste status must be made on a case by case basis. Consult local or state authorities for details or assistance on determining waste status. Always follow all applicable Federal, State, and Local regulations.

Disposal Regulatory Requirements: Dependent upon waste classification (see above.) Consult local or state authorities for details or assistance on determining waste status. Always follow all applicable Federal, State, and Local regulations.

Container Cleaning and Disposal: Determination of empty container status should be made following Federal Regulation 40 CFR 261.7

EPA Regulations:

RCRA Hazardous Waste Number (40 CFR 261.33): Possibly D002 – to be determined on case-by-case basis.

RCRA Hazardous Waste Classification (40 CFR 261.22): Possibly Corrosive – to be determined on a case-by-case basis.

CAS Number	RCRA Number	CERCLA Haz	CWA Priority	Class & Group	Ozone Deplete	SOCMI	HAP	Accidental Release in lbs.	Basis	NIOSH Carc.	OSHA Carc.	IARC Rating	NTP Rating	PSM TQ	CA Prop 65 Code	Florida Toxic	Mass. Codes	PA Codes	Air Contaminant	OSHA Spec. Reg Sub.	SARA Concentration (%)	SARA EHS TPQ	UVCB	TSCA Flags
000090-72-2																								
000100-51-6						Y										Y	6	-						
000140-31-8																Y	6	-						
000143-23-7																								
000694-83-7																								

State Regulations: Consult individual state agency for further information.

Section 8 - Exposure Controls / Personal Protection

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear an OSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA.

Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Day-Chem Anti Spall (J-33)**

MSDS No. 3250

Date of Creation: 05/25/1999

Date of Update: 10/23/2000

Date Printed: 10/24/2000

Revision: 16

Section 1 - Chemical Product and Company Identification**Product/Chemical Name:** Day-Chem Anti Spall (J-33)**Chemical Formula:** N/A**CAS Number:** N/A**Other Designations:** N/A**Manufacturer:** Dayton Superior Chemical Division

2564 Kohnle Drive

Miamisburg, OH 45342

Phone: (937) 866-1286

Fax: (937) 866-8463

HMIS

H 1

F 2

R 0

PPE†

† Sec. 8

EMERGENCY TELEPHONE NUMBER: Use only in the event of an emergency involving a spill, leak, fire, exposure, or accident involving chemicals. Within the U.S. Canada, or the U.S. Virgin Islands, call CHEMTREC at 1-800-424-9300, 24 hours a day. Or, outside these areas, call (703) 527-3887. Collect calls are accepted.

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Dayton Superior Day-Chem Anti Spall (J-33):

- Is a white colored liquid.
- Has a petroleum odor.
- Is a flammable liquid.
- Product vapors are heavier than air and can travel to ignition source and flashback to product
- Is a Characteristic Hazardous Waste (D001) when disposed of in pure form.
- May cause gastrointestinal irritation, vomiting, nausea, and/or diarrhea is ingested.
- May cause light-headedness, dizziness and/or nausea if inhaled.
- Is not known to cause cancer in humans.

Section 2 - Hazardous Ingredients/Composition

Ingredient Name	CAS Number	% wt
Mineral Spirits	008052-41-3	40-60

Chemical Name	OSHA						NIOSH						ACGIH						Canada						NIOSH IDLH 20,000 mg/m ³
	TWA		STEL		Ceil.		TWA		STEL		Ceil.		TWA		STEL		Ceil.		TWA		STEL		Ceil.		
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³			
Mineral Spirits	500	2900					350					1800a	100	572					100	525	200	1050			

Notes:

008052-41-3 - (a) Value based on 15 minutes.

Section 3 - Physical and Chemical Properties**Physical Appearance:** White Liquid**Odor:** Petroleum**Vapor Pressure:** 2.0 mm Hg at 68°F (20°C)**Vapor Density (Air=1):** >1**Specific Gravity (H₂O=1, at 4 °C):** 0.86**pH:** ND**Water Solubility:** Negligible**Other Solubilities:** Some petroleum distillates**Boiling Point:** 310°F (154°C)**Freezing/Melting Point:** N/A**% Volatile:** 46**Evaporation Rate (Butyl Acetate = 1):** <1.0

Revision: 16

Day-Chem Anti Spall (J-33)

MSDS No. 3250

Small Spills: This is a petroleum-based product. Soak up small spills with an oil absorbing material, such as oil dry, et cetera. Place contaminated absorbent in appropriate fire-proof container for proper disposal.

Large Spills: This is a petroleum-based product. Collect free liquid and place in appropriate containers for disposal or recovery. Collection methods may include vacuuming, provided proper fire suppression methods, such as grounding the vacuuming unit/truck, are first established.

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Equipment and tools used during clean-up activity may be washed with detergent and water. Washing from equipment and tool cleaning should be contained and collected for proper disposal. Contaminated clothing should be thoroughly laundered with detergent and water, and allowed to dry thoroughly before reuse. Disposable protective clothing must be collected for proper disposal. Contaminated surfaces may be cleaned with detergent and water. Washings from surface cleaning should be collected for proper disposal.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Disposal: This material is a Characteristic Hazardous Waste (D001) when disposed of in liquid form. Contaminated liquids should be incinerated at a fully approved, RCRA Part B licensed facility. Spills of this product may create "Petroleum Contaminated Soils." Certain localities and states have specific disposal requirements for "Petroleum Contaminated Soils." Consult local or state authorities for details on this requirement. Always follow all applicable Federal, State, and Local regulations.

Disposal Regulatory Requirements: Solid and Liquid waste materials should be incinerated at an approved, RCRA Part B licensed facility.

Container Cleaning and Disposal: Determination of empty container status should be made following Federal Regulation 40 CFR 261.7

EPA Regulations:

RCRA Hazardous Waste Number (40 CFR 261.33): D001

RCRA Hazardous Waste Classification (40 CFR 261.21): Ignitable

CAS Number	RCRA Number	CERCLA Haz	CWA Priority	Class & Group	Ozone Deplete	SOCMI	IIAP	Accidental Release in lbs.	Basis	NIOSH Carc.	OSHA Carc.	IARC Rating	NTP Rating	PSM TQ	CA Prop 65 Code	Florida Toxic	Mass. Codes	PA Codes	Air Contaminant	OSHA Spec. Reg Sub.	SARA Concentration (%)	SARA EHS TPQ	UVCB	TSCA Flags
008052-41-3																Y	2,4	-	X				UVCB	

State Regulations: Consult individual state agency for further information.

Section 8 - Exposure Controls / Personal Protection

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear an OSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA.

Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Chronic Effects: ND

Emergency and First Aid Procedures**Inhalation:** Move individual to fresh air. If breathing difficulties develop or persist. Contact a physician.**Eye Contact:** Flush eyes with large amounts of potable water for 15 minutes while lifting upper and lower eyelids. Contact a physician.**Skin Contact:** Thoroughly wash the affected area(s) with detergent and water for 15 minutes. Immediately remove and launder any contaminated clothing. If irritation or rash develops or persists, contact a physician.**Ingestion:** Never give anything by mouth to an unconscious person. Contact a physician immediately.*After first aid, get appropriate in-plant, paramedic, or community medical support.***Note to Physicians:** None**Special Precautions/Procedures:** None**Section 7 - Spill, Leak, and Disposal Procedures****Spill /Leak Procedures:** This is one part of a multi-part epoxy system. This material or its counterpart could be corrosive and cause burns to the skin and eyes. Proper PPE must be worn, including protective clothing and gloves (See section 8 of this MSDS.) Isolate spill area and prevent unauthorized personnel from entering the spill zone. For large spills wear an OSHA/NIOSH approved respirator.**Small Spills:** This is one part of a multi part epoxy system. When possible, combine the spilled part with it's appropriate counterpart and allow the mixture to harden. Scrape the hardened material from the surface and dispose of through normal means. If the counterpart is not available, scrap the spilled material into an appropriate container for disposal.**Large Spills:** This is one part of a multi-part epoxy system. If the situation warrants, the counterpart material may be mixed with this part and allowed to harden. The hardened material may be scraped off the surface and disposed of through normal means. . If the situation prohibits the mixing of the counterpart to solidify and neutralize the material, then scrape the material from the surface with shovels, or powered industrial trucks and place material into appropriate containers for proper disposal.**Containment:** For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.**Cleanup:** Equipment and tools used during and clean-up activity may be washed with detergent and water. Washing from equipment and tool cleaning should be contained and collected for proper disposal. Contaminated clothing should be thoroughly laundered with detergent and water, and allowed to dry thoroughly before reuse. Disposable protective clothing must be collected for proper disposal. Contaminated surfaces may be cleaned with detergent and water. Washings from surface cleaning should be collected for proper disposal.**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).**Disposal:** When disposed of properly, this material does not meet any RCRA classification or listing for a hazardous waste. Never dispose of a liquid to a landfill. Spilled material should be stabilized or solidified prior to disposal. Once stabilized/solidified, the material may be disposed of through normal means. Certain localities and states have specific disposal requirements for non-hazardous industrial chemicals. Consult local municipal authorities, landfill personnel, and/or sewer authorities for details prior to any disposal activity. Always follow all applicable Federal, State, and Local regulations.**Disposal Regulatory Requirements:** None known. Consult Local and State authorities for local requirements. Always follow all applicable Federal, State, and Local regulations**Container Cleaning and Disposal:** Determination of empty container status should be made following Federal Regulation 40 CFR 261.7**EPA Regulations:**

RCRA Hazardous Waste Number (40 CFR 261.33): Not listed

RCRA Hazardous Waste Classification (40 CFR 261): Not classified

CAS Number	RCRA Number	CERCLA Haz	CWA Priority	Class & Group	Ozone Deplete	SOCMI	HAP	Accidental Release in lbs.	Basis	NIOSH Carc.	OSHA Carc.	IARC Rating	NTP Rating	PSM TQ	CA Prop 65 Code	Florida Toxic	Mass. Codes	PA Codes	Air Contaminant	OSHA Spec. Reg Sub.	SARA Concentration (%)	SARA EHS TPQ	UVCB	TSCA Flags
001314-13-2																Y	2,4 F8 F9	E	X					

Revision: 24

Sure Anchor I Resin (J-51)

MSDS No. 3365

Prepared By: Matthew Paquette

Updated By: Matthew Paquette

Disclaimer: The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the user thereof.

Abbreviations:

N/A = not applicable

ND = not determined

IDLH = Immediately Dangerous to Life and Health (in ppm unless otherwise noted)

X = Hazardous Air Pollutant (42 U.S.C. 7412(b)(1))

O = Organic Hazardous Air Pollutant (40 CFR 63 Table 2 to Subpart F)

V = Volatile Hazardous Air Pollutant (40 CFR 63 Table 2 to Subpart JJ)

CAA = Clean Air Act

CWA = Clean Water Act

HAP = Hazardous Air Pollutant

RCRA = Resource Conservation and Recovery Act

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act of 1980

UVCB = Unknown or Variable Composition, complex reaction products, and Biological materials.

E = A substance that is the subject of a 5(e) Consent Order under TSCA

F = A substance that is the subject of a Section 5(f) Rule under TSCA

N = A polymeric substance containing no free-radical initiator in its Inventory Name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P = A commenced PMN substance

R = A substance that is the subject of a Section 6 risk management rule under TSCA

S = A substance that is identified in a proposed or final Significant New Use Rule

T = A substance that is the subject of a Section 4 test rule under TSCA

XU = A substance exempt from reporting under the Inventory Update Rule.

Y1 = an exempt polymer that has a number-average molecular weight of 1,000 or greater

Y2 = an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.



SAFETY DATA SHEET

Version 1.0

Revision Date 05/20/2015

SECTION I. IDENTIFICATION

Product identifiers

Product name : SynClean HD

Brand : EMS

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : High foaming industrial strength degreaser

Details of the supplier of the safety data sheet

Company : Environmental Manufacturing Solutions, LTD
7705 Progress Circle
Melbourne, FL 32904
USA

For product information only

Telephone : +1 877-424-6979

Fax : +1 800-510-3861

Emergency telephone number

Emergency Phone # : **Chemtrec**
: +1 800-424-9300 (Within USA)
: (703) 527-3887 (Outside USA)

SECTION II. HAZARD IDENTIFICATION

GHS Classification of the substance or mixture

Acute Toxicity-Oral: Category 5

Skin Corrosion/Irritation: Category 3

Serious Eye Damage/Eye Irritation: Category 2B

GHS Label Elements

Signal Word: Warning

Symbols: Not Applicable

Hazard Statements: May be harmful if swallowed
Causes mild skin irritation
Causes eye irritation

Hazards not otherwise classified (HNOC) or not covered by GHS-Not Applicable

Other Information: May cause mild skin irritation if not rinsed off with soap and water
May cause eye irritation if not rinsed out with copious amounts of water

SECTION III. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

No ingredients are hazardous according to OSHA criteria.

No components need to be disclosed according to the applicable regulations.

NOTE:

The identity of this material is a trade secret (29 CFR 1910.1200(i)) and is available to any attending physician, paramedical personnel and/or spill response personnel in the case of an emergency.

There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, classified as hazardous to the health or environment thus do not require reporting in this section.

SECTION IV. FIRST AID MEASURES

Description of first aid measures

General advice

It is always recommended to consult a physician. Show this safety data sheet to the doctor in attendance.

If Inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Remove any contaminated clothing first. Wash off with soap and plenty of water. If irritation occurs consult a physician.

In case of eye contact

If wearing contacts, first remove. Flush eyes with water as a precaution. If irritation occurs consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. If irritation occurs consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2) and/or section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION V. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Product does not support combustion, use extinguishing agent for type of surrounding fire.

Special hazards arising from the substance or mixture

No data available

Advice for firefighters

Wear self contained breathing apparatus for firefighting if necessary

Further information

No data available

SECTION VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing any vapors or mist. Ensure adequate ventilation.

Move personnel to safe areas.

For personal protection see section 8

Methods and materials for containment

Soak up with inert absorbent material and dispose of in accordance with local and state disposal regulations.

Keep in suitable closed containers for proper disposal.

Reference to other sections

For disposal see section 13

SECTION VII. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
For precautions see section 2

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well ventilated place. Open containers must be carefully closed/resealed and kept upright to prevent leakage. Do not mix with strong oxidizing agents

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering equipment

Handle in accordance with good industrial hygiene and safety practices. Personal protective equipment may be worn for added safety in accordance with the below recommended equipment. Wash hands before all breaks and at the end of the workday.

Personal protective equipment

Eye/face protection

While eye protection is not required, where protection from nuisance levels are desired, use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

While skin protection is not required, where protection from nuisance levels are desired, Gloves must be inspected prior to use. Use proper glove removal technique. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Splash contact

Material: Nitrile rubber

If mixed with other substances, and under conditions which differ from product directions, contact your glove supplier. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

While body protection is not required, where protection from nuisance levels are desired, choose body protection in relation to its type, to the concentration and to the specific work-place.

Respiratory protection

While Respiratory protection is not required, where protection from nuisance levels are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter storm drains.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|-------------------------|-------------------|
| a) Appearance | Form: Liquid |
| b) Odor | Mild soapy |
| c) Odor Threshold | No data available |
| d) pH | No data available |
| e) Freeze/melting point | ≤ 30F |

f) Boiling point	≥ 212 F
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper flammability limits	No data available
k) Lower flammability limits	No data available
l) Vapor pressure	No data available
m) Vapor density	No data available
n) Specific gravity	1.02 ± 0.02
o) Water Solubility	100% Soluble
p) Partition coefficient	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Kinematic viscosity	No data available
t) Explosive properties	No data available
u) Oxidizing properties	No data available

Other safety information

No data available

These physical properties are typical values for this product and not specifications. No other data available.

SECTION X. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Incompatible materials

Acids Acids or Strong oxidizing agents

Hazardous decomposition products

Other decomposition products -no data available

In the event of fire, see section 5

SECTION XI. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

LD50 Oral - rat – 3,240 mg/kg

Respiration: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation:

no data available

Serious eye damage/eye irritation:

no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated by any agency, governmental or otherwise.

SECTION XII. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
Does not bioaccumulate

Mobility in soil
no data available

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects
no data available

SECTION XIII. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

Note: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

SECTION XIV. TRANSPORT INFORMATION

TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Note: The proper shipping name and/or hazard class for this product may vary according to packaging, properties and mode of transportation. Customer is urged to consult 49 CFR 100-177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods.

SECTION XV. REGULATORY INFORMATION

US FEDERAL

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

TSCA Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Components

None of the chemicals in this product have a TPQ. No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

This chemical is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm..

European/International Regulations

European Labeling in Accordance with EC Directives

European Economic Community

Classification per Directive 67/548/EEC or 1999/45/EC
Not Classified

Risk Phrases: None allocated

Safety Phrases: S2-Keep out of reach of children
S24/25 Avoid contact with skin and eyes

WGK, Germany (Water danger/protection): No data available

Canada - DSL/NDSL

This product is listed on Canada's DSL List.

Canada - WHMIS

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations. Canadian Ingredient Disclosure List: N/A

SECTION XVI. OTHER INFORMATION**OTHER INFORMATION****HMIS Rating**

Health hazard: 0
Flammability: 0
Physical Hazard: 0

NFPA Rating

Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

Further information

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EMS SynClean HD

HIGH-DETERGENCY, HIGH-FOAMING INDUSTRIAL CLEANER AND DEGREASER

- Non-Butyl
- Non-Solvent
- Lifts Grease
- Cuts Animal Fats
- Cuts Vegetable Fats
- Non-Emulsifying
- USDA and FDA Approved
- Kosher Approved
- Reduces Grease Trap Maintenance
- Produces Thick Foam
- Non-Corrosive

SynClean HD (High Detergency) is unlike any industrial degreaser on the market. Its superior degreasing power comes from a patented ingredient that safely lifts grease from any surface without the use of solvents. As such, it easily removes petroleum-based oils and vegetable and animal fats, along with dirt, soils and grime.

Other degreasers are solvent- or butyl-based cleaners. They work by emulsifying the grease from the top of the stain down to the surface where it lies. SynClean encapsulates each hydrocarbon molecule, effectively lifting it from the surface. This also means that we do not break down the hydrocarbons to where they absorb water, picking up weight, sinking them to the bottom of a grease trap or containment unit. The grease we pull away remains in a form to be easily removed.

SynClean also contains detergents, wetting agents, sequestering agents, penetrates, rust and corrosion inhibitors making it a true all-in-one cleaner for any use. And a little goes a long way! At a 10-1 dilution, SynClean easily removes caked-on hydraulic fluids or grease. Use at 30:1 for carpets, vehicles, floors, etc. It works great with warm or cold water and is safe in steam cleaners and rotary machines. SynClean HD offers our strongest cleaner and delivers ample foam. Ask your dealer about SynClean LF (Low Foam) for other applications.

SynClean will safely clean anything. While it has the power to remove asphalt from heavy machinery, it will do the same on your truck, car, RV or equipment with no danger to your finish.

It is Kosher approved and carries USDA Auth. Codes of A1, A2, A4, A8, and C1, making it ideal for the food processing industry.



Technical Data

NITRATE LEVEL: **0% - None**
FORM: **Liquid**
ODOR: **Mild Soapy Odor**
COLD STABILITY: **-18° F**
DETERGENCY: **Strong**
TOXICITY: **Non Toxic**
WETTING ABILITY: **Excellent**
STORAGE STABILITY: **3 Years+**

SHIPPER REGULATIONS: **None**
FLASH POINT: **None**
BOILING POINT: **212° F**
SOLUBILITY IN WATER: **100%**
BIODEGRADABLE: **Yes/100%**
VOLATILE BY VOLUME: **N/A**
CARCINOGENS: **None**
VISCOSITY: **Thin**

Dilution Specifications

General cleaning:
Dilute 30:1

Degreasing:
Dilute 10:1

Heavy Degreasing:
Dilute 5:1

Apply to buildup, agitate, rinse. Repeat as needed.
For heavy buildup, let stand on stain for 1-2 minutes.

Common Uses

SynClean HD is a super concentrated industrial cleaner which at different dilutions can be used in almost countless environments.

Cleaning Uses

Drilling Rigs
Asphalt Removal
Oil Cleanup
Grease Removal
Heavy Equipment
Rental Yards
Restaurant Degreasing
Carbon Removal
Truck or Auto Washing
Carpets
Shop Floors
Protein Stains
Parts Cleaner/Degreaser
Wheel Cleaning

Toxicity Studies

Toxicity Limits: Test Procedure OECD 202, 48 hr.
LC 50 = .09 mg/l LD 50 = 107 mg/kg (rat oral)

Mutagenicity Limits: OECD Guidelines Sec. 471 Chemicals
SynClean HD was found NOT TO BE MUTAGENIC

Dermal Irritation & Corrosion Test

A modified Draize method was used as described in OECD Guidelines for the Testing of Chemicals Sec. 404 and complies with the requirements of OECD Principles of GLP, Annex revised as of July 1992.

SynClean HD received a Primary Irritation Score of .4 +/-0.1 and is classified as a "Non-Skin Irritant"

Biodegradation & Aquatic Safety

Test Procedure: Hach Reactor Digestion method for Waste Water and Sea Water. Hach Reactor Digestion Method is a semi-micro adaptation of the Standard Methods.

Test Results Conclude SynClean HD was found to be 100% Biodegradable

COD = **121 mg/L**

BOD = **No Detectable Limits**

Metal Studies

Dept. of Transportation (D.O.T.) Test Protocols as per Section 173.154 Exceptions for Class 8 (corrosive materials): The material being tested must be proven to be non-destructive or not to cause irreversible alterations in human skin tissue. Testing was conducted on an albino rabbit.

Conclusion: SynClean HD proven to be NON-DESTRUCTIVE on human skin tissue.

Metal Test Limits: D.O.T. Classifies a material to be CORROSIVE if it has a corrosion rate that exceeds 6.25 mmpy on SAE C1020 carbon steel or 7075-Y6 Aluminum.

Results of SynClean HD: SAE 1020 carbon steel = 0.00 mmpy
7075-Y6 aluminum = 0.00 mmpy

Conclusion: SynClean HD is NON-CORROSIVE

Classifications & Approvals

D.O.T., TDG, IMO, IATA, IMDG, SARA 313 311/312, California Prop 65
NON-Regulated

FDA

Approved as Safe (GRAS)
(CGMP) CFR 184.1923

USDA Authorization

A1, A2, A3, A4, A7, A8, C2,

Mil Spec

Mil-C-25769-H
Mil-C-87936-A

Kosher Approved

Additional Studies & Results: When tested, SynClean HD showed no potential for the generation of Carbon Dioxide under NIOSH 7903, OSHA & ACGIH testing protocols governing workplace environments.



SAFETY DATA SHEET

Version 1.1

Revision Date 05/20/2015

SECTION I. IDENTIFICATION

Product identifiers

Product name : Ready Mix Truck Wash & Wax

Brand : EMS

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Exterior cleaning of concrete trucks and related equipment

Details of the supplier of the safety data sheet

Company : Environmental Manufacturing Solutions, LTD
7705 Progress Circle
Melbourne, FL 32904
USA

For product information only

Telephone : +1 877-424-6979

Fax : +1 800-510-3861

Emergency telephone number

Emergency Phone # : Chemtrec
: +1 800-424-9300 (Within USA)
: (703) 527-3887 (Outside USA)

SECTION II. HAZARD IDENTIFICATION

GHS Classification of the substance or mixture

Acute Toxicity-Oral: Category 5
Skin Corrosion/Irritation: Category 3
Serious Eye Damage/Eye Irritation: Category 2B

GHS Label Elements

Signal Word: Warning
Symbols: Not Applicable

Hazard Statements: May be harmful if swallowed
Causes mild skin irritation
Causes eye irritation

Hazards not otherwise classified (HNOC) or not covered by GHS-Not Applicable

Other Information: May cause mild skin irritation if not rinsed off with soap and water
May cause eye irritation if not rinsed out with copious amounts of water

SECTION III. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to the applicable regulations.

NOTE:

The identity of this material is a trade secret (29 CFR 1910.1200(i)) and is available to any attending physician, paramedical personnel and/or spill response personnel in the case of an emergency.

There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, classified as hazardous to the health or environment thus do not require reporting in this section.

SECTION IV. FIRST AID MEASURES

Description of first aid measures

General advice

It is always recommended to consult a physician. Show this safety data sheet to the doctor in attendance.

If Inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Remove any contaminated clothing first. Wash off with soap and plenty of water. If irritation occurs consult a physician.

In case of eye contact

If wearing contacts, first remove. Flush eyes with water as a precaution. If irritation occurs consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. If irritation occurs consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2) and/or section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION V. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Product does not support combustion, use extinguishing agent for type of surrounding fire

Special hazards arising from the substance or mixture

No data available

Advice for firefighters

Wear self contained breathing apparatus for firefighting if necessary

Further information

No data available

SECTION VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing any vapors or mist. Ensure adequate ventilation.

Move personnel to safe areas.
For personal protection see section 8

Methods and materials for containment

Soak up with inert absorbent material and dispose of in accordance with local and state disposal regulations.
Keep in suitable closed containers for proper disposal.

Reference to other sections

For disposal see section 13

SECTION VII. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
For precautions see section 2

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well ventilated place. Open containers must be carefully closed/resealed and kept upright to prevent leakage. Do not mix with strong oxidizing agents

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering equipment

Handle in accordance with good industrial hygiene and safety practices. Personal protective equipment may be worn for added safety in accordance with the below recommended equipment. Wash hands before all breaks and at the end of the workday.

Personal protective equipment

Eye/face protection

While eye protection is not required, where protection from nuisance levels are desired, use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

While skin protection is not required, where protection from nuisance levels are desired, Gloves must be inspected prior to use. Use proper glove removal technique. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Splash contact

Material: Nitrile rubber

If mixed with other substances, and under conditions which differ from product directions, contact your glove supplier. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

While body protection is not required, where protection from nuisance levels are desired, choose body protection in relation to its type, to the concentration and to the specific work-place.

Respiratory protection

While Respiratory protection is not required, where protection from nuisance levels are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Do not let product enter storm drains.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance	Form: Liquid
b) Odor	Mild soapy
c) Odor Threshold	No data available
d) pH	No data available
e) Freeze/melting point	≤ -37 F
f) Boiling point	≥ 212 F
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper flammability limits	No data available
k) Lower flammability limits	No data available
l) Vapor pressure	No data available
m) Vapor density	No data available
n) Specific gravity	1.03 ± 0.02
o) Water Solubility	100% Soluble
p) Partition coefficient	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Kinematic viscosity	No data available
t) Explosive properties	No data available
u) Oxidizing properties	No data available

Other safety information

No data available

These physical properties are typical values for this product and not specifications. No other data available.

SECTION X. STABILITY AND REACTIVITY

Reactivity

This material is considered to be non-reactive under normal conditions of use

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Other decomposition products -no data available

In the event of fire, see section 5

SECTION XI. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 3,360 mg/kg

Respiration: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation:

no data available

Serious eye damage/eye irritation:

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated by any agency, governmental or otherwise.

SECTION XII. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

Does not bioaccumulate

Mobility in soil
no data available

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects
no data available

SECTION XIII. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

Note: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

SECTION XIV. TRANSPORT INFORMATION

TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

Note: The proper shipping name and/or hazard class for this product may vary according to packaging, properties and mode of transportation. Customer is urged to consult 49 CFR 100-177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods.

SECTION XV. REGULATORY INFORMATION

US FEDERAL

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

TSCA Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Components

None of the chemicals in this product have a TPQ. No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

This chemical is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm..

European/International Regulations

European Labeling in Accordance with EC Directives

European Economic Community

Classification per Directive 67/548/EEC or 1999/45/EC
Not Classified

Risk Phrases: None allocated

Safety Phrases: S2-Keep out of reach of children
S24/25 Avoid contact with skin and eyes

WGK, Germany (Water danger/protection): No data available

Canada - DSL/NDSL

This product is listed on Canada's DSL List.

Canada - WHMIS

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations. Canadian Ingredient Disclosure List: N/A

SECTION XVI. OTHER INFORMATION

OTHER INFORMATION

HMIS Rating

Health hazard: 0
Flammability: 0
Physical Hazard: 0

NFPA Rating

Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

Further information

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End of Safety Data Sheet



SAFETY DATA SHEET

Version 1.1
Revision Date 05/19/2015

SECTION I. IDENTIFICATION

Product identifiers

Product name : Barracuda 10K

Brand : EMS

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Extra Strength exterior cleaning of concrete trucks and related equipment

Details of the supplier of the safety data sheet

Company : Environmental Manufacturing Solutions, LTD
7705 Progress Circle
Melbourne, FL 32904
USA

For product information only

Telephone : +1 877-424-6979

Fax : +1 800-510-3861

Emergency telephone number

Emergency Phone # : **Chemtrec**
: +1 800-424-9300 (Within USA)
: (703) 527-3887 (Outside USA)

SECTION II. HAZARD IDENTIFICATION

GHS Classification of the substance or mixture

Acute Toxicity-Oral: Category 5
Skin Corrosion/Irritation: Category 3
Serious Eye Damage/Eye Irritation: Category 2B

GHS Label Elements

Signal Word: **Warning**
Symbols: **Not Applicable**

Hazard Statements: **May be harmful if swallowed**
Causes mild skin irritation
Causes eye irritation

Hazards not otherwise classified (HNOC) or not covered by GHS-Not Applicable

Other Information: May cause mild skin irritation if not rinsed off with soap and water
May cause eye irritation if not rinsed out with copious amounts of water

SECTION III. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to the applicable regulations.

NOTE:

The identity of this material is a trade secret (29 CFR 1910.1200(i)) and is available to any attending physician, paramedical personnel and/or spill response personnel in the case of an emergency.

There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, classified as hazardous to the health or environment thus do not require reporting in this section.

SECTION IV. FIRST AID MEASURES

Description of first aid measures

General advice

It is always recommended to consult a physician. Show this safety data sheet to the doctor in attendance.

If Inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Remove any contaminated clothing first. Wash off with soap and plenty of water. If irritation occurs consult a physician.

In case of eye contact

If wearing contacts, first remove. Flush eyes with water as a precaution. If irritation occurs consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. If irritation occurs consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2) and/or section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION V. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Product does not support combustion, use extinguishing agent for type of surrounding fire.

Special hazards arising from the substance or mixture

No data available

Advice for firefighters

Wear self contained breathing apparatus for firefighting if necessary

Further information

No data available

SECTION VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing any vapors or mist. Ensure adequate ventilation.

Move personnel to safe areas.

For personal protection see section 8

Methods and materials for containment

Soak up with inert absorbent material and dispose of in accordance with local and state disposal regulations.

Keep in suitable closed containers for proper disposal.

Reference to other sections

For disposal see section 13

SECTION VII. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

For precautions see section 2

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well ventilated place. Open containers must be carefully closed/resealed and kept upright to prevent leakage. Do not mix with strong oxidizing agents

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering equipment

Handle in accordance with good industrial hygiene and safety practices. Personal protective equipment may be worn for added safety in accordance with the below recommended equipment. Wash hands before all breaks and at the end of the workday.

Personal protective equipment

Eye/face protection

While eye protection is not required, where protection from nuisance levels are desired, use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

While skin protection is not required, where protection from nuisance levels are desired, Gloves must be inspected prior to use. Use proper glove removal technique. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Splash contact

Material: Nitrile rubber

If mixed with other substances, and under conditions which differ from product directions, contact your glove supplier. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

While body protection is not required, where protection from nuisance levels are desired, choose body protection in relation to its type, to the concentration and to the specific work-place.

Respiratory protection

While Respiratory protection is not required, where protection from nuisance levels are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter storm drains.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance	Form: Liquid
b) Odor	Mild soapy
c) Odor Threshold	No data available
d) pH	No data available
e) Freeze/melting point	≤ -28 F
f) Boiling point	≥ 215 F
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper flammability limits	No data available
k) Lower flammability limits	No data available
l) Vapor pressure	No data available
m) Vapor density	No data available
n) Specific gravity	1.10 ± 0.02
o) Water Solubility	100% Soluble
p) Partition coefficient	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Kinematic viscosity	No data available
t) Explosive properties	No data available
u) Oxidizing properties	No data available

Other safety information

No data available

These physical properties are typical values for this product and not specifications. No other data available.

SECTION X. STABILITY AND REACTIVITY

Reactivity

This material is considered to be non-reactive under normal conditions of use.

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products
Other decomposition products -no data available
In the event of fire, see section 5

SECTION XI. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 3,340 mg/kg

Respiration: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation:

no data available

Serious eye damage/eye irritation:

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated by any agency, governmental or otherwise.

SECTION XII. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

Does not bioaccumulate

Mobility in soil

no data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

no data available

SECTION XIII. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

Note: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

SECTION XIV. TRANSPORT INFORMATION

TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Note: The proper shipping name and/or hazard class for this product may vary according to packaging, properties and mode of transportation. Customer is urged to consult 49 CFR 100-177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods.

SECTION XV. REGULATORY INFORMATION

US FEDERAL

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

TSCA Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Components

None of the chemicals in this product have a TPQ. No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

This chemical is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm..

European/International Regulations

European Labeling in Accordance with EC Directives

European Economic Community

Classification per Directive 67/548/EEC or 1999/45/EC
Not Classified

Risk Phrases: None allocated

Safety Phrases: S2-Keep out of reach of children
S24/25 Avoid contact with skin and eyes

WGK, Germany (Water danger/protection): No data available

Canada - DSL/NDSL

This product is listed on Canada's DSL List.

Canada - WHMIS

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations. Canadian Ingredient Disclosure List: N/A

SECTION XVI. OTHER INFORMATION

OTHER INFORMATION

HMIS Rating

Health hazard: 0

Flammability: 0

Physical Hazard: 0

NFPA Rating

Health hazard: 0

Fire Hazard: 0

Reactivity Hazard: 0

Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions and directed uses. Environmental Manufacturing Solutions, LTD. and its Affiliates shall not be held liable for any damage resulting from handling, mishandling or from contact with the above product.

End of Safety Data Sheet



SAFETY DATA SHEET

Version 1.1

Revision Date 05/20/2015

SECTION I. IDENTIFICATION

Product identifiers

Product name : Prep Wash I

Brand : EMS

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Environmentally Safer Metal Prep

Details of the supplier of the safety data sheet

Company : Environmental Manufacturing Solutions, LTD
7705 Progress Circle
Melbourne, FL 32904
USA

For product information only

Telephone : +1 877-424-6979

Fax : +1 800-510-3861

Emergency telephone number

Emergency Phone # : Chemtrec
: +1 800-424-9300 (Within USA)
: (703) 527-3887 (Outside USA)

SECTION II. HAZARD IDENTIFICATION

GHS Classification of the substance or mixture

Acute Toxicity-Oral: Category 5
Skin Corrosion/Irritation: Category 3
Serious Eye Damage/Eye Irritation: Category 2B

GHS Label Elements

Signal Word: Warning
Symbols: Not Applicable

Hazard Statements: May be harmful if swallowed
Causes mild skin irritation
Causes eye irritation

Hazards not otherwise classified (HNOC) or not covered by GHS-Not Applicable

Other Information: May cause mild skin irritation if not rinsed off with soap and water
May cause eye irritation if not rinsed out with copious amounts of water

SECTION III. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to the applicable regulations.

NOTE:

The identity of this material is a trade secret (29 CFR 1910.1200(i)) and is available to any attending physician, paramedical personnel and/or spill response personnel in the case of an emergency.

There are no additional ingredients present which, within the current knowledge of the manufacturer and in the concentrations applicable, classified as hazardous to the health or environment thus do not require reporting in this section.

SECTION IV. FIRST AID MEASURES

Description of first aid measures

General advice

It is always recommended to consult a physician. Show this safety data sheet to the doctor in attendance.

If Inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Remove any contaminated clothing first. Wash off with soap and plenty of water. If irritation occurs consult a physician.

In case of eye contact

If wearing contacts, first remove. Flush eyes with water as a precaution. If irritation occurs consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. If irritation occurs consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2) and/or section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION V. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Product does not support combustion, use extinguishing agent for type of surrounding fire.

Special hazards arising from the substance or mixture

No data available

Advice for firefighters

Wear self contained breathing apparatus for firefighting if necessary

Further information

No data available

SECTION VI. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing any vapors or mist. Ensure adequate ventilation.

Move personnel to safe areas.
For personal protection see section 8

Methods and materials for containment

Soak up with inert absorbent material and dispose of in accordance with local and state disposal regulations.
Keep in suitable closed containers for proper disposal.

Reference to other sections

For disposal see section 13

SECTION VII. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
For precautions see section 2

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well ventilated place. Open containers must be carefully closed/resealed and kept upright to prevent leakage. Do not mix with strong oxidizing agents

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering equipment

Handle in accordance with good industrial hygiene and safety practices. Personal protective equipment may be worn for added safety in accordance with the below recommended equipment. Wash hands before all breaks and at the end of the workday.

Personal protective equipment

Eye/face protection

While eye protection is not required, where protection from nuisance levels are desired, use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

While skin protection is not required, where protection from nuisance levels are desired, Gloves must be inspected prior to use. Use proper glove removal technique. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Splash contact

Material: Nitrile rubber

If mixed with other substances, and under conditions which differ from product directions, contact your glove supplier. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

While body protection is not required, where protection from nuisance levels are desired, choose body protection in relation to its type, to the concentration and to the specific work-place.

Respiratory protection

While Respiratory protection is not required, where protection from nuisance levels are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
Do not let product enter storm drains.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance	Form: Liquid
b) Odor	Mild Soapy
c) Odor Threshold	No data available
d) pH	No data available
e) Freeze/melting point	≤ 29 F
f) Boiling point	≥ 212 F
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper flammability limits	No data available
k) Lower flammability limits	No data available
l) Vapor pressure	No data available
m) Vapor density	No data available
n) Specific gravity	1.00 ± 0.02
o) Water Solubility	100% Soluble
p) Partition coefficient	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Kinematic viscosity	No data available
t) Explosive properties	No data available
u) Oxidizing properties	No data available

Other safety information

No data available

These physical properties are typical values for this product and not specifications. No other data available.

SECTION X. STABILITY AND REACTIVITY

Reactivity

No data available

Reactivity

This material is considered to be non-reactive under normal conditions of use.

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Incompatible materials

Acids or strong oxidizing agents

Hazardous decomposition products

Other decomposition products -no data available

In the event of fire, see section 5

SECTION XI. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 3,240 mg/kg

Respiration: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation:

no data available

Serious eye damage/eye irritation:

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated by any agency, governmental or otherwise.

SECTION XII. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

Does not bioaccumulate

Mobility in soil
no data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects
no data available

SECTION XIII. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

Note: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

SECTION XIV. TRANSPORT INFORMATION

TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Note: The proper shipping name and/or hazard class for this product may vary according to packaging, properties and mode of transportation. Customer is urged to consult 49 CFR 100-177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods.

SECTION XV. REGULATORY INFORMATION

US FEDERAL

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

TSCA Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

Hazardous decomposition products: Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity: Not expected to be acutely toxic.

Irritation/Corrosion: **Skin:** Dust: May cause irritation through mechanical abrasion. This product is not expected to be a skin hazard.
Eyes: Direct contact with eyes may cause temporary irritation through mechanical abrasion.

Inhalation: Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause other adverse health effects including lung and kidney cancer.

Ingestion: Not likely due to product form. However accidental ingestion may cause discomfort.

Respiratory sensitization: No respiratory sensitizing effects known.

Skin sensitization: Not known to be a dermal irritant or sensitizer.

Sensitization: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Mutagenicity: Not expected to be an aspiration hazard.
Not expected to be a reproductive hazard.

Aspiration Hazard: Dust: discomfort in the chest. Shortness of breath. Coughing.

Reproductive toxicity: Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

Symptoms related to physical, chemical and toxicological characteristics:

Carcinogenicity:

Product/ingredient name	OSHA	IARC	ACGIH	NTP
Crystalline Silica (Quartz) CAS 14808-60-7)	Not listed	1 Carcinogenic to humans	A2	Known to be human Carcinogen
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)	Not listed	1 Carcinogenic to humans	-	-

Specific target organ toxicity (acute exposure)

Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	-	Inhalation	Not reported to have effects
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)	-	Inhalation	Not reported to have effects

Specific target organ toxicity (chronic exposure)

Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)		Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)		Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.

Potential chronic health effects: General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Section 12. Ecological Information

Ecotoxicity

Not expected to be harmful to aquatic organisms. Discharging sand and gravel dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

Persistence and degradability: Not applicable.
Bioaccumulative potential: Not applicable.
Mobility in soil: Not applicable.
Other adverse effects: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, global warming potential) are expected from this component.

Section 13. Disposal considerations

Disposal methods: Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.

Hazardous waste code: Not regulated.

Waste from residues/unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty packaging materials should be recycled or disposed of in accordance with applicable regulations and practices.

Section 14. Transportation information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	-	-	-
Additional information	-	-	-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Section 15. Regulatory Information

U.S. Federal regulations:

OSHA Hazard Communication Standard, 29 CFR 1910.1200 This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

TSCA Section 12(b) Export Notification (40 CFR 707, Subpart. D): Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed

CERCLA Hazardous Substance List (40 CFR 302.4): Not listed

Clean Air Act Section 112 (b): Hazardous Pollutants (HAPs): Not regulated

Clean Air Act Section 112 (r) Accidental Release Prevention (40 CFR 68.130): Not regulated

Safe Drinking Water Act (SDWA): Not regulated

SARA 311/312

Classification: Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire Hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Crystalline Silica (Quartz) CAS 14808-60-7	>1	No	No	No	No	Yes

SARA 313 (TRI)

	Product name	CAS number	%
Form R-Report requirements	Crystalline Silica (Quartz)	14808-60-7	Not regulated

State regulations

Massachusetts RTK:

New Jersey RTK:

Pennsylvania RTK:

Rhode Island RTK:

The following components are listed: Crystalline Silica (Quartz) (CAS 14808-60-7), Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)
The following components are listed: Crystalline Silica (Quartz) (CAS 14808-60-7), Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS mixture)
The following components are listed: Crystalline Silica (Quartz) (CAS 14808-60-7), Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)
Not regulated.

California Prop. 65

WARNING: This product contains crystalline silica and chemicals (trace metals) known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Crystalline Silica (Quartz) CAS 14808-60-7	Yes	No	No	No

International regulations

Ingredient name	CAS #	TSCA	Canada	WHMIS	EEC
Crystalline Silica (Quartz)	14808-60-7	Yes	DSL	D2A	EINECS

WHMIS Classification:

D2A "Materials Causing Other Toxic Effects"



Section 16. Other Information

Date of issue: 06/01/2015

Version: 06/01/2015

Revised Section(s): N/Ap

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of sand and gravel as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with sand and gravel to produce sand and gravel products. Users should review other relevant material safety data sheets before working with this sand and gravel or working on sand and gravel products.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY Lehigh Hanson, except that the product shall conform to contracted specifications. The information provided herein was believed by the Lehigh Hanson to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for non-delivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations
DOT — Department of Transportation
GHS — Globally Harmonized System
HEPA — High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit
RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

1 Identification

- **Product identifier**
- **Trade name:** DX Cartridge Clean-Tec
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Cartridges for technical purpose
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hilti, Inc.
5400 South 122nd East Ave.
US-Tulsa, OK 74146
Phone: (800) 879-8000
Fax: (800) 879-7000
Español: (800) 879-5000
- **Information department:**
df-hse@hilti.com
see section 16
- **Emergency telephone number:**
Chem-Trec
Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
Tel.: 703 527 3887 (Other countries)

2 Hazard(s) identification

- **Classification of the substance or mixture**
The dismantling of the article is prohibited.
This article contains hazardous substances or preparations not intended to be released under normal or reasonably foreseeable conditions of use.
Expl. 1.4 H204 Fire or projection hazard.
- **Additional information:**
Category of the pyrotechnic article: other pyrotechnic articles Cat. P1
(BAM EC-Type-Examination Certificate No. 0589.PYR.3802/12 or 0589.PYR.3798/12 respectively)
- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS01

- **Signal word** Warning
- **Hazard statements**
H204 Fire or projection hazard.
- **Precautionary statements**
P210 Keep away from heat. - No smoking.
P250 Do not subject to grinding/shock/friction.
P280 Wear eye protection / face protection.
- **Classification system**
- **NFPA ratings (scale 0-4)**



Health = 0
Fire = 2
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

Trade name: DX Cartridge Clean-Tec

(Contd. of page 1)

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:**

Mixture of the substances listed below with nonhazardous additions.

max. net explosives weight each cartridge in mg:

Caliber 6.8/11 (cal .27 short) white: 130; brown: 140; green: 160; yellow: 180; red: 230; black: 260

Caliber 6.8/18 (cal .27 long) green: 190; yellow: 220; blue: 300; red: 330; black: 410

- **Dangerous components:**

Within the cartridges the explosive ingredients (gun powder and priming composition) are hermetically separated from the environment. They will be only opened with effort and under destruction of the article.

Propellant powder: Single base powder, containing glyceroltrinitrate

Mass per cartridge: essentially dependent on the required power (100-400 mg)

Priming composition: SINTOX (initiating explosive) Mass per cartridge: 20,9 mg in the mean.

55-63-0	glycerol trinitrate	3-<10%
122-39-4	diphenylamine	0-1%

- **Additional information**

Exposed propellant powder outside a cartridge is harmful if swallowed and highly flammable; without tamping no explosion risk.

Packed safety cartridges don't represent a significant risk.

In case of reaction no dangerous fragments or projectiles will be formed.

Mechanical or thermal attempts to expose the primer composition lead to an immediate reaction of the dangerous ingredients.

For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**

• **General information** First aid measures only required by release of ingredients or generation of decomposition products.

• **After inhalation** Take affected persons into fresh air and keep quiet.

• **After skin contact** Immediately wash with water and soap and rinse thoroughly.

• **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.

• **After swallowing**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

• **Information for doctor**

• **Most important symptoms and effects, both acute and delayed** No further relevant information available.

• **Indication of any immediate medical attention and special treatment needed**

Monitor circulation, possible shock treatment.

If necessary oxygen respiration treatment

If blue colouring appears (lips, ear-lobes, finger-nails), give oxygen treatment as quickly as possible.

In cases of irritation to the lungs, initial treatment with Dexamethason metered aerosol.

5 Fire-fighting measures

- **Extinguishing media**

• **Suitable extinguishing agents**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

• **For safety reasons unsuitable extinguishing agents** Not applicable

• **Special hazards arising from the substance or mixture** No further relevant information available.

• **Advice for firefighters**

• **Protective equipment:**

Wear self-contained respiratory protective device.

EN 12941 / EN 12942

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Keep away from ignition sources

Remove persons from danger area.

Ensure adequate ventilation

(Contd. on page 3)

US EN

Trade name: DX Cartridge Clean-Tec

(Contd. of page 2)

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Pick up scattered propellant cartridges only by hand.
Exposed ingredients must be swept up carefully and stabilised in a water container which has been labelled according the regulations. Wipe down the contaminated area with water.
- **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
No special precautions are necessary if used correctly.
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
Protect against electrostatic charges.
Keep ignition sources away - Do not smoke.
Prevent impact and friction.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Keep in a cool, dry and dark place; 41 °F / 5 °C to 77 °F / 25 °C.
- **Information about storage in one common storage facility:**
Store away from flammable substances.
Store away from foodstuffs.
- **Further information about storage conditions:**
Store under lock and key and with access restricted to technical experts or their assistants only.
Protect from humidity and water.
- **Storage class 1**
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· Control parameters

· Components with limit values that require monitoring at the workplace:

55-63-0 glycerol trinitrate

PEL	Short-term value: C 2 mg/m ³ , C 0.2 ppm
	Skin
REL	Short-term value: 0.1 mg/m ³
	Skin
TLV	Long-term value: 0.46 mg/m ³ , 0.05 ppm
	Skin

122-39-4 diphenylamine

REL	Long-term value: 10 mg/m ³
TLV	Long-term value: 10 mg/m ³

· CAS No. Designation of material % Type Value Unit

· Additional Occupational Exposure Limit Values for possible hazards during processing:

630-08-0 carbon monoxide

PEL	Long-term value: 55 mg/m ³ , 50 ppm
REL	Short-term value: C 229 mg/m ³ , C 200 ppm
	Long-term value: 40 mg/m ³ , 35 ppm
TLV	Long-term value: 29 mg/m ³ , 25 ppm
	BEI

124-38-9 carbon dioxide

PEL	Long-term value: 9000 mg/m ³ , 5000 ppm
-----	--

(Contd. on page 4)

Trade name: DX Cartridge Clean-Tec

(Contd. of page 3)

REL	Short-term value: 54.000 mg/m ³ , 30.000 ppm Long-term value: 9000 mg/m ³ , 5000 ppm
TLV	Short-term value: 54.000 mg/m ³ , 30.000 ppm Long-term value: 9000 mg/m ³ , 5000 ppm

• **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Do not eat, drink, smoke or sniff while working.
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:** Not required.
- **Material of gloves:** Not applicable
- **Penetration time of glove material:** Not required.
- **Eye protection:**



Safety glasses

EN 166 / EN 170

• **Body protection:**



When using setting tools, sufficient ear protection must be worn.

9 Physical and chemical properties

• Information on basic physical and chemical properties	
• General Information	
• Appearance:	
Form:	Solid.
Color:	According to product specification
• Odor:	Not determined
• Odour threshold:	Not applicable
• pH-value:	Not applicable.
• Change in condition	
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	undetermined
• Flash point:	Not applicable
• Flammability (solid, gaseous)	Not determined.
• Ignition temperature:	Not determined
• Decomposition temperature:	Not determined.
• Auto igniting:	Product is not selfigniting.
• Danger of explosion:	Not determined.
• Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
• Vapor pressure:	Not applicable.
• Density:	Not determined
• Relative density	Not determined.
• Vapour density	Not applicable.
• Evaporation rate	Not applicable.

(Contd. on page 5)

US EN

Trade name: DX Cartridge Clean-Tec

(Contd. of page 4)

- | | |
|--|--|
| · Solubility in / Miscibility with Water: | Not applicable |
| · Partition coefficient (n-octanol/water): | Not applicable |
| · Viscosity: | |
| dynamic: | Not applicable. |
| kinematic: | Not applicable. |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- Reactivity
- Chemical stability
- Thermal decomposition / conditions to be avoided:
Temperatures > 40 °C
No decomposition if used and stored according to specifications.
- Possibility of hazardous reactions No dangerous reactions known
- Conditions to avoid No further relevant information available.
- Incompatible materials:
acids
alkalis (caustic solutions).
- Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

11 Toxicological information

- Information on toxicological effects
No harmful effects are to be expected if used properly.
The contained ingredients can be harmful, but they are hermetically enclosed in the article and can not be released.
The dismantling of the article is prohibited.
- Acute toxicity:
- Primary irritant effect:
on the skin: No irritant effect.
on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
- Carcinogenic categories
- NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

- Toxicity
No harmful effects are to be expected if used properly.
The contained ingredients can be harmful, but they are hermetically enclosed in the article and can not be released.
The dismantling of the article is prohibited.
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability No further relevant information available.
- Behavior in environmental systems:
- Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- Additional ecological information:
- General notes:
Generally not hazardous for water.
Do not allow product to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

(Contd. on page 6)

US EN

Trade name: DX Cartridge Clean-Tec

(Contd. of page 5)

· Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation

For disposal, local regulations issued by the authorities must be observed.

Completely discharged cartridges strips may be disposed of as household or factory waste. No hazardous waste.

· European waste catalogue:

16 04 01* waste ammunition

· Uncleaned packagings:

· Recommendation: Non contaminated packagings can be used for recycling.

14 Transport information

· UN-Number

· DOT, ADR, IMDG, IATA

UN0323

· UN proper shipping name

· DOT, IMDG, IATA

Cartridge, power device

· ADR

UN0323 cartridge, power device

· Transport hazard class(es)

· ADR, IATA



· Class

1 Explosive substances und articles

· Label

1.4

· IMDG

· Class

1 Explosive substances und articles

· Packing group

· ADR, IMDG, IATA

Void

· Environmental hazards:

· Marine pollutant:

No

· Special precautions for user

Warning: Explosive substances und articles

· Danger code (Kemler):

F-B,S-X

· EMS Number:

· Transport in bulk according to Annex II of
MARPOL 73/78 and the IBC Code

Not applicable.

· UN "Model Regulation":

UN0323, cartridge, power device, 1.4S

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

55-63-0 glycerol trinitrate

122-39-4 diphenylamine

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

(Contd. on page 7)

US EN



Printing date 05/18/2015

Version number 3

Reviewed on 04/13/2015

Trade name: DX Cartridge Clean-Tec

· **Proposition 65:**

(Contd. of page 6)

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Carcinogeny categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

122-39-4 | diphenylamine

A4

· **MAK (German Maximum Workplace Concentration)**

55-63-0 | glycerol trinitrate

3B

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **National regulations**

- **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
- **Chemical safety assessment:** not required.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:**

Hilti Entwicklungsgesellschaft mbH

Hiltistrasse 6

D-86916 Kaufering

Tel.: +49 8191 906310

Fax: +49 8191 90176310

df-hse@hilti.com

· **Contact:** Mechthild Krauter

· **Date of preparation / last revision** 05/18/2015 / 2

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

Expl. 1.4: Explosives, Division 1.4

US EN

Hilti Crack Injection System CI 060

Safety information for 2-Component-products

Date of issue: 24/08/2016

Revision date: 09/08/2016

Supersedes: 24/08/2016

Version: 8.0

SECTION 1: Kit identification

1.1 Product identifier

Name Hilti Crack Injection System CI 060
Product code BU Chemicals

1.2 Details of the supplier of the Safety Information for 2-Component-products

Hilti (Gt. Britain) Ltd.
1 Trafford Wharf Road
M17 1BY Manchester - Great Britain
T +44 161 886 1000
0800 886 100 Toll-free - F +44 161 872 1240
gbsales@hilti.com

SECTION 2: General information

A SDS for each of these components is included. Please do not separate any component SDS from this cover page

SECTION 3: Kit contents

Classification of the product

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Dermal)	H312
Skin Corr. 1	H314
Skin Sens. 1	H317
Muta. 2	H341
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Full text of hazard classes and H-statements : see section 16

Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05



GHS07



GHS08



GHS09

Signal word (CLP)

Danger

Hazard statements (CLP)

H302+H312 - Harmful if swallowed or in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H341 - Suspected of causing genetic defects
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP)

P260 - Do not breathe vapours
P273 - Avoid release to the environment

Hilti Crack Injection System CI 060

Kit Safety Information Sheet

P280 - Wear eye protection, protective clothing, protective gloves
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - IF exposed or concerned: Get medical advice/attention

Additional Information

Name	General description	Quantity	Unit	Classification according to Regulation (EC) No. 1272/2008 (CLP)
CI 060, B		1	pcs (pieces)	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
CI 060, A		1	pcs (pieces)	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411

SECTION 4: General information

No data available

SECTION 5: Safe handling advice

Environmental precautions	Avoid release to the environment
Storage conditions	Store locked up Store in a well-ventilated place Keep cool
Precautions for safe handling	Ensure good ventilation of the work station Obtain special instructions before use Do not handle until all safety precautions have been read and understood Do not get in eyes, on skin, or on clothing Wear personal protective equipment Avoid breathing vapours
Methods for cleaning up	Notify authorities if product enters sewers or public waters
For containment	Collect spillage

SECTION 6: First aid measures

First-aid measures after eye contact	Rinse eyes with water as a precaution
First-aid measures after ingestion	Rinse mouth Call a poison center or a doctor if you feel unwell
First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing
First-aid measures after skin contact	Wash skin with plenty of water Take off contaminated clothing If skin irritation or rash occurs: Get medical advice/attention
First-aid measures general	IF exposed or concerned: Get medical advice/attention Call a poison center or a doctor if you feel unwell
Symptoms/injuries after skin contact	May cause an allergic skin reaction
Other medical advice or treatment	Treat symptomatically

SECTION 7: Fire fighting measures

Protection during firefighting	Do not attempt to take action without suitable protective equipment Self-contained breathing apparatus Complete protective clothing
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Hilti Crack Injection System CI 060

Kit Safety Information Sheet

Hazardous decomposition products in case of
fire

Toxic fumes may be released

SECTION 8: Other information

No data available

CI 060, A**Safety Data Sheet**

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 24/08/2016

Revision date: 24/08/2016

Supersedes: 24/08/2016

Version: 8.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Product form	Mixture
Name	CI 060, A
Product code	BU Chemicals

1.2 Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Industrial/Professional use spec	For professional use only
----------------------------------	---------------------------

1.2.2. Uses advised against

No additional information available

1.3 Details of the supplier of the safety data sheet

Hilti (Gt. Britain) Ltd.
1 Trafford Wharf Road
M17 1BY Manchester - Great Britain
T +44 161 886 1000
0800 886 100 Toll-free - F +44 161 872 1240
gbsales@hilti.com

Supplier

Hilti (Gt. Britain) Ltd.
1 Trafford Wharf Road
M17 1BY Manchester - Great Britain
T +44 161 886 1000
0800 886-100 Toll-free - F +44 161 872 1240
gbsales@hilti.com

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111 - F +423 234 2965
www.hilti.com

1.4 Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (International) +44 161 886 1000 0800 886 100 Toll-free
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SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1	H317
Muta. 2	H341
Aquatic Chronic 2	H411

Full text of hazard classes and H-statements : see section 16

CI 060, A

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS07



GHS08



GHS09

Signal word (CLP)

Hazardous Ingredients

Hazard statements (CLP)

Precautionary statements (CLP)

Warning

Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700 ; 2,3-epoxypropyl o-tolyl ether

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H341 - Suspected of causing genetic defects

H411 - Toxic to aquatic life with long lasting effects

P273 - Avoid release to the environment

P280 - Wear eye protection, protective gloves, protective clothing

P302+P352 - IF ON SKIN: Wash with plenty of soap and water

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P308+P313 - IF exposed or concerned: Get medical advice/attention

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention

2.3. Other hazards

Adverse physicochemical, human health and environmental effects

Suspected of causing genetic defects. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700	(CAS No) 25068-38-6 (EC no) 500-033-5 (EC Index no) 603-074-00-8 (REACH-no) 01-2119456619-26	60 - 80	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
2,3-epoxypropyl o-tolyl ether	(CAS No) 2210-79-9 (EC no) 218-645-3 (EC Index no) 603-056-00-X (REACH-no) 01-2119966907-18	25 - 40	Muta. 2, H341 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411

Specific concentration limits:

Name	Product Identifier	Specific concentration limits
Bisphenol-A-Epichlorhydrin Epoxy resin Average MW < 700	(CAS No) 25068-38-6 (EC no) 500-033-5 (EC Index no) 603-074-00-8 (REACH-no) 01-2119456619-26	(C >= 5) Eye Irrit. 2, H319 (C >= 5) Skin Irrit. 2, H315

Full text of H-statements: see section 16

CI 060, A

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aid measures after inhalation	Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact	Burns. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	Serious damage to eyes.
Symptoms/injuries after ingestion	Burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Dry powder. Foam. Carbon dioxide.
------------------------------	-----------------------------------

5.2 Special hazard arising from the substance or mixture

Hazardous decomposition products in case of fire	Toxic fumes may be released.
--	------------------------------

5.3 Advice to firefighters

Protection during firefighting	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
--------------------------------	--

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedure

6.1.1. For non-emergency personnel

Emergency procedures	Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe vapours.
----------------------	--

6.1.2. For emergency responders

Protective equipment	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
----------------------	---

6.2 Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3 Methods and materials for containment and cleaning up

For containment	Collect spillage.
Methods for cleaning up	Take up liquid spill into absorbent material.
Other information	Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

For further information refer to section 13.

CI 060, A

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Do not breathe vapours. Wear personal protective equipment.

Hygiene measures

Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Store locked up. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Ensure good ventilation of the work station.

Personal protective equipment

Gloves. Protective clothing. Protective goggles.

Hand protection

Type	Material	Permeation	Thickness (mm)	Standard
Reusable gloves	Butyl rubber, Fluoroelastomer (FKM), Polyvinylalcohol (PVA)	3 (> 60 minutes)		EN 374

Eye protection

Type	Use	Characteristics	Standard
Safety glasses			EN 166, EN 170

Skin and body protection

Wear suitable protective clothing

Respiratory protection

Wear respiratory protection



Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid

Colour

Colourless.

Odour

mild.

Odour threshold

No data available

pH

No data available

Relative evaporation rate (butylacetate=1)

No data available

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	138 °C
Auto-ignition temperature	No data available
Decomposition temperature	> 200 °C
Flammability (solid, gas)	Not applicable
Vapour pressure	0.0075 mm Hg
Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.15 kg/l
Solubility	No data available
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	500 - 650 mPa.s
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

9.2 Other information

No additional information available

SECTION 10: Stability and reactivity

10.1 Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

Strong acids. Strong bases. Oxidizing agent.

10.6 Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1 Information on toxicological criteria

Acute toxicity Not classified

Bisphenol-A-Epichlorohydrin Epoxy resin Average MW < 700 (25068-38-6)	
LD50 oral rat	> 2000 mg/kg (Rat; OECD 420: Acute Oral toxicity – Acute Toxic Class Method; Experimental value)
LD50 dermal rat	> 2000 mg/kg (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
2,3-epoxypropyl o-tolyl ether (2210-79-9)	
LD50 oral rat	> 5000 mg/kg (Rat)
LD50 dermal rat	> 2000 mg/kg (Rat)

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

LC50 inhalation rat (mg/l)	6.09 mg/l/4h (Rat)
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Suspected of causing genetic defects.
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

12.1 Toxicity

Ecology - general Toxic to aquatic life with long lasting effects.

Bisphenol-A-Epichlorohydrin Epoxy resin Average MW < 700 (25068-38-6)	
LC50 fish 1	1.2 mg/l (96 h; Oncorhynchus mykiss; Lethal)
EC50 Daphnia 1	1.1 - 2.8 mg/l (48 h; Daphnia magna; Locomotor effect)
LC50 fish 2	2.3 mg/l (96 h; Oncorhynchus mykiss; Nominal concentration)
Threshold limit algae 1	> 11 mg/l (72 h; Scenedesmus sp.)
Threshold limit algae 2	4.2 mg/l (72 h; Scenedesmus sp.)
2,3-epoxypropyl 6-tolyl ether (2210-79-9)	
LC50 fish 1	1 - 10 mg/l (Pisces)
EC50 Daphnia 1	1 - 10 mg/l (Invertebrata)

12.2 Persistence and degradability

Bisphenol-A-Epichlorohydrin Epoxy resin Average MW < 700 (25068-38-6)	
Persistence and degradability	Not readily biodegradable in water. Hydrolysis in water. Low potential for adsorption in soil.
2,3-epoxypropyl 6-tolyl ether (2210-79-9)	
Persistence and degradability	Not readily biodegradable in water. Biodegradability in soil: no data available. Photodegradation in the air.

12.3 Bioaccumulative potential

Bisphenol-A-Epichlorohydrin Epoxy resin Average MW < 700 (25068-38-6)	
BCF other aquatic organisms 1	3 - 31
Log Pow	>= 2.918 (Experimental value; EU Method A.8; Partition Coefficient; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
2,3-epoxypropyl 6-tolyl ether (2210-79-9)	
Log Pow	2.16 (Estimated value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4 Mobility in soil

Bisphenol-A-Epichlorohydrin Epoxy resin Average MW < 700 (25068-38-6)	
Surface tension	0.0 587-0.0589, 20 °C

12.5 Result of PBT and vPvB assessment

No additional information available

12.6 Other adverse effects

No additional information available

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Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment methods Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

Other information not restricted according ADR Special Provision SP375, IATA-DGR Special Provision A197 and IMDG-Code 2.10.2.7

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated for transport				
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
not restricted according ADR Special Provision SP375, IATA-DGR Special Provision A197 and IMDG-Code 2.10.2.7				

14.6 Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Inland waterway transport

Carriage prohibited (ADN) No

Not subject to ADN No

- Rail transport

Carriage prohibited (RID) No

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific to the substance or mixture****15.1.1. EU-Regulations**

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations**15.2 Chemical safety assessment**

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Muta. 2	Germ cell mutagenicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H341	Suspected of causing genetic defects
H411	Toxic to aquatic life with long lasting effects

SDS_EU_Hilti

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

CI 060, B**Safety Data Sheet**

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of Issue: 24/08/2016

Revision date: 24/08/2016

Supersedes: 24/08/2016

Version: 8.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Product form	Mixture
Name	CI 060, B
Product code	BU Chemicals

1.2 Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Industrial/Professional use spec	For professional use only
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1.2.2. Uses advised against

No additional information available

1.3 Details of the supplier of the safety data sheet

Hilti (Gt. Britain) Ltd.
1 Trafford Wharf Road
M17 1BY Manchester - Great Britain
T +44 161 886 1000
0800 886 100 Toll-free - F +44 161 872 1240
gbsales@hilti.com

Supplier

Hilti (Gt. Britain) Ltd.
1 Trafford Wharf Road
M17 1BY Manchester - Great Britain
T +44 161 886 1000
0800 886 100 Toll-free - F +44 161 872 1240
gbsales@hilti.com

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
9494 Schaan - Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4 Emergency telephone number

Emergency number	Schweizerisches Toxikologisches Informationszentrum – 24h Service +41 44 251 51 51 (international) +44 161 886 1000 0800 886 100 Toll-free
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SECTION 2: Hazards identification**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral)	H302
Acute Tox. 4 (Dermal)	H312
Skin Corr. 1B	H314
Eye Dam. 1	H318
Skin Sens. 1	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Full text of hazard classes and H-statements : see section 16

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Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

Hazardous ingredients

Hazard statements (CLP)

Precautionary statements (CLP)

Danger

pentaethylenehexamine; Benzyl alcohol

H302+H312 - Harmful if swallowed or in contact with skin

H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

H410 - Very toxic to aquatic life with long lasting effects

P260 - Do not breathe vapours

P273 - Avoid release to the environment

P280 - Wear eye protection, protective clothing, protective gloves

P301+P312 - IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell

P302+P352 - IF ON SKIN: Wash with plenty of soap and water

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

Adverse physicochemical, human health and environmental effects

Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
pentaethylenehexamine	(CAS No) 4067-16-7 (EC no) 223-775-9 (EC index no) 612-064-00-2 (REACH-no) 01-2119485826-22	60 - 80	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Benzyl alcohol	(CAS No) 100-51-6 (EC no) 202-859-9 (EC index no) 603-057-00-5 (REACH-no) 01-2119492630-38	10 - 25	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation

Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact

Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

First-aid measures after ingestion Rinse mouth. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact	Burns. May cause an allergic skin reaction.
Symptoms/injuries after eye contact	Serious damage to eyes.
Symptoms/injuries after ingestion	Burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Water spray. Dry powder. Foam. Carbon dioxide.
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5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	Toxic fumes may be released.
--	------------------------------

5.3 Advice for firefighters

Protection during firefighting	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
--------------------------------	--

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Emergency procedures	Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe vapours.
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6.1.2 For emergency responders

Protective equipment	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and material for containment and clean-up

For containment	Collect spillage.
Methods for cleaning up	Take up liquid spill into absorbent material.
Other information	Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling	Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe vapours. Wear personal protective equipment.
Hygiene measures	Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions Store locked up. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls Ensure good ventilation of the work station.

Personal protective equipment Gloves. Protective clothing. Protective goggles.

Hand protection

Type	Material	Permeation	Thickness (mm)	Standard
Reusable gloves	Butyl rubber, Fluoroelastomer (FKM), Polyvinylalcohol (PVA)	3 (> 60 minutes)		EN 374

Eye protection

Type	Use	Characteristics	Standard
Safety glasses			EN 166, EN 170

Skin and body protection Wear suitable protective clothing

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment



Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Colour	Black.
Odour	Amine-like.
Odour threshold	No data available
pH	> 13
Relative evaporation rate (butylacetate=1)	No data available
Melting point	Not applicable
Freezing point	No data available
Boiling point	No data available
Flash point	> 60 °C
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable
Vapour pressure	No data available

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Relative vapour density at 20 °C	No data available
Relative density	No data available
Density	1.05 kg/l
Solubility	No data available
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	110 - 120 Pa.s
Explosive properties	No data available
Oxidising properties	No data available
Explosive limits	No data available

9/2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong acids. Oxidizing agent. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.

ATE CLP (oral)	1782,669 mg/kg bodyweight
ATE CLP (dermal)	1222,222 mg/kg bodyweight
pentaerythritolhexamine (4067-16-7)	
LD50 oral rat	1600 mg/kg (Rat)
Benzyl alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg
LC50 inhalation rat (mg/l)	> 4178 mg/m³

Skin corrosion/irritation Causes severe skin burns and eye damage.

pH: > 13

Serious eye damage/irritation Causes serious eye damage.

pH: > 13

Respiratory or skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity Not classified

Reproductive toxicity Not classified

Specific target organ toxicity (single exposure) Not classified

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Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified

SECTION 12: Ecological information

12.1 Toxicity

Ecology - general Very toxic to aquatic life with long lasting effects.

pentaethylenehexamine (4067-16-7)	
LC50 fish 1	180 mg/l (Poecilia reticulata)
Threshold limit algae 1	0.7 mg/l (Selenastrum capricornutum; Biomass)

12.2 Persistence and degradability

pentaethylenehexamine (4067-16-7)	
Persistence and degradability	Not readily biodegradable in water.

12.3 Bioaccumulative potential

pentaethylenehexamine (4067-16-7)	
Log Pow	-1.6 (QSAR)
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4 Mobility/flow

No additional information available

12.5 Results of REPR and VPR assessment

No additional information available

12.6 Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1 Wastetreatment methods

Waste treatment methods	Dispose of contents/container in accordance with licensed collector's sorting Instructions.
European List of Waste (LoW) code	07 02 04* - other organic solvents, washing liquids and mother liquors

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN




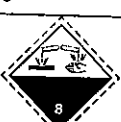

Other information

ADR	IMDG	IATA	ADN	RID
14.1 UN number				
2735	2735	2735	2735	2735
14.2 UN proper shipping name				
AMINES, LIQUID, CORROSIVE, N.O.S. / POLYAMINES, LIQUID, CORROSIVE, N.O.S. (pentaethylenehexamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (pentaethylenehexamine)	Amines, liquid, corrosive, n.o.s. (pentaethylenehexamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (pentaethylenehexamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (pentaethylenehexamine)

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ADR	IMDG	IATA	ADN	RID
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
not restricted according ADR Special Provision SP375, IATA-DGR Special Provision A197 and IMDG-Code 2.10.2.7				

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	C7
Special provisions (ADR)	274
Limited quantities (ADR)	5I
Packing instructions (ADR)	P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	MP19
Orange plates	

Tunnel restriction code (ADR)	E
EAC code	2X
APP code	B

- Transport by sea

Special provisions (IMDG)	223, 274
Limited quantities (IMDG)	5 L
Packing instructions (IMDG)	P001, LP01
EmS-No. (Fire)	F-A
EmS-No. (Spillage)	S-B
Stowage category (IMDG)	A
MFAG-No	153

- Air transport

PCA packing instructions (IATA)	852
PCA max net quantity (IATA)	5L
Special provisions (IATA)	A3

- Inland waterway transport

Classification code (ADN)	C7
Special provisions (ADN)	274
Limited quantities (ADN)	5 L
Excepted quantities (ADN)	E1
Carriage permitted (ADN)	T
Equipment required (ADN)	PP, EP

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Number of blue cones/lights (ADN)	0
Carriage prohibited (ADN)	No
Not subject to ADN	No
- Rail transport	
Special provisions (RID)	274
Limited quantities (RID)	5L
Packing instructions (RID)	P001, IBC03, LP01, R001
Carriage prohibited (RID)	No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

Switzerland
Swiss CPID No 360670-26

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Sens. 1	Sensitisation — Skin, Category 1
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

CI 060, B**Safety Data Sheet**





according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** CFR 1 / CF 100 R1
- **Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.
- **Application of the substance / the preparation**
Cleaning agent/ Cleaner
Construction chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hilti (Gt. Britain) Ltd.
1 Trafford Wharf Road
Trafford Park
GB-M17 1BY Manchester
Phone: 0800 886 100 (Freephone)
Fax: 0800 886 200 (Freefax)
Email: gbsales@hilti.com
- **Informing department:** see section 16
- **Emergency telephone number:**
Schweizerisches Toxikologisches Informationszentrum - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)
- Hilti (Gt. Britain) Ltd
Phone: 0800 886 100 (Freephone)
Fax: 0800 886 200 (Freefax)

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
 Xi; Irritant
R36: Irritating to eyes.
 F+; Extremely flammable
R12: Extremely flammable.
R66-67: Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.
- **Classification system:**
The classification is in line with the current EC lists. It has been expanded, however, by information from technical literature and by information furnished by the suppliers and by national regulations which have to be observed in Chapter 15.
- **Label elements**
- **Labelling according to EU guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)
- **Code letter and hazard designation of product:**
  Xi Irritant
F+ Extremely flammable
- **Risk phrases:**
12 Extremely flammable.
36 Irritating to eyes.
66 Repeated exposure may cause skin dryness or cracking.
67 Vapours may cause drowsiness and dizziness.
- **Safety phrases:**
2 Keep out of the reach of children.
23 Do not breathe spray.
24/25 Avoid contact with skin and eyes.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves.
51 Use only in well-ventilated areas.
- **Special labelling of certain preparations:**
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.
Do not spray on a naked flame or any incandescent material.
Buildup of explosive mixtures possible without sufficient ventilation.
Keep out of the reach of children
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 2)

Trade name: CFR 1 / CF 100 R1

· vPvB: Not applicable.

(Contd. of page 1)

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Solvent mixture.

· Dangerous components:

CAS: 67-64-1 EINECS: 200-662-2	acetone	■ Xi R36; ■ F R11 R66-67 ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	40-45%
CAS: 67-63-0 EINECS: 200-661-7	propan-2-ol	■ Xi R36; ■ F R11 R67 ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	25-30%
CAS: 75-28-5 EINECS: 200-857-2	isobutane	■ F+ R12 ⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280	20-30%
CAS: 74-98-6 EINECS: 200-827-9	propane liquefied	■ F+ R12 ⚠ Flam. Gas 1, H220; ⚠ Press. Gas, H280	1-10%

· **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation**
Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. Move to fresh air in case of accidental inhalation of vapours. Consult a doctor after significant exposure.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly. If skin irritation persists, call a physician.
- **After eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **After swallowing**
Do not induce vomiting; immediately call for medical help.
Drink copious amounts of water and provide fresh air. Instantly call for doctor.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed**
Headache
Dazed
Sickness
- **Danger** Condition may deteriorate with alcohol consumption.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** Water spray, carbon dioxide (CO₂), carbon dioxide blanket, foam, or dry powder.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards arising from the substance or mixture** Burning produces irritant fumes
- **Advice for firefighters**
- **Protective equipment:**
In the event of fire, wear self contained breathing apparatus
Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.
- **Additional information** Cool endangered containers with water spray jet.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.
Keep away from ignition sources
- **Environmental precautions:** Do not allow product to reach sewage system or water bodies.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

GB

(Contd. on page 3)

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
Keep away from heat and direct sunlight.
Provide sufficient air exchange and/or exhaust in work rooms. When using, do not eat, drink or smoke. Ingestion, exposure to skin and eyes and inhalation of any general vapours should be avoided.
- **Information about protection against explosions and fires:**
Beware: Container is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use.
Do not spray on flames or red-hot objects.
Without adequate ventilation formation of explosive mixtures is possible.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Do not freeze. Store in original container
Keep out of reach of children. Keep containers dry and tightly closed to avoid moisture absorption and contamination.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from flammable substances.
- **Further information about storage conditions:**
Protect from heat and direct sunlight.
Keep container tightly sealed.
Do not seal container gastight.
Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

Control parameters

Components with limit values that require monitoring at the workplace:

67-64-1 acetone

WEL (Great Britain)	Short-term value: 3620 mg/m³, 1500 ppm
	Long-term value: 1210 mg/m³, 500 ppm
IOELV (European Union)	Long-term value: 1210 mg/m³, 500 ppm

67-63-0 propan-2-ol

WEL (Great Britain)	Short-term value: 1250 mg/m³, 500 ppm
	Long-term value: 999 mg/m³, 400 ppm

- **Additional information:** The lists that were valid during the compilation were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures should be adhered to general rules for handling chemicals.

Wash hands during breaks and at the end of the work.

Avoid contact with the skin.

Do not eat, drink or smoke while working.

Breathing equipment:

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Protection of hands:

Protective gloves

Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

EN 374

Material of gloves

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Not suitable are gloves made of the following materials:

Natural rubber, NR

PVC gloves

Strong gloves

Leather gloves

Eye protection: Tightly sealed safety glasses.

Trade name: CFR 1 / CF 100 R1

· Body protection: Protective work clothing.

(Contd. of page 3)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Aerosol
Colour:	Colourless
Odour:	Solvent-like
Odour threshold:	Not determined

· pH-value: Not determined

· Change in condition

Melting point/Melting range:	Not applicable
Boiling point/Boiling range:	Not applicable, as aerosol

· Flash point: Not applicable, as aerosol

· Ignition temperature: > 230 °C

· Self-inflammability: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/steam mixtures is possible.

· Critical values for explosion:

Lower:	1.5 Vol %
Upper:	13.0 Vol %

· Vapour pressure at 20 °C: 2.5-2.9 bar

· Density at 20 °C: 0.75 g/cm³ (DIN 51757)

· Relative density: Not determined

· Vapour density: Not determined

· Evaporation rate: Not determined

· Solubility in / Miscibility with

Water: Partly miscible

· Partition coefficient (n-octanol/water): Not determined

· Viscosity:

dynamic:	Not determined
kinematic:	Not determined

· Solvent separation test: Not determined

· Other information: No further relevant information available.

10 Stability and reactivity

· Reactivity

· Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions

Forms explosive gas mixture with air

Heat will increase pressure and may lead to the container exploding.

· Conditions to avoid: Protect from heat and direct sunlight.

· Incompatible materials:

strong oxidizing agents
acids

· Hazardous decomposition products: Danger of toxic pyrolysis products

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

67-64-1 acetone		
Oral	LD50	5800 mg/kg (rango)
Dermal	LD50	20000 mg/kg (rbi)
Inhalative	LC50/4h	>20 mg/l (rango)
67-63-0 propan-2-ol		
Oral	LD50	4570 - 5840 mg/kg (rango)
Dermal	LD50	12800 - 13400 mg/kg (kaninchen)
Inhalative	LC50/4h	30 - 46.5 mg/l (rango)

(Contd. on page 5)

Trade name: CFR 1 / CF 100 R1

(Contd. of page 4)

- **Primary irritant effect:**
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effect known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Irritant

12 Ecological information

· Toxicity

· Aquatic toxicity:

67-64-1 acetone

EC50/48h 7500 mg/l (Algae)

12600 mg/l (magna daphnia)

EC50/96h 6500 mg/l (fisch)

67-63-0 propan-2-ol

EC50/24h >1000 mg/l (magna daphnia)

EC50/48h 9870 mg/l (fisch)

IC50/24h >1000 mg/l (Algae)

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** Does not accumulate in organisms
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:** Not determined
- **Additional ecological information:**
- **General notes:** Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation

For disposal, local regulations issued by the authorities must be observed.

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue

14 00 00 WASTE ORGANIC SOLVENTS, REFRIGERANTS AND PROPELLANTS (except 07 and 08)

14 06 00 waste organic solvents, refrigerants and foam/aerosol propellants

14 06 03* other solvents and solvent mixtures

16 00 00 WASTES NOT OTHERWISE SPECIFIED IN THE LIST

16 05 00 gases in pressure containers and discarded chemicals

16 05 04* gases in pressure containers (including halons) containing dangerous substances

· Uncleaned packagings:

· Recommendation:

Disposal must be made according to official regulations.

Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

· UN-Number

· ADR, IMDG, IATA

UN1950

· UN proper shipping name

· ADR

1950 AEROSOLS

· IMDG

AEROSOLS

· IATA

AEROSOLS, flammable

(Contd. on page 6)



Printing date 12.03.2013

Version number 19

Revision: 12.03.2013

Trade name: CFR 1 / CF 100 R1

(Contd. of page 5)

· Transport hazard class(es)	
· ADR	
	
· Class	2 5F Gases.
· Label	2.1
· IMDG, IATA	
	
· Class	2.1
· Label	2.1
· Packing group	-
· ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Gases.
· Kemler Number:	-
· EMS Number:	F-D,S-U
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Transport category	2
· Tunnel restriction code	D
· IATA	
· Remarks:	Packing Instruction No. 203

15 Regulatory information

· Chemical safety assessment: not required.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H220 Extremely flammable gas.
H225 Highly flammable liquid and vapour.
H280 Contains gas under pressure; may explode if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

R11 Highly flammable.
R12 Extremely flammable.
R36 Irritating to eyes.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

· Department issuing data specification sheet:

Hilti Corporation
Business Unit Chemicals
Quality/Safety/Environment
FL-9494 Schaan / Liechtenstein

chemicals.hse@hilti.com
Tel.: +423 234 3004
FAX.: +423 234 3462

· * Data compared to the previous version altered.

1 Identification

- **Product identifier**
- **Trade name:** **Hilti Spray**
- **Container size:**
 - Item-no 308976 66 ml / 2.2 fl.oz
 - Item-no 314648 300 ml / 10.1 fl.oz
- **Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.
- **Application of the substance / the mixture** Lubricating oil
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

Hilti, Inc.
5400 South 122nd East Ave.
US-Tulsa, OK 74146
Phone: (800) 879-8000
Fax: (800) 879-7000
Español: (800) 879-5000
- **Information department:**

df-hse@hilti.com
see section 16
- **Emergency telephone number:**


Chem-Trec
Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
Tel.: 703 527 3887 (Other countries)

2 Hazard(s) identification

- **Classification of the substance or mixture**

The product is not classified according to the Globally Harmonized System (GHS).
 - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
 - **Information concerning particular hazards for human and environment:**

The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
 - **Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.
 - **Label elements**
 - **GHS label elements** Void
 - **Hazard pictograms** Void
 - **Signal word** Void
 - **Hazard statements** Void
 - **Classification system**
 - **NFPA ratings (scale 0-4)**
- 

Health = 0
Fire = 1
Reactivity = 0
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Combination of readily biodegradable esters made from glycerine and corrosion inhibitors.
- **Dangerous components:** Void
- **Additional information** For the wording of the listed risk phrases refer to section 16.

Trade name: Hilti Spray

(Contd. of page 1)

4 First-aid measures

- **Description of first aid measures**
- **General information** No special measures required.
- **After inhalation** Take affected persons into fresh air and keep quiet.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Carbondioxide (CO₂)
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Particular danger of slipping on leaked/spilled product.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
No dangerous substances are released.
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
The usual precautionary measures for handling chemicals should be followed.
Avoid the formation of oil haze.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Keep in a cool, dry and dark place; 41 °F / 5 °C to 77 °F / 25 °C.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

US EN

(Contd. on page 3)

Trade name: Hilti Spray

(Contd. of page 2)

8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Do not eat, drink, smoke or sniff while working.
Do not inhale gases / fumes / aerosols.
Wash hands before breaks and at the end of work.
- **Breathing equipment:**
Not required.
Avoid breathing mist.
- **Protection of hands:**



Protective gloves.

Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.

- **Material of gloves**
Butyl rubber, BR
Natural rubber, NR
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Safety glasses

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Color:	colourless-yellowish
Odor:	Mineral-oil-like
Odour threshold:	Not determined.
- **pH-value:** Slightly acidic
- **Change in condition**

Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	undetermined
- **Flash point:** Not applicable
- **Flammability (solid, gaseous)** Not determined
- **Ignition temperature:**
- **Decomposition temperature:** > 200 °C (> 392 °F)
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

(Contd. on page 4)

Trade name: Hilti Spray

(Contd. of page 3)

- | | |
|--|--|
| · Vapor pressure at 20 °C (68 °F): | < 1 mbar |
| · Density at 20 °C (68 °F): | 0.93 g/cm ³ (7.761 lbs/gal) (DIN 51757) |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with Water: | Not miscible or difficult to mix |
| · Partition coefficient (n-octanol/water): | Not determined. |
| · Viscosity: | |
| dynamic: | Not determined. |
| kinematic at 20 °C (68 °F): | 22 mm ² /s (DIN EN ISO 3104) |
| · Other information | No further relevant information available. |

10 Stability and reactivity

- Reactivity
- Chemical stability
- Thermal decomposition / conditions to be avoided:
Temperatures > 40 °C
No decomposition if used and stored according to specifications.
- Possibility of hazardous reactions Reacts with acids, alkalis and oxidizing agents
- Conditions to avoid No further relevant information available.
- Incompatible materials: strong oxidizing agents
- Hazardous decomposition products: none, if stored and handled correctly.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
- LD/LC50 values that are relevant for classification: LD50(oral) > 2000 mg/kg (rat)
- Primary irritant effect:
 - on the skin: No irritant effect.
 - on the eye: No irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
- Carcinogenic categories
- NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability Easily biodegradable
- Behavior in environmental systems:
- Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- Additional ecological information:
- According to the formulation contains the following heavy metals and compounds from the EU guideline NO. 2006/11/EC:
None
- General notes:
The product does not contain organically bounded halogens (AOX-free).
Do not allow product to reach ground water, water course or sewage system.
- Results of PBT and vPvB assessment
- PBT: Not applicable.

(Contd. on page 5)

— US EN —

Trade name: Hilti Spray

(Contd. of page 4)

- vPvB: Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
- Recommendation
Delivery of waste oil to officially authorized collectors only.
Hand over to hazardous waste disposers.
- European waste catalogue:
13 02 07* readily biodegradable engine, gear and lubricating oils
- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|--|
| • UN-Number | |
| • DOT, ADR, ADN, IMDG, IATA | Void |
| • UN proper shipping name | |
| • DOT, ADR, ADN, IMDG, IATA | Void |
| • Transport hazard class(es) | |
| • DOT, ADR, ADN, IMDG, IATA | |
| • Class | Void |
| • Packing group | |
| • DOT, ADR, IMDG, IATA | Void |
| • Environmental hazards: | |
| • Marine pollutant: | No |
| • Special precautions for user | Not applicable. |
| • Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| • Transport/Additional information: | Not dangerous according to the above specifications. |
| • UN "Model Regulation": | - |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture

• Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

• Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

• TSCA (Toxic Substances Control Act):

All ingredients are listed.

• Proposition 65:

• Chemicals known to cause cancer:

None of the ingredients are listed.

• Cancerogenity categories

• EPA (Environmental Protection Agency)

None of the ingredients is listed.

• TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

• MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

(Contd. on page 6)

US EN



Trade name: Hilti Spray

(Contd. of page 5)

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Chemical safety assessment: not required.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:**

Hilti Entwicklungsgesellschaft mbH

Hiltistrasse 6

D-86916 Kaufering

Tel.: +49 8191 906310

Fax: +49 8191 90176310

df-hse@hilti.com

· **Contact:** Mechthild Krauter

· **Date of preparation / last revision** 05/18/2015 / -

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent





LD50: Lethal dose, 50 percent

· *** Data compared to the previous version altered.**

1 Identification of the substance/mixture and of the company/undertaking

- **Product Identifier**
- **Trade name:** Hilti HIT-HY 150 MAX
- **Container size** 330 ml, 500 ml, 1400 ml
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Building and construction work
- **Application of the substance / the preparation** Adhesive mortar for anchor fastenings in concrete
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hilti Svenska AB
Testvägen 1
232 22 Arlöv
Sverige
Telefon: 020-555 999
Fax: 040-43 51 96
E-mail: kundservice@hilti.com
- **Informing department:**
anchor.hse@hilti.com
see section 16
- **Emergency telephone number:**
Schweizerisches Toxikologisches Informationszentrum - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)
- **Giftinformationscentralen**
112 (24 h Service)
08-331 231 (mon. - fri. 9:00 - 17:00)

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
 Xi; Sensitising
R43: May cause sensitisation by skin contact.
- **Oxidising**
 O; Oxidising
R7: May cause fire.
- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.
- **Label elements**
- **Labelling according to EU guidelines:**
Observe the normal safety regulations when handling chemicals.
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)
- **Code letter and hazard designation of product:**
  Xi Irritant
O Oxidising
- **Hazard-determining components of labelling:**
methacrylic acid, monoester with propane-1,2-diol
dibenzoyl peroxide
- **Risk phrases:**
7 May cause fire.
43 May cause sensitisation by skin contact.
- **Safety phrases:**
3 Keep in a cool place.
24/25 Avoid contact with skin and eyes.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
28 After contact with skin, wash immediately with plenty of water and soap.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- **Special labelling of certain preparations:**
Only for trade users / technical specialists

Printing date 20.11.2012

Version number 6

Revision: 20.11.2012

Trade name: Hilti HIT-HY 150 MAX

- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Additional information:

(Contd. of page 1)



Hilti HIT

- Information pertaining to particular dangers for man and environment: A
R 43 May cause sensitisation by skin contact
- Information pertaining to particular dangers for man and environment: B
R 43 May cause sensitisation by skin contact
R 7 May cause fire

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description:
2-Component-foilpack, contains:
Component A: Urethane methacrylate resin, inorganic filler
Component B: Dibenzoyl peroxide, phlegmatized

Mixture of the substances listed below with harmless additions.

Dangerous components:		
CAS: 27813-02-1 EINECS: 248-666-3 Reg.nr.: 01-2119490226-37	methacrylic acid, monoester with propane-1,2-diol ■ Xi R36; ■ Xi R43 ◇ Eye Irrit. 2, H319; Skin Sens. 1, H317	5-10%
CAS: 94-36-0 EINECS: 202-327-6	dibenzoyl peroxide ■ Xi R36; ■ Xi R43; ■ E R3; ■ O R7 ◇ ◇ Org. Perox. B, H241; ◇ Eye Irrit. 2, H319; Skin Sens. 1, H317	5-10%
CAS: 3290-92-4 EINECS: 221-950-4	Trimethylolpropane trimethacrylate ■ N R51/53 ◇ Aquatic Chronic 2, H411	<2,5%
CAS: 10043-35-3 EINECS: 233-139-2	boric acid ■ T Repr. Cat. 2 R60-61 ◇ Repr. 1B, H360FD	<0,5%

Dangerous components A:		
CAS: 27813-02-1 EINECS: 248-666-3 Reg.nr.: 01-2119490226-37	methacrylic acid, monoester with propane-1,2-diol ■ Xi R36; ■ Xi R43 ◇ Eye Irrit. 2, H319; Skin Sens. 1, H317	
CAS: 3290-92-4 EINECS: 221-950-4	Trimethylolpropane trimethacrylate ■ N R51/53 ◇ Aquatic Chronic 2, H411	
CAS: 10043-35-3 EINECS: 233-139-2	boric acid ■ T Repr. Cat. 2 R60-61 ◇ Repr. 1B, H360FD	

Dangerous components B:		
CAS: 94-36-0 EINECS: 202-327-6	dibenzoyl peroxide ■ Xi R36; ■ Xi R43; ■ E R3; ■ O R7 ◇ ◇ Org. Perox. B, H241; ◇ Eye Irrit. 2, H319; Skin Sens. 1, H317	

SVHC		
10043-35-3	boric acid	

Additional information For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- Description of first aid measures
- General information Instantly remove any clothing soiled by the product.
- After inhalation Take affected persons into the open air and position comfortably
- After skin contact Instantly wash with water and soap and rinse thoroughly. If skin irritation persist, call a physician.
- After eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- After swallowing Seek immediate medical advice.
- Information for doctor
- Most important symptoms and effects, both acute and delayed No further relevant information available.

(Contd. on page 3)

Trade name: Hilti HIT-HY 150 MAX

(Contd. of page 2)

Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** Water spray, carbon dioxide (CO₂), carbon dioxide blanket, foam, or dry powder.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards arising from the substance or mixture**
 - Can be released in case of fire
 - Carbon monoxide (CO)
 - Nitrogen oxides (NO_x)
 - Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters**
- **Protective equipment:** In the event of fire, wear self contained breathing apparatus

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter the ground/soil.
- **Methods and material for containment and cleaning up:**
 - Collect mechanically.
 - Dispose of the material collected according to regulations.
- **Reference to other sections**
 - See Section 7 for information on safe handling
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for information on disposal.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** Check the expiry date: see imprint on manifold (month/year). Do not use expired mortar!
- **Information about protection against explosions and fires:**
 - No special measures required.
 - Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Keep in a cool, dry and dark place; +5 °C to +25 °C.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Store in a cool place.
- **Storage class**
 - As per VCI (1991) storage classification concept.
 - 11
- **Specific end use(s)** Adhesive mortar for anchor fastenings in concrete

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
 - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
 - The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
 - The usual precautionary measures should be adhered to general rules for handling chemicals.
 - Avoid contact with the eyes and skin.
 - Do not eat, drink or smoke while working.
 - Keep away from foodstuffs, beverages and food.
 - Be sure to clean skin thoroughly after work and before breaks.
- **Breathing equipment:** Not required.
- **Protection of hands:**
 - Protective gloves
 - EN 374 / EN 388
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.

(Contd. on page 4)

Trade name: Hilti HIT-HY 150 MAX

(Contd. of page 3)

- **Material of gloves**
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Not suitable are gloves made of the following materials:**
Leather gloves
Strong gloves
- **Eye protection:**
Tightly sealed safety glasses.
EN 166 / EN 170
- **Body protection:** Protective work clothing.

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	pasty
Colour:	Grey
Odour:	Ester-like
Odour threshold:	Not determined

· pH-value:	Component A: not applicable Component B: ~ 6
-------------	---

· Change in condition	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined

· Flash point:	Component A: > 109 °C (DIN 53213) Component B: not applicable
-----------------------	--

· Ignition temperature:

Decomposition temperature:	Component A: not relevant Component B: SADT 65°C UN test H4
----------------------------	--

· Self-inflammability:	Product is not selfigniting.
-------------------------------	------------------------------

· Danger of explosion:	Product is not explosive.
-------------------------------	---------------------------

· Critical values for explosion:

Lower:	Not determined
Upper:	Not determined

· Vapour pressure at 20°C:	0,01 kPa
-----------------------------------	----------

· Density	Component A: 1,7 g/cm ³ (DIN 51757) Component B: 2,0 g/cm ³ (DIN 51757)
------------------	--

· Relative density	Not determined
---------------------------	----------------

· Vapour density	Not determined
-------------------------	----------------

· Evaporation rate	Not determined
---------------------------	----------------

· Solubility in / Miscibility with	
Water:	Unsoluble

· Partition coefficient (n-octanol/water):	Not determined
---	----------------

· Viscosity:

dynamic at 20°C:	~ 70 Pa.s (DIN 53788)
kinematic at 20°C:	> 20 s (DIN 53211/4)

· Solvent content:

Organic solvents:	0 %
Water:	Component B: ~ 20%

· Other information	No further relevant information available.
----------------------------	--

10 Stability and reactivity

· Reactivity

· Chemical stability

· **Thermal decomposition / conditions to be avoided:** No decomposition if used and stored according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

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Safety data sheet

according to 1907/2006/EC, Article 31 / ISO 11014

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Trade name: Hilti HIT-HY 150 MAX

(Contd. of page 4)

· Hazardous decomposition products: No dangerous decomposition products known

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

10043-35-3 boric acid

Oral LD50 2660 mg/kg (rango)

· Primary irritant effect:

· on the skin: No irritant effect.

· on the eye: No irritant effect.

· Sensitization: Sensitization possible by skin contact.

· Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

· Toxicity

· Aquatic toxicity:

3290-92-4 Trimethylolpropane trimethacrylate

EC50/96h 4,43 mg/l (Algae)

>9,22 mg/l (magna daphnia)

2 mg/l (fisch)

· Persistence and degradability No further relevant information available.

· Behaviour in environmental systems:

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Additional ecological information:

· According to recipe contains the following heavy metals and compounds according to EC guideline NO. 76/464 EC: None

· General notes: The product does not contain organically bounded halogens (AOX-free).

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

· Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

· Recommendation

Hand over to disposers of hazardous waste.

Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations.

· European waste catalogue

20 00 00 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS

20 01 00 separately collected fractions (except 15 01)

20 01 27* paint, inks, adhesives and resins containing dangerous substances

08 00 00 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS

08 04 00 wastes from MFSU of adhesives and sealants (including waterproofing products)

08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances

· Uncleaned packagings:

· Recommendation:

Empty packs: May be disposed via the local Green Dot collecting system (REPA) or EAK waste material code 150102 (plastic packaging materials)

Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

· UN-Number

· ADR, ADN, IMDG, IATA

Void

· UN proper shipping name

· ADR, ADN, IMDG, IATA

Void

(Contd. on page 6)

SE

Printing date 20.11.2012

Version number 6

Revision: 20.11.2012

Trade name: Hilti HIT-HY 150 MAX

(Contd. of page 5)

· Transport hazard class(es)	
· ADR, ADN, IMDG, IATA	
· Class	Void
· Packing group	
· ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications. available oxygen content < 1 %
· HS-Code:	3214 10 10: Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
 - National regulations
 - PR-Nr. pending
 - Information about limitation of use: Employment restrictions concerning young persons must be observed.
 - Other regulations, limitations and prohibitive regulations
 - Substances of very high concern (SVHC) according to REACH, Article 57
- | | |
|------------|------------|
| 10043-35-3 | boric acid |
|------------|------------|
- Chemical safety assessment: not required.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

- H241 Heating may cause a fire or explosion.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H360FD May damage fertility. May damage the unborn child.
H411 Toxic to aquatic life with long lasting effects.
- R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.
R36 Irritating to eyes.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R60 May impair fertility.
R61 May cause harm to the unborn child.
R7 May cause fire.

· Department issuing data specification sheet:

Hilti Entwicklungsgesellschaft mbH
Hiltistrasse 6
D-86916 Kaufering
Tel.: +49 8191 906310
Fax: +49 8191 90176310
e-mail: anchor.hse@hilti.com

· Contact: Mechthild Krauter

· * Data compared to the previous version altered.

SE



Not classified as hazardous according to criteria of Australian Safety and Compensation Council

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** **Hilti Spray** **Item-no 308976 / Item-no 314648**
- **Container size**
Item-no 308976 66 ml / 2.2 fl.oz
Item-no 314648 300 ml / 10.1 fl.oz
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation** Lubricating oil
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hilti (Aust.) Pty. Ltd.
Level 5, 1G Homebush Bay Drive
Rhodes N.S.W. 2138
Australia
Phone: 131 292
Fax: 1300 135 042
Email: serviceaustralia@hilti.com
- **Informing department:**
df-hse@hilti.com
see section 16
- **Emergency telephone number:**
Schweizerisches Toxikologisches Informationszentrum - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)
- Hilti (Aust.) Pty. Ltd.
Phone: 131 292
Fax: 1300 135 042

2 Hazards identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
- **Information concerning particular hazards for human and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.
- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Combination of readily biodegradable esters made from glycerine and corrosion inhibitors.
- **Dangerous components:** Void
- **SVHC** None
- **Additional information** For the wording of the listed risk phrases refer to section 16.

AU EN

(Contd. on page 2)

Trade name: Hilti Spray Item-no 308976 / Item-no 314648

(Contd. of page 1)

4 First aid measures

- **Description of first aid measures**
- **General information** No special measures required.
- **After inhalation** Take affected persons into the open air and position comfortably
- **After skin contact** Instantly wash with water and soap and rinse thoroughly. If skin irritation persist, call a physician.
- **After eye contact** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **After swallowing**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** Water spray, carbon dioxide (CO₂), carbon dioxide blanket, foam, or dry powder.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Carbon dioxide (CO₂)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters**
- **Protective equipment:** In the event of fire, wear self contained breathing apparatus

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Particular danger of slipping on leaked/spilled product.
- **Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
- **Reference to other sections**
No dangerous materials are released.
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Avoid the formation of oil haze.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Keep packaging securely closed and dry, store at 5 °C to 25 °C.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** None.
- **Storage class**
As per VCI (1991) storage classification concept.

10

(Contd. on page 3)

— AU EN

Trade name: Hilti Spray Item-no 308976 / Item-no 314648

(Contd. of page 2)

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Do not eat, drink or smoke while working.
Do not inhale gases / fumes / aerosols.
Wash hands during breaks and at the end of the work.
- **Breathing equipment:**
Not required.
Avoid breathing mist.
- **Protection of hands:**



Protective gloves

Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.

- **Material of gloves**
Butyl rubber, BR
Natural rubber, NR
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Safety glasses

- **Body protection:** Not required.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Fluid
Colour:	colourless-yellowish
Odour:	Mineral-oil-like
Odour threshold:	Not determined.
- **pH-value:** Slightly acidic
- **Change in condition**

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
- **Flash point:** Not applicable
- **Inflammability (solid, gaseous)** Not determined
- **Ignition temperature:**
- **Decomposition temperature:** > 200 °C
- **Self-inflammability:** Product is not selfigniting.
- **Danger of explosion:** Product is not explosive.

(Contd. on page 4)

AU EN

Trade name: Hilti Spray Item-no 308976 / Item-no 314648

(Contd. of page 3)

· Critical values for explosion:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	< 1 mbar
· Density at 20 °C	0.93 g/cm ³ (DIN 51757)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
dynamic:	Not determined.
kinematic at 20 °C:	22 mm ² /s (DIN EN ISO 3104)
· Other information	No further relevant information available.

10 Stability and reactivity

- Reactivity
- Chemical stability
- Thermal decomposition / conditions to be avoided:
Temperatures > 200 °C
No decomposition if used and stored according to specifications.
- Possibility of hazardous reactions Reacts with acids, alkalis and oxidizing agents
- Conditions to avoid No further relevant information available.
- Incompatible materials: Do not expose to strong oxidizers.
- Hazardous decomposition products: none, if stored and handled correctly.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
- LD/LC50 values that are relevant for classification: LD50(oral) > 2000 mg/kg (rat)
- Primary irritant effect:
 - on the skin: No irritant effect.
 - on the eye: No irritant effect.
- Sensitization: No sensitizing effect known.
- Additional toxicological information:
The product is not subject to classification according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version.
- Toxicokinetics, metabolism and distribution None
- Acute effects (acute toxicity, irritation and corrosivity) None
- Sensitisation None
- Repeated dose toxicity None
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction) None

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability Easily biodegradable
- Behaviour in environmental systems:
- Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- Additional ecological information:
- According to recipe contains the following heavy metals and compounds according to EC guideline NO. 76/464 EC:
None

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AU EN



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Trade name: Hilti Spray Item-no 308976 / Item-no 314648

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- **General notes:**
The product does not contain organically bounded halogens (AOX-free).
Do not allow product to reach ground water, water bodies or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Delivery of waste oil only to officially authorized collectors.
Hand over to disposers of hazardous waste.
- **European waste catalogue**
13 02 07* readily biodegradable engine, gear and lubricating oils
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|--|--|
| • UN-Number | Void |
| • ADG, ADN, IMDG, IATA | Void |
| • UN proper shipping name | Void |
| • ADG, ADN, IMDG, IATA | Void |
| • Transport hazard class(es) | |
| • ADG, ADN, IMDG, IATA | Void |
| • Class | Void |
| • Packing group | Void |
| • ADG, IMDG, IATA | Void |
| • Environmental hazards: | |
| • Marine pollutant: | No |
| • Special precautions for user | Not applicable. |
| • Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| • Transport/Additional information: | Not dangerous according to the above specifications. |
| • UN "Model Regulation": | - |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Australian Inventory of Chemical Substances**
All ingredients are listed.
- **Standard for the Uniform Scheduling of Drugs and Poisons**
None of the ingredients is listed.
- **National regulations**
- **Other regulations, limitations and prohibitive regulations**
- **Substances of very high concern (SVHC) according to REACH, Article 57** None
- **Chemical safety assessment:** not required.

AUEN

(Contd. on page 6)

**Trade name: Hilti Spray Item-no 308976 / Item-no 314648**

(Contd. of page 5)

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing data specification sheet:

Hilti Entwicklungsgesellschaft mbH

Hiltistrasse 6

D-86916 Kaufering

Tel.: +49 8191 906310

Fax: +49 8191 90176310

df-hse@hilti.com

Contact: Mechthild Krauter**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

AU EN

1 Identification

- **Product identifier**
- **Trade name:** **Hilti HIT-RE 500**
- **Container size:** 330 ml, 500 ml
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use** Building and construction work
- **Application of the substance / the mixture** Adhesive mortar for rebar and anchor fastenings in solid concrete
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Hilti, Inc.
5400 South 122nd East Ave.
US-Tulsa, OK 74146
Phone: (800) 879-8000
Fax: (800) 879-7000
Español: (800) 879-5000
- **Information department:**
anchor.hse@hilti.com
see section 16
- **Emergency telephone number:**
Chem-Trec
Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
Tel.: 703 527 3887 (Other countries)
Hilti, Inc.
Phone: (800) 879-8000
Fax: (800) 879-7000
Español: (800) 879-5000

2 Hazard(s) identification

- **Classification of the substance or mixture**
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
Skin Sens. 1 H317 May cause an allergic skin reaction.

• **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

• **Hazard pictograms**• **Signal word** Danger• **Hazard-determining components of labeling:**

m-Xylylenediamine
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin
(number average molecular weight = 700)
Reaction product: bisphenol-F epichlorhydrin resin, MW ≤ 700

• **Hazard statements**

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

• **Precautionary statements**

P260 Do not breathe vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.

(Contd. on page 2)

US EN

Trade name: Hilti HIT-RE 500

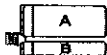
(Contd. of page 1)

- Classification system
- NFPA ratings (scale 0-4)



Health = 3
Fire = 1
Reactivity = 0

- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Additional information:



Hilti HIT

- Information pertaining to particular dangers for man and environment: A
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H317 May cause an allergic skin reaction.
 - H411 Toxic to aquatic life with long lasting effects.
- Information pertaining to particular dangers for man and environment: B
 - H314 Causes severe skin burns and eye damage.
 - H317 May cause an allergic skin reaction.
 - H412 Harmful to aquatic life with long lasting effects.

3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description:
 - 2-component-foilpack, contains:
 - Component A: Epoxy resin, Reactive diluent, inorganic filler
 - Component B: Amine hardener, inorganic filler

Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

Dangerous components A:

25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)	25-50%
28064-14-4	Reaction product: bisphenol-F epichlorhydrin resin, MW ≤ 700	10-25%
16096-31-4	1,6-bis(2,3-epoxypropoxy)hexane	10-25%
30499-70-8	Trimethylolpropane, (chloromethyl)oxirane polymer	2.5-10%
14808-60-7	Quartz (SiO ₂)	25-50%

Dangerous components B:

1477-55-0	m-Xylylenediamine	30-40%
14808-60-7	Quartz (SiO ₂)	15-30%
1344-28-1	aluminium oxide	5-10%

- Additional information For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

- Description of first aid measures
- General information Immediately remove any clothing soiled by the product.
- After inhalation
 - Take affected persons into fresh air and keep quiet.
 - Seek medical treatment in case of complaints.
- After skin contact Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)

Trade name: Hilti HIT-RE 500

(Contd. of page 2)

- **After eye contact**
Seek immediate medical advice.
Rinse opened eye for several minutes under running water. Then consult a doctor.
Protect unharmed eye.
Seek medical treatment.
- **After swallowing**
Do not induce vomiting; immediately call for medical help.
Rinse out mouth and then drink plenty of water.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** Allergic reactions
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Wear protective clothing.
Ensure adequate ventilation
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Do not allow to penetrate the ground/soil.
- **Methods and material for containment and cleaning up:**
Pick up mechanically.
Clean the affected area carefully; suitable cleaners are:
organic solvent
Dispose contaminated material as waste according to item 13.
- **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
The usual precautionary measures for handling chemicals should be followed.
Take note of emission threshold.
Use only in well ventilated areas.
Check the expiry date: see imprint on manifold (month/year). Do not use expired mortar!
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Keep in a cool, dry and dark place; 41 °F / 5 °C to 77 °F / 25 °C.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Protect from heat and direct sunlight.
- **Storage class** As per VCI (1991) storage classification concept.

(Contd. on page 4)

US EN

Trade name: **Hilti HIT-RE 500**· **Specific end use(s)** Adhesive mortar for rebar and anchor fastenings in solid concrete

(Contd. of page 3)

8 Exposure controls/personal protection· **Control parameters**· **Components with limit values that require monitoring at the workplace:**

The product has a pasty consistency. Exposure limit values for respirable dusts are not relevant for this product.

1477-55-0 m-XylylenediamineREL Short-term value: C 0.1 mg/m³
SkinTLV Short-term value: C 0.1 mg/m³
Skin· **Additional information:** The lists that were valid during the creation were used as basis.· **Exposure controls**· **Personal protective equipment**· **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Do not eat, drink, smoke or sniff while working.

Clean skin thoroughly immediately after handling the product.

Ensure that washing facilities are available at the work place.

Keep away from foodstuffs, beverages and feed.

Use skin protection cream for skin protection.

Do not carry product impregnated cleaning cloths in trouser pockets.

· **Breathing equipment:**

Not necessary if room is well-ventilated.

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Recommended filter device for short term use:** Filter AX· **Protection of hands:**

Protective gloves.

Only use chemical-protective gloves with CE-labeling of category III.

EN 374

Avoid direct contact with the chemical/ the product/ the preparation by organizational measures.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.4 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **As protection from splashes gloves made of the following materials are suitable:** Nitrile rubber, NBR· **Not suitable are gloves made of the following materials:**

Natural rubber, NR

Leather gloves

Strong gloves

· **Eye protection:**

Tightly sealed goggles.

Gauze goggles

Face protection

(Contd. on page 5)

— US EN —

Trade name: Hilti HIT-RE 500

EN 166 / EN 170

Body protection:



Protective work clothing.

(Contd. of page 4)

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form: Pasty
Color: Component A: grey
Component B: red

Odor:

Mixture: red
Amine-like

Odour threshold:

Not determined

pH-value:

Component A: 7
Component B: 11,5
Mixture: 11,5

Change in condition

Melting point/Melting range:

Not determined.

Boiling point/Boiling range:

> 200 °C (> 392 °F)

Flash point:

> 100 °C (> 212 °F) (DIN EN ISO 1523)

Flammability (solid, gaseous)

Not determined

Ignition temperature:

Not determined

Decomposition temperature:

Not determined

Auto igniting:

Product is not selfigniting.

Danger of explosion:

Product does not present an explosion hazard.

Explosion limits:

Lower:

Not determined

Upper:

Not determined

Vapor pressure at 20 °C (68 °F):

0.04 hPa

Density:

Component A: 1.5 g/cm³ (DIN 51757)
Component B: 1.4 g/cm³ (DIN 51757)

Not determined

Relative density

Not determined

Vapour density

Not determined

Evaporation rate

Not determined

Solubility in / Miscibility with

Water:

Insoluble

Partition coefficient (n-octanol/water):

Not determined

Viscosity:

dynamic at 20 °C (68 °F):

50 Pas (DIN 53019)

kinematic at 20 °C (68 °F):

>20 s (ISO 2431)

Solvent content:

Organic solvents:

0 %

Water:

0 %

Other information

No further relevant information available.

US EN

(Contd. on page 6)

Trade name: Hilti HIT-RE 500

(Contd. of page 5)

10 Stability and reactivity

- Reactivity
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

· LD/LC50 values that are relevant for classification:

1477-55-0 m-Xylenediamine

Oral	LD50	1040 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)
Inhalative	LC50/4h	2.4 mg/l (rat)

- Primary irritant effect:
 - on the skin: Strong caustic effect on skin and mucous membranes.
 - on the eye: Strong caustic effect.
Strong irritant with the danger of severe eye injury.
- Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- Carcinogenic categories

· NTP (National Toxicology Program)

14808-60-7 Quartz (SiO₂)

K

12 Ecological information

- Toxicity

· Aquatic toxicity:

25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin
(number average molecular weight = 700)

EC50/48h	9.4 mg/l (Algae)
	1.7 mg/l (magna daphnia)
EC50/96h	1.2 mg/l (fish)

28064-14-4 Reaction product: bisphenol-F epichlorhydrin resin, MW ≤ 700

EC50/48h	9.4 mg/l (Algae)
	1.7 mg/l (magna daphnia)
EC50/96h	1.5 mg/l (fish)

16096-31-4 1,6-bis(2,3-epoxypropoxy)hexane

EC50/48h	23.1 mg/l (Algae)
	39 mg/l (magna daphnia)
EC50/96h	17.1 mg/l (fish)

1477-55-0 m-Xylenediamine

EC50/48h	12 mg/l (Algae)
----------	-----------------

(Contd. on page 7)

US EN

Trade name: **Hilti HIT-RE 500**

(Contd. of page 6)

EC50/96h	15.2 mg/l (magna daphnia) 75 mg/l (fish)
<ul style="list-style-type: none"> • Persistence and degradability No further relevant information available. • Behavior in environmental systems: • Bioaccumulative potential No further relevant information available. • Mobility in soil No further relevant information available. • Ecotoxicological effects: • Remark: Toxic for fish • Additional ecological information: • According to the formulation contains the following heavy metals and compounds from the EU guideline NO. 2006/11/EC: None • General notes: Avoid transfer into the environment. The product contains materials that are harmful to the environment. Also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water. • Results of PBT and vPvB assessment • PBT: Not applicable. • vPvB: Not applicable. • Other adverse effects No further relevant information available. 	

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.
Full or only partially emptied cartridges must be disposed of as special waste in accordance with official regulations.
- **European waste catalogue:**

08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27*	paint, inks, adhesives and resins containing dangerous substances
- **Uncleaned packagings:**
- **Recommendation:**
Disposal must be made according to official regulations.
Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

• UN-Number	3259 / PG II
• ADR, IMDG, IATA	3077 / PG III
• UN proper shipping name	AMINES, SOLID, CORROSIVE, N.O.S. (m-Xylylenediamine)
• ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol A/F Epoxy Resin)
• IMDG, IATA	AMINES, SOLID, CORROSIVE, N.O.S. (m-Xylylenediamine)
	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol A/F Epoxy Resin)
• Transport hazard class(es)	
• ADR	8 Corrosive substances
• Class	9 Miscellaneous dangerous substances and articles.
• IMDG, IATA	
• Class	8
	9

(Contd. on page 8)

US EN

Trade name: Hilti HIT-RE 500

(Contd. of page 7)

· Label	8 9
· Packing group	
· ADR, IMDG, IATA	3259 / PG II 3077 / PG III
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· EMS Number:	F-A, S-B
· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· IMDG	
· Remarks:	Limited Quantity (LQ) 1 kg 5 kg
· IATA	
· Remarks:	Packing Instruction No. UN 3259: 859 UN 3077: 956 All packed in one
· UN "Model Regulation":	II
· HS-Code:	3214 10 10: Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

· Section 355 (Extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

1344-28-1 aluminium oxide

· TSCA (Toxic Substances Control Act):

14808-60-7 Quartz (SiO₂)

25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin
(number average molecular weight = 700)

28064-14-4 Reaction product: bisphenol-F epichlorhydrin resin, MW ≤ 700

1477-55-0 m-Xylylenediamine

16096-31-4 1,6-bis(2,3-epoxypropoxy)hexane

30499-70-8 Trimethylolpropane, (chloromethyl)oxirane polymer

67762-90-7 FUMED SILICA (SILOXANES AND SILICONES, DI-ME, REACTION PRODUCTS WITH SILICA)

65997-16-2 Cement, alumina, chemicals

1344-28-1 aluminium oxide

· Proposition 65:

· Chemicals known to cause cancer:

14808-60-7 Quartz (SiO₂)

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

14808-60-7 Quartz (SiO₂)

A2

1344-28-1 aluminium oxide

A4

108-46-3 resorcinol

A4

(Contd. on page 9)

Trade name: Hilti HIT-RE 500

(Contd. of page 8)

· **MAK (German Maximum Workplace Concentration)**

14808-60-7	Quartz (SiO ₂)	1
1344-28-1	aluminium oxide	2

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

14808-60-7	Quartz (SiO ₂)	
------------	----------------------------	--

· **National regulations**

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.· **Chemical safety assessment:** not required.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases** H318 Causes serious eye damage.· **Department issuing SDS:**

Hilti Entwicklungsgesellschaft mbH

Hiltistrasse 6

D-86916 Kaufering

Tel.: +49 8191 906310

Fax: +49 8191 90176310

e-mail: anchor.hse@hilti.com

· **Contact:** Mechthild Krauter· **Date of preparation / last revision** 05/18/2015 / 7· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

· *** Data compared to the previous version altered.**

US EN

CALL US! OKC 800-365-8888 | I. AWTON 866-767-8531

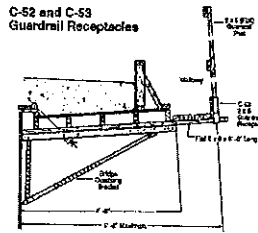
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[Catalog](#) / [BRIDGE ACCESSORIES](#) / [C52 - 2 X 4 GUARD RAIL RECEPTACLE](#)

C-52 and C-53 Guardrail Receptacles



ITEM# D60320

C52 - 2 X 4 GUARD RAIL RECEPTACLE

QTY:

ADD TO QUOTE

PRODUCT DESCRIPTION

The C52 and C53 Guardrail Receptacles are designed to facilitate placement of guardrail posts on the exterior formwork. The C52 receptacle bolts securely to the C54 Bridge Overhang Bracket Extender and accepts 2x4 guardrail posts. The C53 receptacle attaches to the flat 2x8 which is nailed to the channels of the overhang bracket and accepts 2x6 guardrail posts.

DETAILS

[Spec Sheet](#) [View the Spec Sheet for this product](#)
[Manufacturer](#) [DAYTON SUPERIOR](#)
[Warranty](#)
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RECENTLY VIEWED



SDS

Safety Data Sheet Hotsy



Tubmate General Purpose Liquid Finished Product

SDS Number: H905144

Revision Date: September 15, 2014

Page 1 of 5

1

PRODUCT AND COMPANY IDENTIFICATION

Manufacturer

Kärcher North America, Inc.
325 S Price Road
Chandler, AZ 85224

Phone: 360-833-1600
Fax: 360-833-9200
Email: info@karcherna.com
Web: www.karcher.com

Product Name: Tubmate General Purpose Liquid Finished Product
Revision Date: September 15, 2014
Version: 43-76F
SDS Number: H905144

Emergency Information: INFOTRAC 1-800-535-5053 International 1-352-323-3500

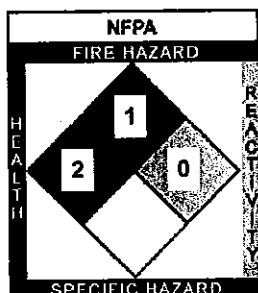
2

HAZARDS IDENTIFICATION

Route of Entry: Eyes, Skin, Inhalation:
Target Organs: Eyes; Skin; Respiratory system;
Inhalation: Can cause irritation and inflammation of the respiratory tract.
Skin Contact: Irritating to skin; may cause burns, blisters and itching.
Eye Contact: Irritating to eyes, eye damage may occur.
Ingestion: Irritating to intestinal tract; may cause burns, vomiting, stomach pain, and disorientation.

NFPA:
HMIS III:

Health = 2, Fire = 1, Reactivity = 0
H2/F1/PH0



HMIS III		
HEALTH	2	2
FLAMMABILITY	1	1
PHYSICAL HAZARDS	0	0
PERSONAL PROTECTION B Safety Glasses, Gloves		

PERSONAL PROTECTION INDEX											
A	Goggles	G	Goggles + Gloves + Footwear	B	Goggles + Gloves	H	Goggles + Gloves + Footwear + Respiratory	C	Goggles + Gloves + Footwear	I	Goggles + Gloves + Footwear + Respiratory
D	Goggles + Gloves + Footwear	J	Goggles + Gloves + Footwear + Respiratory	E	Goggles + Gloves + Footwear	K	Goggles + Gloves + Footwear + Respiratory	F	Goggles + Gloves + Footwear + Respiratory	X	Consult your supervisor or S.D.S. for "SPECIAL" handling directions
A	Safety Glasses	n	None	O	Eye Shield & Face Protection	P	Gloves	Q	Boots	r	Respirator
t	Full Face Respirator	U	None	W	Chemical & Heat Resistant	Y	Full Face Respirator	Z	Adhesive Hood or Mask	S	Additional Information

SDS

Safety Data Sheet

Hotsy



Tubmate General Purpose Liquid Finished Product

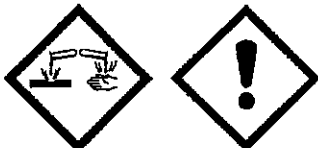
SDS Number: H905144

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Page 2 of 5

GHS Signal Word:
DANGER

GHS Hazard Pictograms:



GHS Classifications:

Health, Acute toxicity, 4 Oral
Health, Skin corrosion/irritation, 1 C
Health, Serious Eye Damage/Eye Irritation, 1

GHS Phrases:

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

GHS Precautionary Statements:

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P264 - Wash thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P363 - Wash contaminated clothing before reuse.

3

COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas #	Percentage	Chemical Name
-------	------------	---------------

6834-92-0	<12%	Sodium metasilicate
-----------	------	---------------------

OSHA Regulatory Status:

This SDS contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

SDS

Safety Data Sheet Hotsy



Tubmate General Purpose Liquid Finished Product

SDS Number: H905144

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4 FIRST AID MEASURES

- Inhalation:** Remove from exposure and get fresh air. Keep warm and at rest. Get medical attention immediately if artificial respiration is required.
- Skin Contact:** Remove contaminated clothing, jewelry and shoes immediately. Flush affected area with large amounts of water, then use soap or mild detergent and large amounts of water for 15-20 minutes to cleanse area. If skin is severely irritated or burned, get medical attention immediately.
- Eye Contact:** Immediately flush eyes with large amounts of water occasionally lifting upper and lower lids for at least 15 minutes. Get immediate medical attention.
- Ingestion:** Rinse mouth with water. **DO NOT INDUCE VOMITING** unless instructed to by medical personnel. If vomiting occurs keep head lower than hips to help prevent aspiration. If person is unconscious, do not induce vomiting; turn their head to the side. Never make an unconscious person vomit or drink fluids. Get medical attention.

5 FIRE FIGHTING MEASURES

- Flash Point:** 100 ° C / 212 ° F
- Flash Point Method:** Closed Cup

Wear self-contained breathing apparatus and other protective clothing. Use any standard agent - choose the one most appropriate for type of surrounding fire.

6 ACCIDENTAL RELEASE MEASURES

Isolate area; keep unnecessary personnel away. Do not discharge into drains. Ventilate closed spaces before entering. Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. Wear appropriate protective equipment and clothing during cleanup. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

7 HANDLING AND STORAGE

- Handling Precautions:** Do not get in eyes, on skin, or on clothing. Do not breathe vapor. Keep container closed. Promptly clean up spills. Wash thoroughly after handling.
- Storage Requirements:** Store out of reach of children; keep container closed; store in a cool, well-ventilated place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering Controls:** Normal room ventilation is satisfactory for limited use.
- Personal Protective Equip:** HMIS PP, B | Safety glasses, Gloves

No OSHA PEL established for listed chemicals

Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

SDS

Safety Data Sheet

Hotsy



Tubmate General Purpose Liquid Finished Product

SDS Number: H905144

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9

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear colorless

Physical State: Liquid

Spec Grav./Density: 9.45 lb/gal

pH: 13.1

Odor:

Solubility:

Detergent

Soluble

10

STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions.

Conditions to Avoid: None Known

Materials to Avoid: Strong oxidizing or acidic materials

Hazardous Decomposition: Exposure to fire may liberate carbon dioxide, carbon monoxide, organic acids, and other unidentified thermal decomposition products from this product or its packaging.

Hazardous Polymerization: Will not occur.

11

TOXICOLOGICAL INFORMATION

Toxicity Data:

Sodium Metasilicate 6834-92-0

Oral (LD 50): 1153 mg/kg - Rat

Inhalation (LC 50): Not listed on RTECS

Skin irritation: Severe

Eye irritation: Severe

Sensitization: Not considered an occupational sensitizer

12

ECOLOGICAL INFORMATION

On the basis of available information, this material is not expected to produce any significant environmental effects when recommended use instructions are followed.

13

DISPOSAL CONSIDERATIONS

Recommendation: consultation with the disposal agency and the relevant authorities; cleansing agent is water.

14

TRANSPORT INFORMATION

UN1760 Corrosive liquids, n.o.s., (Sodium metasilicate), 8, III Ship in accordance with 49 CFR parts 100-185.

SDS

Safety Data Sheet

Hotsy



Tubmate General Purpose Liquid Finished Product

SDS Number: H905144

Revision Date: September 15, 2014

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REGULATORY INFORMATION

COMPONENT / (CAS/PERC) / CODES

*Sodium metasilicate (6834920 <12%) TSCA, WHMIS

REGULATORY KEY DESCRIPTIONS

All components are listed on TSCA

WHMIS = Workplace Haz Mat Info Sys Canada

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OTHER INFORMATION

This document is prepared in accordance with 29 CFR 1910.1200. The purpose of this section is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees.

All information appearing herein is based upon data obtained from the raw material manufacturer and/or recognized technical sources. While the information above is believed to be true and accurate, the author makes no representations as to its accuracy or sufficiency. Conditions of use are beyond the manufacturer's control; therefore the users are responsible to verify this data under their own particular conditions, applications and regulations to determine if the product is suitable for their particular purposes. The users assume all risks of product use, handling, disposal, reliance upon, publication or use of the information contained herein. This information applies only to the product designated above and does not necessarily apply to its use in combination with other materials, products, chemical compounds, structures or processes.

Prepared by: EHS Manager

1 – IDENTIFICATION

PRODUCT IDENTIFIER:

Product Name Si-Prime Impregnating Silane Sealer

OTHER MEANS OF IDENTIFICATION

SDS # KLAAS-002

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

Recommended Use Impregnating silane primer used to waterproof and protect concrete and masonry substrates.

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Manufacturer/Distributor Klaas Coatings (North America) LLC
PO Box 25122
Dallas, TX 75225-1122

EMERGENCY TELEPHONE NUMBER

Company Phone Number (866) 317-3633
Emergency Telephone (24 hr) (866) 317-3633

2 – HAZARDS IDENTIFICATION

Appearance Off-white liquid **Physical State** Liquid **Odor** Very slight

CLASSIFICATION

This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

UNKNOWN ACUTE TOXICITY

6.5% of the mixture consists of ingredient(s) of unknown toxicity

3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Methanol	67-56-1	Proprietary
Ethyl Alcohol	64-17-5	Proprietary

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4 – FIRST AID MEASURES

FIRST AID MEASURES

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash the skin immediately with soap and water. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. If symptoms persist, call a physician.
Ingestion	Drink large amounts of water. If symptoms persist, call a physician.

MOST IMPORTANT SYMPTOMS AND EFFECTS**Symptoms**

May cause skin and eye irritation. May cause irritation to the mucous membranes and upper respiratory tract.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**Notes to Physician**

Treat symptomatically.

5 – FIRE FIGHTING MEASURES**SUITABLE EXTINGUISHING MEDIA**

Carbon dioxide (CO₂). Extinguishing powder. Water spray (fog).

Large Fire

Water spray or fog. Alcohol resistant foam.

Unsuitable Extinguishing Media

Not determined.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

Non-flammable solution.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6 – ACCIDENTAL RELEASE MEASURES**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES****Personal Precautions**

Use personal protective equipment as required. Spills may be slippery.

Environmental Precautions

Do not flush into surface water or sanitary sewer system.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up

Take up with sand or other non-combustible absorbent material and place into containers for later disposal. For spills in excess of allowable limits (RQ) notify the National Response Center (800) 424-8802; refer to 40 CFR 302 for detailed instructions concerning reporting requirements. Dispose of in accordance with federal, state and local regulations.

7 – HANDLING AND STORAGE**PRECAUTIONS FOR SAFE HANDLING****Advice on Safe Handling**

Handle in accordance with good industrial hygiene and safety practice.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from frost. Do not transport or store below 0°C/32°F.

Incompatible Materials

None known based on information supplied.

8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl Alcohol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³
Methanol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m ³ (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³

APPROPRIATE ENGINEERING CONTROLS

Engineering Controls

Use with adequate ventilation. If spraying, or in other operations that create an aerosol mist, local exhaust ventilation designed to capture mists and sprays, such as a paint spray booth, is advised. Eyewash stations. Showers.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection

Use safety glasses with unperforated side shields during transfer and application. During spray application, chemical goggles are advised.

Skin and Body Protection

Recommend any standard or disposable coveralls. Wear protective butyl rubber gloves.

Respiratory Protection

If spraying, or in other operations that create an aerosol mist, respiratory protection is recommended. A NIOSH approved air purifying respirator equipped with universal multi-contaminant, multi-gas/vapor cartridges and, at least, P-99 solid/aerosol particulate filters is recommended if overexposure to dust, mists or vapors could occur.

General Hygiene Considerations

Avoid contact with eyes and skin. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

9 – PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Odor	Very slight
Appearance	Off-white liquid	Odor Threshold	Not determined
Color	Off-white		

PROPERTY	VALUES	REMARKS METHOD
pH	~8.5	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	100 °C / 212 °F	
Flash Point	Not applicable	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	n/a-liquid	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	Not determined	
Water Solubility	Completely soluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	

Auto-ignition Temperature	Not determined
Decomposition Temperature	Not determined
Kinematic Viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive Properties	Not determined
Oxidizing Properties	Not determined
VOC Content (%)	Not determined
Density	~8.3 lbs/gal

10 – STABILITY AND REACTIVITY

REACTIVITY

Not reactive under normal conditions.

CHEMICAL STABILITY

Stable under recommended storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS

None under normal processing.

CONDITIONS TO AVOID

Contact with incompatible materials. Access to unauthorized persons.

INCOMPATIBLE MATERIALS

None known based on information supplied.

HAZARDOUS DECOMPOSITION PRODUCTS

None known based on information supplied.

11 – TOXICOLOGY INFORMATION

INFORMATION ON LIKELY ROUTES OF EXPOSURE

Product Information

Eye Contact	Avoid contact with eyes.
Skin Contact	Avoid contact with skin.
Inhalation	Avoid breathing vapors or mists.
Ingestion	Do not taste or swallow.

COMPONENT INFORMATION

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl Alcohol 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7 mg/L (Rat) 4h
Methanol 67-56-1	= 5628 mg/kg (Rat)	= 15800 mg/kg (Rabbit)	= 83.2 mg/L (Rat) 4h = 64000 ppm (Rat) 4h

INFORMATION ON PHYSICAL, CHEMICAL AND TOXICOLOGICAL EFFECTS

Symptoms	Please see section 4 of this SDS for symptoms.
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DELAYED AND IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE

Carcinogenicity	Ethanol has been shown to be carcinogenic in long-term studies only when consumed as an alcoholic beverage.
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Chemical Name	ACGIH	IARC	NTP	OSHA
Ethyl Alcohol 64-17-5	A3	Group 1	Known	X

Legend
ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive Toxicity

May damage fertility or the unborn child.

NUMERICAL MEASURES OF TOXICITY

Not determined

Unknown Acute Toxicity

6.5% of the mixture consists of ingredient(s) of unknown toxicity.

12 – ECOLOGICAL INFORMATION
ECOTOXICITY

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethyl Alcohol 64-17-5		12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through		9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static
Methanol 67-56-1		28200: 96 h Pimephales promelas mg/L LC50 flow- through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow- through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow- through		

PERSISTENCE/DEGRADABILITY

Silicone content: biologically not degradable.

BIOACCUMULATION

Not determined.

MOBILITY

Chemical Name	Partition Coefficient
Methanol 67-56-1	-0.77
Ethyl Alcohol 64-17-5	-0.32

OTHER ADVERSE EFFECTS

Not determined

13 – DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

Disposal of Wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

US EPA WASTE NUMBER

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methanol 67-56-1		Included in waste streams: F039		U154

CALIFORNIA HAZARDOUS WASTE STATUS

Chemical Name	California Hazardous Waste Status
Methanol 67-56-1	Toxic Ignitable
Ethyl Alcohol 64-17-5	Toxic Ignitable

14 – TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15 – REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

TSCA Listed
DSL Listed

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

US FEDERAL REGULATIONS

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methanol 67-56-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 311/312 HAZARD CATEGORIES

This material does not contain any SARA 311-312 chemicals above the minimum levels.

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Methanol	67-56-1	Proprietary	1.0

U.S. STATE REGULATIONS

CALIFORNIA PROPOSITION 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Methanol 67-56-1	Developmental
Ethyl Alcohol 64-17-5	Carcinogen Developmental

U.S. STATE RIGHT-TO-KNOW REGULATIONS

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Methanol 67-56-1	X	X	X
Ethyl Alcohol 64-17-5	X	X	X

16 - OTHER INFORMATION

NFPA	Health Hazards	Flammability	Instability	Special Hazards
HMIS	Not determined	Not determined	Not determined	Not determined
	Health Hazards	Flammability	Physical Hazards	Personal Protection
	1	0	0	Not determined
Issue Date:	29-May-2008			
Revision Date:	17-Apr-2015			
Revision Note:	New Format			

DISCLAIMER

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

KLAAS-003 – Si-Rex03 Silicone Resin Emulsion Paint (SREP)

Revision Date 07-May-2015

1 – IDENTIFICATION

PRODUCT IDENTIFIER:

Product Name Si-Rex03 Silicone Resin Emulsion Paint (SREP)

OTHER MEANS OF IDENTIFICATION

SDS # KLAAS-003

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

Recommended Use Viscous silicone resin emulsion protective color coating for concrete and masonry facades.

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Distributor Klaas Coatings (North America) LLC
PO Box 25122
Dallas, TX 75225-1122

EMERGENCY TELEPHONE NUMBER

Company Phone Number (866) 317-3633
Emergency Telephone (24 hr) (866) 317-3633

2 – HAZARDS IDENTIFICATION

Appearance Pigmented viscous liquid Physical State Liquid Odor Slight ammonia

CLASSIFICATION

Germ cell mutagenicity	Category 1B
Reproductive toxicity	Category 1B

SIGNAL WORD

Danger.

HAZARD STATEMENT

May cause genetic defects.
May damage fertility or the unborn child.

SYMBOL PHRASES

Health hazard.

PRECAUTIONARY STATEMENTS - PREVENTION

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.

PRECAUTIONARY STATEMENTS - RESPONSE

If exposed or concerned: Get medical advice/attention.

PRECAUTIONARY STATEMENTS - STORAGE

Store locked up.

PRECAUTIONARY STATEMENTS - DISPOSAL

Dispose of contents/container to an approved waste disposal plant.

OTHER HAZARDS

Harmful to aquatic life with long lasting effects.

UNKNOWN ACUTE TOXICITY

21.06% of the mixture consists of ingredient(s) of unknown toxicity.

3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Titanium dioxide	13463-67-7	Proprietary
Calcium Carbonate	471-34-1	Proprietary
Ethyl Alcohol	64-17-5	Proprietary
Talc	14807-96-6	Proprietary
Methyl-2-benzimidazole carbamate	10605-21-7	Proprietary

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4 – FIRST AID MEASURES

FIRST AID MEASURES

General Advice	If exposed or concerned: Get medical advice/attention.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash off immediately with soap and plenty of water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician immediately.
Ingestion	Dilute with milk or water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

MOST IMPORTANT SYMPTOMS AND EFFECTS

Symptoms	May cause skin and eye irritation. May cause irritation to the mucous membranes and upper respiratory tract. May cause gastrointestinal disturbance.
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INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Notes to Physician	Treat symptomatically.
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5 – FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA

Foam. Carbon dioxide (CO₂). Water spray (fog).

Unsuitable Extinguishing Media Not determined.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

Whilst no flash point, small quantities of flammable vapors may accumulate in the headspace of the container once storage exceeds 12 months.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers exposed to fire with water.

6 – ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions	Use personal protective equipment as required.
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Environmental Precautions

Do not flush into surface water or sanitary sewer system.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES
Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up

Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

7 – HANDLING AND STORAGE
PRECAUTIONS FOR SAFE HANDLING
Advice on Safe Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protection recommended in Section 8. Avoid creating dust. Avoid breathing dust or fume. Avoid contact with skin and eyes. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP
Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

Incompatible Materials

None known based on information supplied.

8 – EXPOSURE CONTROLS/PERSONAL PROTECTION
EXPOSURE GUIDELINES

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Titanium dioxide 13463-67-7	TWA: 10 mg/m ³	TWA: 15 mg/m ³ total dust (vacated) TWA: 10 mg/m ³ total dust	IDLH: 5000 mg/m ³
Calcium Carbonate 471-34-1	-	-	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust
Ethyl Alcohol 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³
Talc 14807-96-6	TWA: 2 mg/m ³ particulate matter containing no asbestos and <1% crystalline silica, respirable fraction	(vacated) TWA: 2 mg/m ³ respirable dust <1% Crystalline silica, containing no Asbestos TWA: 20 mppcf if 1% Quartz or more, use Quartz limit	IDLH: 1000 mg/m ³ TWA: 2 mg/m ³ containing no Asbestos and <1% Quartz respirable dust
Amorphous silica (glass) 7631-86-9	-	(vacated) TWA: 6 mg/m ³ <1% Crystalline silica TWA: 20 mppcf : (80)/(% SiO ₂) mg/m ³ TWA	IDLH: 3000 mg/m ³ TWA: 6 mg/m ³
Kaolin 1332-58-7	TWA: 2 mg/m ³ particulate matter containing no asbestos and <1% crystalline silica, respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction (vacated) TWA: 10 mg/m ³ total dust (vacated) TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ total dust TWA: 5 mg/m ³ respirable dust

APPROPRIATE ENGINEERING CONTROLS
Engineering Controls

Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection	Use safety glasses with unperforated side shields during transfer and application. During spray application, chemical goggles are advised.
Skin and Body Protection	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory Protection	When sanding or abrading the dried film, use a NIOSH approved dust/mist respirator for dust that may be released. When spraying, use a NIOSH approved dust/mist filter respirator. When spraying in enclosed areas, use a NIOSH approved cartridge respirator.
General Hygiene Considerations	Avoid contact with eyes and skin. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

9 – PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Odor	Slight ammonia
Appearance	Pigmented viscous liquid	Odor Threshold	Not determined
Color	Color varies with specific pigmentation		
PROPERTY	VALUES	REMARKS METHOD	
pH	8-10		
Melting Point/Freezing Point	Not determined		
Boiling Point/Boiling Range	100 °C / 212 °F		
Flash Point	Not applicable		
Evaporation Rate	Not determined		
Flammability (Solid, Gas)	n/a-liquid		
Upper Flammability Limits	Not determined		
Lower Flammability Limit	Not determined		
Vapor Pressure	n/a-water based		
Vapor Density	n/a		
Specific Gravity	1.29-1.36		
Water Solubility	Soluble in water		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Auto-ignition Temperature	Not determined		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		
VOC Content (%)	175 g/L / 1.5 lb/gal		
Density	10.60 - 11.85 lb. per gal +/- 2.0%		

10 – STABILITY AND REACTIVITY

REACTIVITY

Not reactive under normal conditions.

CHEMICAL STABILITY

Stable under recommended storage conditions.

POSSIBILITY OF HAZARDOUS REACTIONS

None under normal processing.

CONDITIONS TO AVOID

Contact with incompatible materials. Access to unauthorized persons.

INCOMPATIBLE MATERIALS

None known based on information supplied.

HAZARDOUS DECOMPOSITION PRODUCTS

None known based on information supplied.

11 – TOXICOLOGY INFORMATION
INFORMATION ON LIKELY ROUTES OF EXPOSURE
Product Information

Eye Contact	Avoid contact with eyes.
Skin Contact	Avoid contact with skin.
Inhalation	Avoid breathing vapors or mists.
Ingestion	Do not taste or swallow.

COMPONENT INFORMATION

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
Calcium Carbonate 471-34-1	= 6450 mg/kg (Rat)	-	-
Ethyl Alcohol 64-17-5	= 7060 mg/kg (Rat)	-	= 124.7mg/L (Rat) 4h
1,2 Propanediol 57-55-6	= 20000 mg/kg (Rat)	= 20800 mg/kg (Rabbit)	-
Texanol ester alcohol 25265-77-4	= 3200 mg/kg (Rat)	> 15200 mg/kg (Rat)	-
Sodium Hexametaphosphate 10124-56-8	= 6200 mg/kg (Rat)	-	-
Amorphous silica (glass) 7631-86-9	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 2.2mg/L (Rat) 1h
Methyl-2-benzimidazole carbamate 10605-21-7	= 6400 mg/kg (Rat)	= 2g/kg (Rat)=8500mg/kg (Rabbit)	-

INFORMATION ON PHYSICAL, CHEMICAL AND TOXICOLOGICAL EFFECTS

Symptoms Please see section 4 of this SDS for symptoms.

DELAYED AND IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity Titanium dioxide is a possible carcinogen when it appears as a respirable dust. Ethanol has been shown to be carcinogenic in long-term studies only when consumed as an alcoholic beverage.

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium dioxide 13463-67-7		Group 2B		X
Ethyl Alcohol 64-17-5	A3	Group 1	Known	X
Talc 14807-96-6		Group 3		

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 IARC components are "not classifiable as human carcinogens"

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive Toxicity

May damage fertility or the unborn child.

NUMERICAL MEASURES OF TOXICITY

Not determined

Unknown Acute Toxicity

21.06% of the mixture consists of ingredient(s) of unknown toxicity.

12 – ECOLOGICAL INFORMATION

ECOTOXICITY

Harmful to aquatic life with long lasting effects.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethyl Alcohol 64-17-5		12.0 - 16.0: 96 h Oncorhynchus mykiss mg/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through		9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static
1,2 Propanediol 57-55-6	9000: 96 h Pseudokirchneriella subcapitata mg/L EC50	51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mg/L LC50 static 51400: 96 h Pimephales promelas mg/L LG50 static 710: 96 h Pimephales promelas mg/L LC50		10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50 Static
Talc 14807-96-6		100: 96 h Brachydanio rerio g/L LC50 semi- static		
Texanol ester alcohol 25265-77-4	18.4: 72 h Pseudokirchneriella subcapitata mg/L EC50	30: 96 h Pimephales promelas mg/L LC50		95: 96 h Daphnia magna mg/L LC50
Amorphous silica (glass) 7631-86-9	440: 72 h Pseudokirchneriella subcapitata mg/L EC50	000: 96 h Brachydanio rerio mg/L LC50 static		7600: 48 h Ceriodaphnia dubia mg/L EC50

PERSISTENCE/DEGRADABILITY

Not determined.

BIOACCUMULATION

Not determined.

MOBILITY

Chemical Name	Partition Coefficient
Ethyl Alcohol 64-17-5	-0.32

OTHER ADVERSE EFFECTS

Not determined



SAFETY DATA SHEET

KLAAS-003 – SI-Rex03 Silicone Resin Emulsion Paint (SREP)

Revision Date 07-May-2015

13 – DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

Disposal of Wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

US EPA WASTE NUMBER

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl-2-benzimidazole carbamate 10605-21-7	U372	Included in waste streams: K156, K158		U372

CALIFORNIA HAZARDOUS WASTE STATUS

Chemical Name	California Hazardous Waste Status
Ethyl Alcohol 64-17-5	Toxic Ignitable

14 – TRANSPORT INFORMATION

NOTE

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

Not regulated

IATA

Not regulated

IMDG

Marine Pollutant

This material may meet the definition of a marine pollutant

15 – REGULATORY INFORMATION

INTERNATIONAL INVENTORIES

Not determined.

US FEDERAL REGULATIONS

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methyl-2-benzimidazole carbamate 10605-21-7	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ

SARA 311/312 HAZARD CATEGORIES

Acute Health Hazard

Yes

Chronic Health Hazard

Yes

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

U.S. STATE REGULATIONS

CALIFORNIA PROPOSITION 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Hazardous Waste Status
Titanium dioxide - 13463-67-7	Carcinogen
Ethyl Alcohol - 64-17-5	Carcinogen Developmental

U.S. STATE RIGHT-TO-KNOW REGULATIONS

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Titanium dioxide 13463-67-7	X	X	X
Ethyl Alcohol 64-17-5	X	X	X
1,2 Propanediol 57-55-6	X		X
Talc 14807-96-6	X	X	X
Diatomaceous Earth 68855-54-9			X
Sodium Hexametaphosphate 10124-56-8		X	X
Amorphous silica (glass) 7631-86-9	X	X	X
Methyl-2-benzimidazole carbamate 10605-21-7	X		
Kaolin 1332-58-7	X	X	X

16 – OTHER INFORMATION

NFPA	Health Hazards	Flammability	Instability	Special Hazards
	Not determined	Not determined	Not determined	Not determined
HMIS	Health Hazards	Flammability	Physical Hazards	Personal Protection
	Not determined	Not determined	Not determined	Not determined

Issue Date: 30-Sep-2007
Revision Date: 07-May-2015
Revision Note: New Format

DISCLAIMER

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



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Revision Date: 04/23/2015

Date of Issue: 03/01/2014

Supersedes Date: 03/01/2014

Version: 2.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: Lafarge Portland Cement (cement)

Synonyms: Cement, Portland Cement, Hydraulic Cement, Oil Well Cement, Trinity® White Cement, Antique White Cement, Portland Limestone Cement, Portland Cement Type I, IA, IE, II, I/II, IIA, II L.A., III, IIIA, IV, IVA, V, VA, 10, 20, 30, 40, 50, GU, GUL, MS, MH, HE, LH, HS, OWH, OWG Cement, OW Class G HSR, InfiniCem™

Note: This SDS covers many types of Portland cement. Individual composition of hazardous constituents will vary between types of Portland cement.

Intended Use of the Product

Cement is used as a binder in concrete and mortars that are widely used in construction. Cement is distributed in bags, totes and bulk shipment.

Name, Address, and Telephone of the Responsible Party

Company

Lafarge North America Inc.

8700 West Bryn Mawr Avenue, Suite 300

Chicago, IL 60631

Information: 773-372-1000 (9am to 5pm CST)

email: SDSinfo@Lafarge.com

Website: www.lafarge-na.com

Emergency Telephone Number

Emergency number : 1-800-451-8346 (3E Hotline)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Skin Corr. 1C H314

Eye Dam. 1 H318

Skin Sens. 1 H317

Carc. 1A H350

STOT SE 3 H335

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



GHS05



GHS07



GHS08

Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H314 - Causes severe skin burns and eye damage

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H350 - May cause cancer (Inhalation)

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260 - Do not breathe dust.

P264 - Wash hands, forearms, and exposed areas thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves, protective clothing, face protection, eye protection.

P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353+P352 - IF ON SKIN (or hair): Remove/Take off immediately all

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contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/physician.
P321 - Specific treatment (see Section 4).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container according to local, regional, state, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards Not Contributing to the Classification: Inhalation can cause serious, potentially irreversible lung/respiratory tract tissue damage due to chemical (caustic) burns, including third degree burns. Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) or sensitivity to hexavalent chromium can be aggravated by exposure.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Cement, portland, chemicals	(CAS No) 65997-15-1	100	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335
Limestone	(CAS No) 1317-65-3	0 - 15	Not classified
Gypsum (Ca(SO ₄).2H ₂ O)	(CAS No) 13397-24-5	2 - 10	Not classified
Calcium oxide	(CAS No) 1305-78-8	0 - 5	Skin Corr. 1C, H314 Eye Dam. 1, H318 STOT SE 3, H335
Magnesium oxide (MgO)	(CAS No) 1309-48-4	0 - 4	Not classified
Quartz	(CAS No) 14808-60-7	0 - 0.2	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. If you feel unwell, seek medical advice.

Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Rinse mouth. Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: Corrosive to eyes, respiratory system and skin. Exposure may produce an allergic reaction.

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Inhalation: The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures. Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. Silicosis increases the risk of tuberculosis. Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica. Corrosive to the respiratory tract.

Skin Contact: Cement may cause dry skin, discomfort, irritation, severe burns, and dermatitis. Exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort. Cement is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of cement including alkalinity and abrasion. Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in cement. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with cement. Others may develop allergic dermatitis after years of repeated contact with cement.

Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet cement can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.

Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Wet cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not get water inside containers. Do not apply water stream directly at source of leak.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: None.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

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For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Place spilled material into a container. Avoid actions that cause the cement to become airborne. Avoid inhalation of cement and contact with skin. Wear appropriate protective equipment as described in Section 8. Scrape wet cement and place in container. Allow material to dry or solidify before disposal. Do not wash cement down sewage and drainage systems or into bodies of water (e.g. streams).

Methods for Cleaning Up: Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Keep bulk and bagged cement dry until used. Stack bagged material in a secure manner to prevent falling. Bagged cement is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate control measures. Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains cement. Cement can buildup or adhere to the walls of a confined space. The cement can release, collapse or fall unexpectedly. Properly ground all pneumatic conveyance systems. The potential exists for static build-up and static discharge when moving cement powders through a plastic, non-conductive, or non-grounded pneumatic conveyance system. The static discharge may result in damage to equipment and injury to workers. Cutting, crushing or grinding hardened cement, concrete or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible Materials: Wet cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

Storage Temperature: Unlimited

Specific End Use(s) Cement is used as a binder in concrete and mortars that are widely used in construction. Cement is distributed in bags, totes and bulk shipment.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Limestone (1317-65-3)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³
Mexico	OEL STEL (mg/m ³)	20 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³
British Columbia	OEL TWA (mg/m ³)	3 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (total mass)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (total mass)
Québec	VEMP (mg/m ³)	10 mg/m ³ (Limestone, containing no Asbestos and <1% Crystalline silica)

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Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	10 mg/m ³
Cement, portland, chemicals (65997-15-1)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³
Mexico	OEL STEL (mg/m ³)	20 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA IDLH	US IDLH (mg/m ³)	5000 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL TWA (mg/m ³)	3 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Manitoba	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nova Scotia	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (total mass)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (total mass)
Ontario	OEL TWA (mg/m ³)	1 mg/m ³ (containing no Asbestos and <1% Crystalline silica)
Prince Edward Island	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Québec	VEMP (mg/m ³)	5 mg/m ³ (containing no Asbestos and <1% Crystalline silica)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	10 mg/m ³
Gypsum (Ca(SO₄).2H₂O) (13397-24-5)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³
British Columbia	OEL TWA (mg/m ³)	3 mg/m ³
Manitoba	OEL TWA (mg/m ³)	10 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (total mass)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (total mass)
Ontario	OEL TWA (mg/m ³)	10 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	5 mg/m ³ (containing no Asbestos and <1% Crystalline silica)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	10 mg/m ³

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Calcium oxide (1305-78-8)		
Mexico	OEL TWA (mg/m ³)	2 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	25 mg/m ³
Alberta	OEL TWA (mg/m ³)	2 mg/m ³
British Columbia	OEL TWA (mg/m ³)	2 mg/m ³
Manitoba	OEL TWA (mg/m ³)	2 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	2 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	2 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	2 mg/m ³
Nunavut	OEL STEL (mg/m ³)	4 mg/m ³
Nunavut	OEL TWA (mg/m ³)	2 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	4 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	2 mg/m ³
Ontario	OEL TWA (mg/m ³)	2 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	2 mg/m ³
Québec	VEMP (mg/m ³)	2 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	4 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	2 mg/m ³
Yukon	OEL STEL (mg/m ³)	4 mg/m ³
Yukon	OEL TWA (mg/m ³)	2 mg/m ³
Magnesium oxide (MgO) (1309-48-4)		
Mexico	OEL TWA (mg/m ³)	10 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³
USA IDLH	US IDLH (mg/m ³)	750 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	10 mg/m ³
British Columbia	OEL TWA (mg/m ³)	3 mg/m ³
Manitoba	OEL TWA (mg/m ³)	10 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Ontario	OEL TWA (mg/m ³)	10 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	10 mg/m ³
Yukon	OEL TWA (mg/m ³)	10 mg/m ³
Quartz (14808-60-7)		
Mexico	OEL TWA (mg/m ³)	0.1 mg/m ³
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³
USA OSHA	OSHA PEL (STEL) (mg/m ³)	250 mppcf/%SiO ₂ +5, 10mg/m ³ /%SiO ₂ +2
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³

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USA IDLH	US IDLH (mg/m ³)	50 mg/m ³
Alberta	OEL TWA (mg/m ³)	0.025 mg/m ³
British Columbia	OEL TWA (mg/m ³)	0.025 mg/m ³
Manitoba	OEL TWA (mg/m ³)	0.025 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	0.1 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.025 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	0.025 mg/m ³
Nunavut	OEL TWA (mg/m ³)	0.3 mg/m ³ (total mass)
Northwest Territories	OEL TWA (mg/m ³)	0.3 mg/m ³ (total mass)
Ontario	OEL TWA (mg/m ³)	0.10 mg/m ³ (designated substances regulation)
Prince Edward Island	OEL TWA (mg/m ³)	0.025 mg/m ³
Québec	VEMP (mg/m ³)	0.1 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	0.05 mg/m ³
Yukon	OEL TWA (mg/m ³)	300 particle/mL

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices.

Personal Protective Equipment: Gloves. In case of dust production: protective goggles. Dust formation: dust mask.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear gloves impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves.

Eye Protection: Wear ANSI approved glasses or safety goggles when handling dust to prevent contact with eyes. Wearing contact lenses when using Limestone and Dolomite, under dusty conditions, is not recommended.

Skin and Body Protection: Wear gloves, boot covers and protective clothing impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves.

Respiratory Protection: Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.

Other Information: When using, do not eat, drink or smoke

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Gray, off white or white powder
Odor	: Odorless
Odor Threshold	: Not available
pH	: 12 - 13 (in water)
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: > 1000 °C (> 1832 °F)
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available

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Relative Vapor Density at 20 °C	: Not available
Relative Density/Specific Gravity	: 3.15
Solubility	: Water: 0.1 - 1 % (slightly soluble)
Partition coefficient: n-octanol/water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Wet cement is alkaline and is incompatible with acids, ammonium salts and aluminum metal. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Extremely high or low temperatures. Incompatible materials.

Incompatible Materials: Acids. Ammonium salts. Aluminum. Hydrofluoric acid. Water. Oxidizers.

Hazardous Decomposition Products: None known.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes severe skin burns and eye damage. (pH: 12 - 13 (in water))

Serious Eye Damage/Irritation: Causes serious eye damage. (pH: 12 - 13 (in water))

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: May cause cancer (Inhalation).

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: The three types of silicosis include: 1) Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD); 2) Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years); 3) Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels. Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis. Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures. Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. Silicosis increases the risk of tuberculosis. Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica. Corrosive to the respiratory tract.

Symptoms/Injuries After Skin Contact: Cement may cause dry skin, discomfort, irritation, severe burns, and dermatitis. Exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort. Cement is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of cement including alkalinity and abrasion. Allergic contact dermatitis is caused by sensitization to hexavalent chromium

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(chromate) present in cement. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with cement. Others may develop allergic dermatitis after years of repeated contact with cement.

Symptoms/Injuries After Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet cement can cause moderate eye irritation, chemical burns and blindness. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Calcium oxide (1305-78-8)	
ATE CLP (oral)	500.000 mg/kg
Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
Quartz (14808-60-7)	
IARC Group	1
National Toxicity Program (NTP) Status	Known Human Carcinogens.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified

Calcium oxide (1305-78-8)	
LC50 Fish 1	1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

Persistence and Degradability Not available

Bioaccumulative Potential

Calcium oxide (1305-78-8)	
BCF fish 1	(no bioaccumulation)

Mobility in Soil Not available

Other Adverse Effects Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, state, national, provincial, territorial and international regulations.

Additional Information: If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT Not regulated for transport

14.2 In Accordance with IMDG Not regulated for transport

14.3 In Accordance with IATA Not regulated for transport

14.4 In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION



US Federal Regulations

Lafarge Portland Cement (cement)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
Limestone (1317-65-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Cement, portland, chemicals (65997-15-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Calcium oxide (1305-78-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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Magnesium oxide (MgO) (1309-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
US State Regulations	
Quartz (14808-60-7)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
Limestone (1317-65-3)	
RTK - U.S. - Massachusetts - Right To Know List	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
Cement, portland, chemicals (65997-15-1)	
RTK - U.S. - Massachusetts - Right To Know List	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
Gypsum (Ca(SO₄), 2H₂O) (13397-24-5)	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
Calcium oxide (1305-78-8)	
RTK - U.S. - Massachusetts - Right To Know List	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
Magnesium oxide (MgO) (1309-48-4)	
RTK - U.S. - Massachusetts - Right To Know List	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
Quartz (14808-60-7)	
RTK - U.S. - Massachusetts - Right To Know List	
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List	
RTK - U.S. - Pennsylvania - RTK (Right to Know) List	
Canadian Regulations	
Lafarge Portland Cement (cement)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class E - Corrosive Material
 	
Limestone (1317-65-3)	
Listed on Non-Domestic Substances List (NDSL)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
Cement, portland, chemicals (65997-15-1)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class E - Corrosive Material
Calcium oxide (1305-78-8)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class E - Corrosive Material

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Magnesium oxide (MgO) (1309-48-4)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
Quartz (14808-60-7)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 04/23/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1C	Skin corrosion/irritation Category 1C
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure

Party Responsible for the Preparation of This Document

Lafarge North America Inc.

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An electronic version of this SDS is available at: www.lafarge-na.com under the Sustainability and Products sections. Please direct any inquiries regarding the content of this SDS to SDSinfo@Lafarge.com.

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North America GHS US 2012 & WHMIS

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: MKT FASTENING LIQUID ROC 300 POUCH

1.2. Intended Use of the Product

Use of the substance/mixture: Bonding metal rods to concrete or masonry base materials.

1.3. Name, Address, and Telephone of the Responsible Party

Company

MKT Fastening, LLC

#1 Gunnebo Drive

Lonoke, AR 72086

T: 501-676-2222

Inside Continental US: 800-424-9300

1.4. Emergency Telephone Number

Emergency Number

: 800-424-9300

CHEMTREC -- TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Flam. Liq. 3 H226

Skin Irrit. 2 H315

Eye Dam. 1 H318

Skin Sens. 1 H317

Carc. 1A H350

Repr. 2 H361

STOT SE 3 H335

STOT RE 1 H372

Asp. Tox. 1 H304

Aquatic Acute 2 H401

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



GHS02



GHS05



GHS07



GHS08

Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H226 - Flammable liquid and vapor.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H335 - May cause respiratory irritation.

H350 - May cause cancer.

H361 - Suspected of damaging fertility or the unborn child.

H372 - Causes damage to organs through prolonged or repeated exposure.

H401 - Toxic to aquatic life.

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.

P240 - Ground/bond container and receiving equipment.

P241 - Use explosion-proof electrical, ventilating, and lighting equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

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P260 - Do not breathe vapors, mist, or spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P331 - Do NOT induce vomiting.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.
P403+P233+P235 - Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P308+P313 - If exposed or concerned: Get medical advice/attention. Immediately call a poison center or doctor.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Resin:			
1,3-Benzenedicarboxylic acid, polymer with 2,5-furandione, 2,2'-oxybis[ethanol] and 1,2-propanediol	(CAS No) 36346-15-3	33.5	Not classified
Styrene	(CAS No) 100-42-5	18.1	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:vapour), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 1B, H350 Repr. 2, H361 STOT SE 3, H335 STOT RE 1, H372 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Hardener:			

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Calcium oxide	(CAS No) 1305-78-8	43.38 - 46.21	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402
Dibenzoyl peroxide	(CAS No) 94-36-0	1.4	Org. Perox. B, H241 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400
1,2-Benzenedicarboxylic acid, dicyclohexyl ester	(CAS No) 84-61-7	1.4	Skin Sens. 1, H317 Repr. 2, H361 Aquatic Chronic 3, H412
Quartz	(CAS No) 14808-60-7	0.235 - 0.945	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 60 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

First-aid Measures After Ingestion: Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Causes skin irritation. May cause respiratory irritation. Causes serious eye damage. Skin sensitization. May cause cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

Chronic Symptoms: May cause cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Water may be ineffective but water should be used to keep fire-exposed container cool.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Flammable liquid and vapor.

Explosion Hazard: May form flammable or explosive vapor-air mixture.

Reactivity: Reacts violently with strong oxidizers. Increased risk of fire or explosion.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Use special care to avoid static electric charges. Do not breathe vapor, mist or spray. Do not handle until all safety precautions have been read and understood.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Eliminate ignition sources.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Use only non-sparking tools.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Do not get in eyes, on skin, or on clothing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do NOT breathe (dust, vapor, mist, gas).

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

Storage Conditions: Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place.

Incompatible Products: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

Bonding metal rods to concrete or masonry base materials.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Styrene (100-42-5)		
USA ACGIH	ACGIH TWA (ppm)	20 ppm
USA ACGIH	ACGIH STEL (ppm)	40 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	215 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	50 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	425 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	100 ppm
USA IDLH	US IDLH (ppm)	700 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	200 ppm

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Dibenzoyl peroxide (94-36-0)		
USA ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA IDLH	US IDLH (mg/m ³)	1500 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
Calcium oxide (1305-78-8)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	25 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
Quartz (14808-60-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (respirable fraction)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	50 mg/m ³ (respirable dust)
USA OSHA	OSHA PEL (STEL) (mg/m ³)	250 mppcf/%SiO ₂ +5, 10mg/m ³ /%SiO ₂ +2

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Face shield.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing.

Hand Protection

: Wear protective gloves.

Eye Protection

: Chemical goggles or face shield.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State

: Liquid

Appearance

: Part A: Light yellow viscous liquid
Part B: White Powder

Odor

: Styrene Odor

Odor Threshold

: No data available

pH

: No data available

Evaporation Rate

: No data available

Melting Point

: No data available

Freezing Point

: No data available

Boiling Point

: No data available

Flash Point

: No data available

Auto-ignition Temperature

: No data available

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Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Solubility	: No data available
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.
- 10.2. Chemical Stability:** Flammable liquid and vapor. May form flammable or explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers.
- 10.6. Hazardous Decomposition Products:** Carbon oxides (CO, CO₂). Oxides of calcium.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Styrene (100-42-5)	
LD50 Oral Rat	1000 mg/kg
LC50 Inhalation Rat	11.7 mg/l/4h
Dibenzoyl peroxide (94-36-0)	
LD50 Oral Rat	7710 mg/kg
1,2-Benzenedicarboxylic acid, dicyclohexyl ester (84-61-7)	
LD50 Oral Rat	30 ml/kg
Calcium oxide (1305-78-8)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	> 2500 mg/kg
Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye damage.

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer.

Styrene (100-42-5)	
IARC group	2B
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Dibenzoyl peroxide (94-36-0)	
IARC group	3
Quartz (14808-60-7)	
IARC group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs through prolonged or repeated exposure.

Aspiration Hazard: May be fatal if swallowed and enters airways.

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Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

Chronic Symptoms: May cause cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Toxic to aquatic life.

Styrene (100-42-5)	
LC50 Fish 1	3.24 - 4.99 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	3.3 - 7.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	19.03 - 33.53 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
NOEC (acute)	44 mg/kg (Exposure time: 14 Days - Species: Eisenia foetida [soil dry weight])
Dibenzoyl peroxide (94-36-0)	
EC50 Daphnia 1	0.07 mg/l
Calcium oxide (1305-78-8)	
LC50 Fish 1	1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

12.2. Persistence and Degradability

MKT FASTENING LIQUID ROC 300 POUCH	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

MKT FASTENING LIQUID ROC 300 POUCH	
Bioaccumulative Potential	Not established.
Styrene (100-42-5)	
BCF fish 1	13.5
Log Pow	2.95
Calcium oxide (1305-78-8)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : RESIN SOLUTION flammable (Styrene)
Hazard Class : 3
Identification Number : UN1866
Label Codes : 3
Packing Group : III
ERG Number : 128

14.2. In Accordance with IMDG

Proper Shipping Name : RESIN SOLUTION (Styrene)
Hazard Class : 3
Identification Number : UN1866
Packing Group : III
Label Codes : 3



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EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E

14.3. In Accordance with IATA

Proper Shipping Name : RESIN SOLUTION (Styrene)
Packing Group : III
Identification Number : UN1866
Hazard Class : 3
Label Codes : 3
ERG Code (IATA) : 3L

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

MKT FASTENING LIQUID ROC 300 POUCH	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
1,3-Benzenedicarboxylic acid, polymer with 2,5-furandione, 2,2'-oxybis[ethanol] and 1,2-propanediol (36346-15-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Styrene (100-42-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %
Dibenzoyl peroxide (94-36-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %
1,2-Benzenedicarboxylic acid, dicyclohexyl ester (84-61-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Calcium oxide (1305-78-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

15.2 US State Regulations

Quartz (14808-60-7)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
Styrene (100-42-5)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Dibenzoyl peroxide (94-36-0)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List	
U.S. - Pennsylvania - RTK (Right to Know) List	
Calcium oxide (1305-78-8)	
U.S. - Massachusetts - Right To Know List	
U.S. - New Jersey - Right to Know Hazardous Substance List	
U.S. - Pennsylvania - RTK (Right to Know) List	

MKT FASTENING LIQUID ROC 300 POUCH

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Quartz (14808-60-7)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date

: 09/08/2015

Other Information

: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Org. Perox. B	Organic Peroxide Category B
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
H241	Heating may cause a fire or explosion
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)

MRC Polymers Inc. Material Safety Data Sheet**1. Emergency Contact Phone Number**

(773) 619-5652

2. Product Identification

Product Name: Emarex™ Polyamide Resin

Product Series: (Nylon 6): - 300, 300GF, 300GB, 300GFM, 305, 308, 300M

(Nylon 6.6): - 400, 400GF, 400GFM, 400M, 405, 405GF, 405M,
400PTFE, 406, 408

Ingredients	Typical Levels, %
Poly (hexamethylene adipamide)	55-99
Fiberglass/minerals/modifiers	<43
Non-regulated lubricants/stabilizers	<2

The resin in specifically designated colors may contain commercially available pigments (no heavy metals), generally at levels less than 1 percent, but sometimes at levels greater than one-percent carbon black.

This document is prepared pursuant to OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not hazardous to this OSHA standard may be listed. Where proprietary ingredient shows, the identity of this substance may be made available as provided in 29 CFR 1910.1200 (1).

3. Physical Data

Melting Point: 210 –265 C
Solubility in water: Insoluble
Specific Gravity (H₂O=1): 1.07 - 1.38
Percent Volatile: ca 1% (water)
Odor: Slight

4. Fire and Explosion Data

Extinguishing Media: Water fog, carbon dioxide, and dry chemical, foam.

Fire Hazards: Dense black smoke emitted when burned without sufficient oxygen. Toxic fumes are released in fire situations.

Unusual Fire and Explosion Hazards: The product can form an explosive dust/air mixture. Avoid dust formation and control ignition sources; employ grounding, venting and explosion relief provisions in accord with accepted engineering practices in operations capable of generating dust and/or static electricity.

Fire-Fighting Procedures: Wear self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode and full body protection when fighting fires. Water may be used to keep fire-exposed containers cool until fire is out.

5. Reactivity Data

Hazardous Polymerization: Will not occur

Stability: Polymer decomposes above 320° C

Incompatibility: Incompatible or can react with strong acids, oxidizing agents

Hazardous Decomposition: Thermal breakdown products may include a complex mixture of organic and inorganic compounds, which may be flammable, toxic and/ or irritating. The specific materials generated will vary depending on the specific temperature and material type, time of exposure and other environmental factors.

6. Environmental and Disposal Information

Spills and leaks: To prevent falls sweep up spills and place in waste container. Incinerate for energy recovery or dispose of in accordance with all applicable local, state and federal regulations.

Disposal Method: Any disposal practice must be in accordance with local, state, and federal regulations. For unused or uncontaminated material, the preferred disposal options are to send to a licensed recycler, reclaimer, or incinerator. The same disposal options are recommended for used, or contaminated material, but additional evaluation is required.

7. Health Hazard Data

Exposure: This product as shipped (pelletized) should not present a health hazard during normal handling and processing as the glass and/or minerals and/or colorants and/or flame retardants and/or other additives are wetted by the polymer. Fabrications and processing operations should be reviewed to avoid generation of dusts and/or fiber particles, which may be considered hazardous.

Eyes: Solid or dust may cause irritation or cornea injury due to mechanical action.

Skin Contact: Prolonged or repeated exposure is not likely to be hazardous to skin. Cleansing the skin after use is a good practice.

Inhalation: Vapors are unlikely because of physical properties. Glass fibers in this product are non-resposable due to their size.

Ingestion: May cause choking if swallowed. Single dose oral toxicity is believed to be very low. Considered to be physiologically inert. Consult a physician if necessary.

Systemic and Other Effects: Repeated exposure to particles generated by grinding fiberglass-reinforced materials may result in implantation of particles in the skin. Other additives are not anticipated to cause any significant adverse effects. Pigments and dyes are fully encapsulated in the resin and are not expected to cause any hazardous condition when processed according to manufacturing procedures. Results of in vitro mutagenicity studies have been inconclusive.

8. First Aid

Eyes: Remove contact lenses at once. Flush with water, lifting upper and lower lids occasionally. Seek medical attention.

Skin: Contact with molten resin can cause severe thermal burns. Cool rapidly with water and immediately seek medical attention. Do not attempt removal of plastic without medical assistance. Do not use solvent for removal.

Ingestion: No adverse effects anticipated by this route of exposure incidental to proper industrial handling. If a large amount is swallowed, seek medical attention.

Inhaled: If exposed to fumes from overheating or combustion, move to fresh air. Physician's consultation is necessary if symptoms persist.

9. Handling Precautions

Skin: Wear clean, long-sleeved, body-covering clothing. Under dry conditions, cloth gloves should provide adequate protection.

Respiratory: If handling at elevated temperatures and overexposure has been determined, an air-respirator is advised in the absence of proper environmental control.

Ventilation: Provide sufficient mechanical ventilation to maintain exposure level below the level of over exposure.

Eyes: Wear safety glasses in compliance with OSHA regulations.

10. Handling and Storage

Practice reasonable care and cleanliness. Ventilation should be provided at processing machinery to control fumes. There should be proper dust collection systems in place to avoid any dust accumulation.

11. Regulatory Information (Not to be all inclusive)

The information in this document is provided with good intentions and believed to be accurate, but no warranty is expressed or implied. Recipients are advised to confirm in advance of the need that the information is current, applicable, and suitable to their circumstances. Recipients are responsible for ensuring that its activities are in accordance with local, state and federal regulations.

- SARA HAZARD CATEGORY: Not to have met any hazard category
- TOXIC SUBSTANCES CONTROL ACT (TSCA) and Canadian Domestic Substance List (DSL): All ingredients are on the TSCA/DSL inventory or not required to be listed on the TSCA/DSL inventory.
- THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA): This product is not a "hazardous Chemical" as defined by the OSHA hazard communication standard,
- THE CANADIAN WORKPLACE HAZARDOUS Materials information system (WHMIS) classification: Not a "Controlled Product" under WHMIS.

12. Disposal Considerations

Disposal method must be in compliance with all Federal, State and Local laws. Do not dump into any sewers, on the ground or into any body of water. For unused product contact a waste management companies or a licensed recycler.

13. Transport Information

US Department of Transportation (D.O.T) and Canadian TDG, does not regulate this product when shipped domestically by land.

**CURE & SEAL
100E,150E,250E****Safety Data Sheet**According to Regulation 29 CFR 1910.1200
Regulation (EC) No. 1272/2008 (CLP)(GHS)**Section 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Product Form**

Mixture

Trade Name

CURE & SEAL 100E,150E,250E

Product Code

CS100E,CS150E,CS250E

1.2 Relevant identified uses of the substance or mixture and uses advised against**Use**

Industrial. For professional use only.

1.2.2 Uses Advised Against

No additional information available

1.3 Details of the supplier of the safety data sheet**Manufacturer****Supplier**NOX-CRETE MANUFACTURING INC
1444 SOUTH 20TH STREET
OMAHA, NE 68108
Tel: 402-341-2080
Fax: 402-341-9752
E-Mail: corporate@nox-crete.com
Web Site: www.nox-crete.com**1.4 Emergency telephone number****Emergency Number**Chemtrec (800) 424-9300
Chemtrec Outside of U.S. 703-527-3887**Section 2. Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulations 29CFR 1910.1200 , (EC) No. 1272/2008(CLP)(GHS)**

Not Classified

Full text of H phrases see section 16**Adverse physiochemical, human health and environmental effects**

No additional information available

2.2 Label elements

Hazard pictograms

GHS Physical Hazard Pictogram	GHS Health Hazard Pictogram	GHS Environmental Hazard Pictogram
Not Applicable	Not Applicable	Not Applicable

Signal word**Hazard statements**

Low hazard for usual commercial handling by trained personnel

Precautionary statementsP305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing
P332+P313 - If skin irritation occurs: Get medical advice/attention
P337+P313 - If eye irritation persists: Get medical advice/attention

2.3 Other hazards**HMIS** - ratings (scale 0-4) 0 low- 4 high

Health	1
Flammability	1
Reactivity	0
Personal Protection	X

Full text of R, H and EUH phrases: see section 16

Section 3. Composition / information on ingredients**3.1 Substances**

Not applicable

3.2 Mixture

This product contains no hazardous ingredients when evaluated by criteria established in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Section 4. First aid measures**4.1 Description of first aid measures****First-aid measures general**

Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.

First-aid measures after inhalation

If the individual experiences nausea, dizziness, has difficulty in breathing seek a healthcare professional immediately. In all cases of doubt, or when symptoms persist, seek medical advice. Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Center or doctor/physician.

First-aid measures after skin contact

If skin irritation persists, seek medical attention. Remove or take off immediately all contaminated clothing. Rinse skin with water or shower. Wash off immediately with soap and plenty of water.

First-aid measure after eye contact

When contact lenses are worn, remove if possible. In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes while holding eyelids apart. Get medical attention immediately. Rinse mouth. DO NOT induce vomiting. Get medical attention if symptoms occur.

First-aid measures after ingestion**4.2 Most important symptoms and effects, acute and delayed****Symptoms/injuries after inhalation**

May cause irritation to the respiratory tract. Overexposure to vapors may result in headache, nausea, drowsiness or dizziness.

Symptoms/injuries after skin contact

May cause skin irritation or burning sensation

Symptoms/injuries after eye contact

May cause eye irritation or injury

Symptoms/injuries after ingestion

May cause irritation to the mucous membrane of the mouth, throat, esophagus and stomach

4.3 Indication of any immediate medical attention and special treatment needed

No additional information available

Section 5. Firefighting measures

**CURE & SEAL
100E,150E,250E****Safety Data Sheet**According to Regulation 29 CFR 1910.1200
Regulation (EC) No. 1272/2008 (CLP)(GHS)**5.1 Extinguishing media****Suitable extinguishing media**

Use fire-extinguishing media appropriate for surrounding materials.

Dry chemical, foam carbon dioxide

Do not use heavy water stream

Unsuitable extinguishing media**5.2 Special hazards arising from the substance or mixture****Reactivity**

Thermal decomposition products may cause a health hazard.

5.3 Advice for firefighters**Firefighting instructions**

Use water spray or fog to cool exposed containers.

Protective equipment for firefighters

Firefighters should wear self-contained breathing apparatus (SCBA) and full protective gear when fighting any chemical fire.

Other InformationOn heating or burning harmful gasses/vapors may be released.
This product may cause the floor to become slippery.**Section 6. Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures****General measures**

Dike or impound spilled material. Take proper precautions to ensure your own health and safety before attempting spill control or cleanup

Equip cleanup crew with proper protective equipment.

6.11 Protective Equipment**6.2 Environmental precautions**

Prevent entry to sewers and public waters.

Notify authorities if liquid enters sewers or public waters.

6.3 Methods and materials for containment and cleaning up**Methods for cleaning up**

Soak up spills with inert solids, such as clay or diatomaceous earth.

Collect into vapor tight containers and dispose of properly.

Section 7. Handling and storage**7.1 Precautions for safe handling****Protective measures**

Wash hands and other exposed areas with soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in work areas to prevent formation of vapor. When not in use keep containers tightly closed. Avoid breathing vapor or mist.

Wash contaminated clothing before reuse.

Hygiene measures**7.2 Conditions for safe storage, including any incompatibilities****Storage conditions**

Store in accordance with local regulations. Store in original container in a cool well ventilated place. Keep containers tightly closed until ready for use. Keep from freezing.

Incompatible materials

None known

Storage temperature

Prevent exposure to freezing temperatures.

Section 8. Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits****8.2 Exposure controls****Appropriate engineering controls**

Use with adequate ventilation to keep product vapor concentrations below specified TLV

Eye and face protection

Chemical goggles and/or face shields are required to prevent potential eye contact, irritation or injury.

Skin protection

Wear chemical resistant gloves and appropriate protective clothing and boots as required to prevent skin contact. Wash exposed skin

**CURE & SEAL
100E,150E,250E****Safety Data Sheet**According to Regulation 29 CFR 1910.1200
Regulation (EC) No. 1272/2008 (CLP)(GHS)**Respiratory protection**

frequently with soap and water. Soiled clothing should be laundered before reuse.

General room ventilation is normally adequate. Avoid breathing the product mist or vapors. The use of an appropriate respirator is recommended whenever the airborne concentrations exceed the TLV.

Section 9. Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance	White emulsion
Odor	Mild
Odor Threshold	No data available
PH	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	100 C (212 F)
Flash point	Not applicable
Relative evaporation rate (butyl acetate=1)	No data available
Flammability (solid, gas)	No data available
Upper/lower explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density (Specific gravity)	1.01-1.02 Kg per Liter 8.4-8.5 Lbs per Gallon
Solubility	Water: Complete
Partition coefficient n-octanol/water	No data available
Auto-ignition temperature	Not applicable
Viscosity	No data available
VOC content	No data available

Section 10. Stability and reactivity

10.1 Reactivity	No additional information available
10.2 Chemical stability	Stable under normal conditions
10.3 Possibility of hazardous reactions	Hazardous polymerization will not occur.
10.4 Conditions to avoid	Avoid freezing
10.5 Incompatible materials	None known
10.6 Hazardous decomposition products	Carbon Monoxide, Carbon Dioxide

Section 11. Toxicology information**11.1 Information on toxicological effects**

Acute toxicity	No adverse effects expected under intended use.
Irritation/Corrosion Skin	May cause skin irritation
Eyes	May cause eye irritation and damage.
Respiration or skin sensitization	May cause respiratory irritation
Germ cell mutagenicity	Not classified
Carcinogenicity	No component of this product present at levels greater than 0.1 % is identified as a carcinogen by the U.S. National Toxicology Program, the U.S. Occupational Safety and Health Act, or the International Agency on Research on Cancer (IARC)
Reproductive toxicity	Not classified
Specific target organ toxicity	
Single exposure	Not classified
Repeated exposure	Not classified

CURE & SEAL
100E,150E,250E**Safety Data Sheet**According to Regulation 29 CFR 1910.1200
Regulation (EC) No. 1272/2008 (CLP)(GHS)**Aspiration hazard**

Not classified

Section 12. Ecological information

12.1 Ecotoxicity	Not established
12.2 Persistence and degradability	Not established
12.3 Bioaccumulative potential	Not established
12.4 Mobility in soil	No additional information available
12.5 Other adverse effects	Avoid release to the environment

SECTION 13. Disposal Considerations

13.1 Waste treatment methods	The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all applicable local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
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SECTION 14. Transport information

In accordance with ADR / RID / ADN / IMDG / ICAO / IATA

14.1 UN number	Not dangerous goods in sense of transport regulations.
14.2 UN proper shipping name	Concrete Curing Compound
14.3 Transport hazard class(es)	Not applicable
14.4 Packing group	Not applicable
14.5 Environmental hazards	No additional information available
14.6 Special precautions for user	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No additional information available
14.8 Transport in bulk according to CFR 49 173.15	Not applicable

SECTION 15. Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.2 USA Regulations****Section 313****TSCA****Proposition 65**Contains no ingredients at or above the De Minimus reporting level
All ingredients are listed or exempted
None of the ingredients is listed**15.1.3 Canada Regulations**

This SDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by the CPR

DSL

All ingredients are listed or exempted

WHMIS

Not Controlled.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

Section 16. Other information

Date of issue	8-27-2014
Version	2.1
Number	582
Date of previous issue	07-08-2014
Preparer	Nox-Crete Manufacturing Inc.

**CURE & SEAL
100E,150E,250E****Safety Data Sheet**According to Regulation 29 CFR 1910.1200
Regulation (EC) No. 1272/2008 (CLP)(GHS)**Reference Documentation**

The information contained herein is based on data available to us and is believed to be correct. Since this information may have been obtained in part from independent laboratories or other sources not under our direct supervision, no representation is made that the information is accurate, reliable, complete or representative and Buyer may rely thereon only at Buyers risk. We have made no effort to censor or to conceal deleterious aspects of this product. Further since we cannot anticipate or control the many different conditions under which this information or our products may be used, we make no guarantee that the health and/or safety precautions we have suggested will be adequate for all individuals and/or situations involving its handling or use. Likewise, we make no guarantee or warranty of any kind that the use or disposal of this product is in compliance with all federal, state or local laws. It is the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable statutes.

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Full text of R, H and EUH phrases

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing
If skin irritation occurs: Get medical advice/attention
If eye irritation persists: Get medical advice/attention

P332+P313

P337+P313

MINIFIBERS, INC.

2923 Boones Creek Road, Johnson City, TN 37615
Tel: 423-282-4242 Fax: 423-282-1450

Nycom

Safety Data Sheet

This product is an Article rather than a Chemical. Furthermore, this product does not meet the hazard criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200) or of the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Therefore, this product is exempt from GHS labeling and SDS classification criteria. The provision of this SDS is optional and is for informational purposes only.

Section 1: Identification

- Product identifier used on the label: **MiniFIBERS Nylon**
- Product codes beginning with: **NYT66** and others
- Any other common names or synonyms by which the substance is known: **Polyamide**
- Name, address, phone number of the manufacturer, importer, or other responsible party, and emergency phone number: **MiniFIBERS, Inc. 2923 Boones Creek Road Johnson City, TN 37615 USA +1(423)282-4242**
- Recommended use of the chemical (e.g., a brief description of what it actually does, such as flame retardant): **Not a chemical; uses vary.**
- Any restrictions on use (including recommendations given by the supplier): **None known**

Section 2: Hazard(s) Identification

- The hazard classification of the chemical (e.g., flammable liquid, category): **Not applicable**
- Signal word: **Not applicable**
- Hazard statement(s): **Not applicable**
- Pictograms (the pictograms or hazard symbols may be presented as graphical reproductions of the symbols in black and white or be a description of the name of the symbol (e.g., skull and crossbones, flame): **Not applicable**
- Precautionary statement(s): **Not applicable**
- Description of any hazards not otherwise classified: **None known**
- For a mixture that contains an ingredient(s) with unknown toxicity, a statement describing how much (percentage) of the mixture consists of ingredient(s) with unknown acute toxicity. Please note that this is a total percentage of the mixture and not tied to the individual ingredient(s): **Not applicable**

Section 3: Composition/Information on Ingredients

Main component chemical names:	Common names and synonyms:	Chemical Abstracts Service (CAS) number and other unique identifiers:
Nylon 6,6	Polyamide	32131-17-2

- Impurities and stabilizing additives, which are themselves classified and which contribute to the classification of the chemical: **Some raw materials may have been extruded with small quantities of Titanium Dioxide, CAS # 13463-67-7. TiO₂, as present in these materials, is encapsulated in the polymer and is not water soluble. It is not extracted or released in normal processing and use. Therefore, these materials are not expected to present a hazard in normal handling, processing, use or disposal.**
- The chemical name and concentration (i.e., exact percentage) of all ingredients which are classified as health hazards and are present above their cut-off/concentration limits or present a health risk below the cut-off/concentration limits: **None**

Section 4: First-Aid Measures

- Necessary first-aid instructions by relevant routes of exposure
Inhalation: **In the case of respiratory irritation, move to fresh air; consult a physician if symptoms persist.**
Skin contact: **In the case of skin irritation, wash off with soap and water; consult a physician if symptoms persist.**
Eye contact: **Remove contact lenses if present, and flush eyes with water to remove particles; consult a physician if symptoms persist.**
Ingestion: **Do not induce vomiting. Consult a physician if symptoms develop.**
- Description of the most important symptoms or effects, and any symptoms that are acute or delayed

Inhalation: **May cause respiratory irritation.**

Skin contact: **Not expected to be an irritant, but may cause skin irritation in some individuals.**

Eye contact: **May cause eye irritation.**

Ingestion: **Ingestion of large amounts of fibers may cause gastrointestinal blockage which can cause stomach distress.**

- Recommendations for immediate medical care and special treatment needed, when necessary: **Not applicable. Treat symptomatically.**

Section 5: Fire-Fighting Measures

- Recommendations of suitable extinguishing equipment, and information about extinguishing equipment that is not appropriate for a particular situation: **Foam, dry chemicals, CO₂; water mist to cool exposed surfaces.**
- Advice on specific hazards that develop from the chemical during the fire, such as any hazardous combustion products created when the chemical burns: **May include, but are not limited to, CO, CO₂, and traces of hydrogen cyanide.**
- Recommendations on special protective equipment or precautions for firefighters: **Due to potential decomposition of the polymer, firefighters should be equipped with positive pressure self-contained breathing apparatus (SCBA) when fighting all indoor fires and any significant outdoor fires, and should fight fire from an upwind position.**

Section 6: Accidental Release Measures

- Use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the contamination of skin, eyes, and clothing: **A dust mask and goggles are recommended to prevent possible irritation from airborne fibers. Cleansing the skin after handling is advisable.**
- Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing: **Not applicable**
- Methods and materials used for containment (e.g., covering the drains and capping procedures): **Not applicable**
- Cleanup procedures (e.g., appropriate techniques for neutralization, decontamination, cleaning or vacuuming; adsorbent materials; and/or equipment required for containment/clean up): **Vacuum or sweep up and place in a standard disposal container. Avoid the use of air jets if possible, to prevent fibers from becoming airborne.**

Section 7: Handling and Storage

- Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment, and providing advice on general hygiene practices (e.g., eating, drinking, and smoking in work areas is prohibited): **No special handling has been shown to be necessary, but cleansing the skin after use is advisable. Maintain good housekeeping methods to control dust accumulations. Avoid the use of air jets if possible, to prevent fibers from becoming airborne.**
- Recommendations on the conditions for safe storage, including any incompatibilities. Provide advice on specific storage requirements (e.g., ventilation requirements): **Avoid overstacking to prevent collapse or breakage of the packages.**

Section 8: Exposure Controls/Personal Protection

- OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available: **Fiber dust should be considered a nuisance dust, i.e. particulates (not otherwise classified).**
ACGIH Threshold Limit Value: 10 mg/m³ total dust; 3 mg/m³ respirable dust
OSHA Permissible Exposure Limit: 15 mg/m³ total dust; 5 mg/m³ respirable dust
- Appropriate engineering controls (e.g., use local exhaust ventilation, or use only in an enclosed system): **Local exhaust ventilation may be used to reduce exposure to airborne fibers or fiber dust. Processing involving the use of elevated temperatures should only be carried out in areas with adequate ventilation.**
- Recommendations for personal protective measures to prevent illness or injury from exposure to chemicals, such as personal

protective equipment (PPE) (e.g., appropriate types of eye, face, skin or respiratory protection needed based on hazards and potential exposure): **A dust mask and goggles are recommended to prevent possible irritation from airborne fibers. When dusts or thermal processing fumes are generated and ventilation is not sufficient to efficiently remove them, appropriate respiratory protection must be provided.**

- Any special requirements for PPE, protective clothing or respirators (e.g., type of glove material, such as PVC or nitrile rubber gloves; and breakthrough time of the glove material): **Not specified.**

Section 9: Physical and Chemical Properties

- Appearance (physical state, color, etc.): **White or off-white fibers**
- Odor: **Slight odor**
- Odor threshold: **Not available**
- pH: **Not available**
- Melting point: **255-265°C/ 491-509°F**
- Initial boiling point and boiling range: **Not applicable**
- Flash point: **42°C/ 107.6°F**
- Evaporation rate: **Not applicable**
- Flammability (solid, gas): **Not determined**
- Upper/lower flammability or explosive limits: **Not determined**
- Vapor pressure: **Not applicable**
- Vapor density: **Not applicable**
- Relative density: **1.13-1.25 g/cm³**
- Solubility(ies): **Not soluble in water**
- Partition coefficient: n-octanol/water: **Not available**
- Auto-ignition temperature: **455°C/ 851°F**
- Decomposition temperature: **420-900°C/ 788-1652°F – 50% at 420°C; 96% at 900°C**
- Viscosity: **Not applicable**

Section 10: Stability and Reactivity

Reactivity

- Description of the specific test data for the chemical(s). This data can be for a class or family of the chemical if such data adequately represent the anticipated hazard of the chemical(s), where available: **Not available**

Chemical stability

- Indication of whether the chemical is stable or unstable under normal ambient temperature and conditions while in storage and being handled: **Stable**
- Description of any stabilizers that may be needed to maintain chemical stability: **Not applicable**
- Indication of any safety issues that may arise should the product change in physical appearance: **None known**

Other

- Indication of the possibility of hazardous reactions, including a statement whether the chemical will react or polymerize, which could release excess pressure or heat, or create other hazardous conditions. Also, a description of the conditions under which hazardous reactions may occur: **None known**
- List of all conditions that should be avoided (e.g., static discharge, shock, vibrations, or environmental conditions that may lead to hazardous conditions): **Flames and sparks**
- List of all classes of incompatible materials (e.g., classes of chemicals or specific substances) with which the chemical could react to produce a hazardous situation: **This product may react with strong oxidizing agents.**
- List of any known or anticipated hazardous decomposition products that could be produced because of use, storage, or heating:

Section 11: Toxicological Information

- Information on the likely routes of exposure. The SDS should indicate if the information is unknown.
Inhalation: **Possible inhalation of airborne fibers or fiber dust.**
Ingestion: **Unlikely to occur.**
Skin absorption: **Not known to occur.**
Eye contact: **Possible contact with airborne fibers or fiber dust.**
- Description of the delayed, immediate, or chronic effects from short- and long-term exposure: **Delayed or immediate effects may include respiratory irritation, skin irritation, or eye irritation. No chronic effects from short-term exposure are known to occur. Long term exposure to dust may lead to toxic lung edemas.**
- The numerical measures of toxicity: **No data available.**
- Description of the symptoms. This description includes the symptoms associated with exposure to the chemical including symptoms from the lowest to the most severe exposure:
Inhalation: **Symptoms of respiratory irritation may include shortness of breath, tightness of the chest, sore throat, coughing, sneezing, or itching of the nasal passages.**
Ingestion: **Ingestion of large amounts of fibers may cause gastrointestinal blockage, which can cause stomach distress.**
Skin contact: **Symptoms of skin irritation may include itching or redness of the skin.**
Eye contact: **Symptoms of eye irritation may include itching, burning, watering, or redness of the eyes.**
- Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by OSHA.
NTP: **Not listed**
IARC: **Not listed**
OSHA: **Not regulated**
- **Some raw materials may have been extruded with small quantities of Titanium Dioxide, CAS # 13463-67-7. TiO₂ (airborne particles of respirable size) is listed as a possible carcinogen by IARC (2B). TiO₂, as present in these materials, is encapsulated in the polymer. It is not extracted or released in normal processing and use. TiO₂ used in products of these materials is not believed to have the potential to become of respirable size.**
- **Some individuals, i.e. with asthma, bronchitis, or allergies, are likely to be intolerant of high concentrations of airborne fibers or fiber dust when processing.**

Section 12: Ecological Information (non-mandatory)

- Data from toxicity tests performed on aquatic and/or terrestrial organisms, where available (e.g., acute or chronic aquatic toxicity data for fish, algae, crustaceans, and other plants; toxicity data on birds, bees, plants): **Not available**
- Whether there is a potential for the chemical to persist and degrade in the environment either through biodegradation or other processes, such as oxidation or hydrolysis: **This material is expected to be essentially non-biodegradable.**
- Results of tests of bioaccumulation potential, making reference to the octanol-water partition coefficient (Kow) and the bioconcentration factor (BCF), where available: **Not available**
- The potential for a substance to move from the soil to the groundwater (indicate results from adsorption studies or leaching studies): **Unlikely**
- Other adverse effects (e.g., environmental fate, ozone layer depletion potential, photochemical ozone creation potential, endocrine disrupting potential, and/or global warming potential): **Unknown**

Section 13: Disposal Considerations (non-mandatory)

- Description of appropriate disposal containers to use: **Standard disposal containers are acceptable.**
- Recommendations of appropriate disposal methods to employ: **Dispose of in accordance with governmental regulations for non-hazardous solid waste.**
- Description of the physical and chemical properties that may affect disposal activities: **None known**
- Language discouraging sewage disposal: **Disposable via septic or sewage systems is not recommended.**
- Any special precautions for landfills or incineration activities: **None known**
- **Recycling of corrugated or paper packaging is encouraged where possible. Other packaging may be disposed of with product.**

Section 14: Transport Information (non-mandatory)

- UN number (i.e., four-figure identification number of the substance): **None**
- UN proper shipping name: **Not applicable**
- Transport hazard class(es): **Not applicable**
- Packing group number, if applicable, based on the degree of hazard: **Not applicable**
- Environmental hazards (e.g., identify if it is a marine pollutant according to the International Maritime Dangerous Goods Code (IMDG Code)): **None known**
- Guidance on transport in bulk (according to Annex II of MARPOL 73/78 and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code (IBC Code))): **Not applicable**
- Any special precautions which an employee should be aware of or needs to comply with, in connection with transport or conveyance either within or outside their premises (Indicate when information is not available): **None known**
- Commodity: **Nylon Fibers**
- HTS Tariff Code Number: **5503.19**
- NMFC Item Number: **68310**

Section 15: Regulatory Information (non-mandatory)

- Any national and/or regional regulatory information of the chemical or mixtures (including any OSHA, Department of Transportation, Environmental Protection Agency, or Consumer Product Safety Commission regulations)
- Canada DSL/NDL: **Included on the Canadian Domestic Substance List.**
- Canada WHMIS: **Not a controlled product.**
- Europe: **Not classified as dangerous.**
- State of California Proposition 65: **Does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.**
- UN: **Does not appear on the Dangerous Goods List.**
- United States EPA: **Not regulated.**
- United States OSHA: **Not hazardous.**

Section 16: Other Information

Date of Preparation: **January 1, 2015**
Date of Last Revision: **February 26, 2016 – Change to wording of header information**

SECTION: 1. Product and company identification

1.1. Product identifier

Product form : Substance
Name : Argon
CAS No : 7440-37-1
Formula : Ar
Other means of identification : Shielding gas, argon 40

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use. Use as directed.

1.3. Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS-US classification
Compressed gas H280

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS04

Signal word (GHS-US)

: WARNING

Hazard statements (GHS-US)

: H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION

Precautionary statements (GHS-US)

: P202 - Do not handle until all safety precautions have been read and understood
P271+P403 - Use and store only outdoors or in a well-ventilated place
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG10 - Use only with equipment rated for cylinder pressure
CGA-PG06 - Close valve after each use and when empty
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

2.3. Other hazards

Other hazards not contributing to the classification

: Asphyxiant in high concentrations.

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1 Substance

Name : Argon
CAS No : 7440-37-1

Name	Product Identifier	%
Argon	(CAS No) 7440-37-1	99.5 - 100

3.2 Mixture

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact : Adverse effects not expected from this product.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2 Most important symptoms and effects, both acute and delayed

No additional information available

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Reactivity : No reactivity hazard other than the effects described in sub-sections below.

5.3 Advice for firefighters

Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Protection during firefighting : Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.

Special protective equipment for fire fighters : Use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems

Stop flow of product if safe to do so

Use water spray or fog to knock down fire fumes if possible.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedure

General measures : Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Stop leak if safe to do so.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

No additional information available

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Argon (7440-37-1)	
ACGIH	Not established
USA OSHA	Not established
Argon (7440-37-1)	
ACGIH	Not established
USA OSHA	Not established

8.2. Exposure controls

Appropriate engineering controls

: Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.

Hand protection	: Wear working gloves when handling gas containers.
Eye protection	: Wear safety glasses with side shields.
Respiratory protection	: When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).
Thermal hazard protection	: None necessary.
Environmental exposure controls	: None necessary.
Other information	: Wear safety shoes while handling containers.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless gas.
Molecular mass	: 40 g/mol
Color	: Colorless.
Odor	: No odor warning properties.
Odor threshold	: No data available
pH	: Not applicable.
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: -189 °C
Freezing point	: No data available
Boiling point	: -185.9 °C
Flash point	: No data available
Critical temperature	: -122.4 °C
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: Not applicable.
Critical pressure	: 4898 kPa
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.103 lb/ft ³ Vapor density at 70°F (21.1°C)
Relative gas density	: 1.38
Solubility	: Water: 61 mg/l
Log Pow	: Not applicable.
Log Kow	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Explosion limits	: No data available

9.2 Other information

Gas group	: Compressed gas
Additional information	: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level



Making our planet more productive

Argon

Safety Data Sheet P-4563

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979

Revision date: 10/13/2016

Supersedes: 10/03/2014

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Using this product in welding and cutting may create additional hazards. The arc from electric arc welding may form gaseous reaction products such as carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc. Other decomposition products of arc welding and cutting originate from the volatilization, reaction, and oxidization of the material being worked.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

12.2. Persistence and degradability

Argon (7440-37-1)

Persistence and degradability : No ecological damage caused by this product.

Argon (7440-37-1)

Persistence and degradability : No ecological damage caused by this product.

12.3. Bioaccumulative potential

Argon (7440-37-1)

Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

Argon (7440-37-1)	
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4 Mobility in soil

Argon (7440-37-1)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

Argon (7440-37-1)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5 Other adverse effects

Effect on ozone layer : None

Effect on the global warming : None

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment methods : May be vented to atmosphere in a well ventilated place. Consult supplier for specific recommendations. Do not discharge into any place where its accumulation could be dangerous. Contact supplier if guidance is required.

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1006 Argon, compressed, 2.2

UN-No.(DOT) : UN1006

Proper Shipping Name (DOT) : Argon, compressed

Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115

Hazard labels (DOT) : 2.2 - Non-flammable gas



Additional information

Emergency Response Guide (ERG) Number : 121 (UN1006);120 (UN1951)

Other information : No supplementary information available.

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1006

Proper Shipping Name (IMDG) : ARGON, COMPRESSED

Class (IMDG) : 2 - Gases

MFAG-No : 121

Air transport

UN-No. (IATA)	: 1006
Proper Shipping Name (IATA)	: Argon, compressed
Class (IATA)	: 2
Civil Aeronautics Law	: Gases under pressure/Gases nonflammable nontoxic under pressure

SECTION 15: Regulatory information

15.1 US Federal regulations

Argon (7440-37-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard
All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.	

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2 International regulations

CANADA

Argon (7440-37-1)	
Listed on the Canadian DSL (Domestic Substances List)	
Argon (7440-37-1)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

Argon (7440-37-1)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

15.2.2 National regulations

Argon (7440-37-1)	
Listed on the AICS (Australian Inventory of Chemical Substances)	
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)	
Listed on the Korean ECL (Existing Chemicals List)	
Listed on NZIoC (New Zealand Inventory of Chemicals)	
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)	
Listed on INSQ (Mexican National Inventory of Chemical Substances)	

15.3 US State regulations

Argon(7440-37-1)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Argon

Safety Data Sheet P-4563

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979 Revision date: 10/13/2016 Supersedes: 10/03/2014

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Argon (7440-37-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

Argon (7440-37-1)				
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				

SECTION 16: Other information

Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Fumes and gases produced during welding and cutting processes can be dangerous to your health and may cause serious lung disease. KEEP YOUR HEAD OUT OF FUMES. DO NOT BREATHE FUMES AND GASES. Use enough ventilation, local exhaust, or both to keep fumes and gases from your breathing zone and the general area. Short-term overexposure to fumes may cause dizziness, nausea, and dryness or irritation of the nose, throat, and eyes; or may cause other similar discomfort. Contaminants in the air may add to the hazard of fumes and gases. One such contaminant, chlorinated hydrocarbon vapors from cleaning and degreasing activities, poses a special risk. DO NOT USE ELECTRIC ARCS IN THE PRESENCE OF CHLORINATED HYDROCARBON VAPORS—HIGHLY TOXIC PHOSGENE MAY BE PRODUCED. Metal coatings such as paint, plating, or galvanizing may generate harmful fumes when heated. Residues from cleaning materials may also be harmful. AVOID ARC OPERATIONS ON PARTS WITH PHOSPHATE RESIDUES (ANTI-RUST, CLEANING PREPARATIONS)—HIGHLY TOXIC PHOSPHINE MAY BE PRODUCED

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product

Praxair SDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from www.praxair.com. If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (Phone: 1-800-PRAXAIR/1-800-772-9247; Address: Praxair Call Center, Praxair, Inc, P.O. Box 44, Tonawanda, NY 14151-0044)

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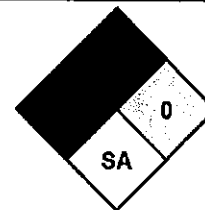
Argon

Safety Data Sheet P-4563

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979 Revision date: 10/13/2016 Supersedes: 10/03/2014

- | | |
|----------------------|---|
| NFPA health hazard | : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials. |
| NFPA fire hazard | : 0 - Materials that will not burn. |
| NFPA reactivity | : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water. |
| NFPA specific hazard | : SA - This denotes gases which are simple asphyxiants. |



HMIS III Rating

- | | |
|--------------|--|
| Health | : 0 Minimal Hazard - No significant risk to health |
| Flammability | : 0 Minimal Hazard |
| Physical | : 3 Serious Hazard |

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Hydrogen, compressed

Safety Data Sheet P-4604

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1980 Revision date: 10/17/2016 Supersedes: 06/03/2015

SECTION: 1. Product and company identification

1.1 Product identifier

Product form : Substance
Name : Hydrogen, compressed
CAS No : 1333-74-0
Formula : H₂
Other means of identification : Dihydrogen, parahydrogen, refrigerant gas R702, water gas

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use. Use as directed.

1.3 Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4 Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

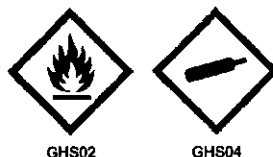
GHS-US classification

Flam. Gas 1 H220
Compressed gas H280

2.2 Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

DANGER

Hazard statements (GHS-US) :

H220 - **EXTREMELY FLAMMABLE GAS**
H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION
CGA-HG04 - MAY FORM EXPLOSIVE MIXTURES WITH AIR
CGA-HG08 - BURNS WITH INVISIBLE FLAME
Precautionary statements (GHS-US) : P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from Heat, Open flames, Sparks, Hot surfaces. - No smoking
P271+P403 - Use and store only outdoors or in a well-ventilated place
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 - Eliminate all ignition sources if safe to do so
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG10 - Use only with equipment rated for cylinder pressure
CGA-PG12 - Do not open valve until connected to equipment prepared for use
CGA-PG06 - Close valve after each use and when empty
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

Hydrogen, compressed

Safety Data Sheet P-4604

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.
Date of issue: 01/01/1980 Revision date: 10/17/2016 Supersedes: 06/03/2015

2.3 Other hazards

Other hazards not contributing to the classification : None.

2.4 Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1 Substance

Name : Hydrogen, compressed
CAS No : 1333-74-0

Name	Product Identifier	%
Hydrogen	(CAS No) 1333-74-0	99.5 - 100

3.2 Mixture

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aid measures after inhalation : Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a physician.

First-aid measures after skin contact : Adverse effects not expected from this product.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.. Get immediate medical attention.

First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2 Most important symptoms and effects, both acute and delayed

No additional information available

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Carbon dioxide, dry chemical powder, water spray, fog.

5.2 Special hazards arising from the substance or mixture

Fire hazard : **EXTREMELY FLAMMABLE GAS.** The hydrogen flame is nearly invisible. Hydrogen has a low ignition energy; escaping hydrogen gas may ignite spontaneously. A fireball forms if the gas cloud ignites immediately after release. Hydrogen forms explosive mixtures with air and oxidizing agents.

Explosion hazard : **EXTREMELY FLAMMABLE GAS.** Forms explosive mixtures with air and oxidizing agents.

Reactivity : No reactivity hazard other than the effects described below.

5.3 Advice for firefighters

Firefighting instructions : If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device

Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Hydrogen, compressed

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This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1980 Revision date: 10/17/2016 Supersedes: 06/03/2015

- | | |
|--|---|
| Protection during firefighting | : Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen. |
| Special protective equipment for fire fighters | : Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. |
| Specific methods | : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems |
| | Stop flow of product if safe to do so |
| | Use water spray or fog to knock down fire fumes if possible. |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- General measures** : **DANGER: EXTREMELY FLAMMABLE GAS. Forms explosive mixtures with air and oxidizing agents.** See section 5. Evacuate personnel to a safe area. Appropriate self-contained breathing apparatus may be required. Approach suspected leak area with caution. Remove all sources of ignition, if safe to do so. Reduce gas with fog or fine water spray. Stop flow of product if safe to do so. Ventilate area or move container to a well-ventilated area. Flammable gas may spread from leak. Before entering the area, especially a confined area, check the atmosphere with an appropriate device.
- 6.1.1. For non-emergency personnel**
No additional information available
- 6.1.2. For emergency responders**
No additional information available

6.2 Environmental precautions

Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

6.3 Methods and material for containment and cleaning up

No additional information available

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Precautions for safe handling** : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment
- Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

Hydrogen, compressed

Safety Data Sheet P-4604

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1980 Revision date: 10/17/2016 Supersedes: 06/03/2015

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Store only where temperature will not exceed 125°F (52°C). Post "No Smoking/No Open Flames" signs in storage and use areas. There must be no sources of ignition. Separate packages and protect against potential fire and/or explosion damage following appropriate codes and requirements (e.g. NFPA 30, NFPA 55, NFPA 70, and/or NFPA 221 in the U.S.) or according to requirements determined by the Authority Having Jurisdiction (AHJ). Always secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand when the container is not in use. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods. For other precautions in using this product, see section 16

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hydrogen, compressed (1333-74-0)		
ACGIH	Not established	
USA OSHA	Not established	
Hydrogen (1333-74-0)		
ACGIH	Remark (ACGIH)	Simple asphyxiant
USA OSHA	Not established	

8.2. Exposure controls

Appropriate engineering controls

: Use an explosion-proof local exhaust system. Local exhaust and general ventilation must be adequate to meet exposure standards. **MECHANICAL (GENERAL): Inadequate - Use only in a closed system.** Use explosion proof equipment and lighting.

Eye protection

: Wear safety glasses with side shields.

Respiratory protection

: An air-supplied respirator must be used while working with this product in confined spaces. The respiratory protection used must conform with OSHA rules as specified in 29 CFR 1910.134. Select per OSHA 29 CFR 1910.134 and ANSI Z88.2.

Thermal hazard protection

: None necessary.

Other information

: Consider the use of flame resistant anti-static safety clothing. Wear safety shoes while handling containers.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless gas.
Molecular mass	: 2 g/mol
Color	: Colorless.
Odor	: Odorless.
Odor threshold	: No data available
pH	: Not applicable.
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: -259.2 °C (-434.56°F)

Hydrogen, compressed

Safety Data Sheet P-4604

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1980 Revision date: 10/17/2016 Supersedes: 06/03/2015

Freezing point	: No data available
Boiling point	: -252.9 °C (-422.97°F)
Flash point	: No data available
Critical temperature	: -239.9 °C (-399.82°F)
Auto-ignition temperature	: 566 °C (1051°F)
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: Not applicable.
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.089 g/l (0.0056 lb/ft ³) (at STP = 0°C and 1atm)
Relative gas density	: 0.07
Solubility	: Water: 1.6 mg/l
Log Pow	: Not applicable.
Log Kow	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Explosion limits	: 4 - 77 vol %

9.2 Other information

Gas group	: Compressed gas
Additional information	: BURNS WITH INVISIBLE FLAME

SECTION 10: Stability and reactivity

10.1 Reactivity

No reactivity hazard other than the effects described below.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Can form explosive mixture with air. May react violently with oxidants.

10.4 Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

10.5 Incompatible materials

Oxidizing agents. Lithium. Halogens.

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity : Not classified

Hydrogen, compressed (1333-74-0)	
LC50 inhalation rat (ppm)	> 15000 ppm/1h
Hydrogen (1333-74-0)	
LC50 inhalation rat (ppm)	> 15000 ppm/1h

Hydrogen, compressed

Safety Data Sheet P-4604

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1980

Revision date: 10/17/2016

Supersedes: 06/03/2015

Skin corrosion/irritation	: Not classified
	pH: Not applicable.
Serious eye damage/irritation	: Not classified
	pH: Not applicable.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1 Toxicity

Ecology - general : No ecological damage caused by this product.

12.2 Persistence and degradability

Hydrogen, compressed (1333-74-0)	
Persistence and degradability	No ecological damage caused by this product.
Hydrogen (1333-74-0)	
Persistence and degradability	No ecological damage caused by this product.

12.3 Bioaccumulative potential

Hydrogen, compressed (1333-74-0)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.
Hydrogen (1333-74-0)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4 Mobility in soil

Hydrogen, compressed (1333-74-0)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.
Hydrogen (1333-74-0)	
Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5 Other adverse effects

Effect on ozone layer	: None
Effect on the global warming	: No known effects from this product

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

Hydrogen, compressed

Safety Data Sheet P-4604

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1980 Revision date: 10/17/2016 Supersedes: 06/03/2015

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1049 Hydrogen, compressed, 2.1
UN-No.(DOT) : UN1049
Proper Shipping Name (DOT) : Hydrogen, compressed
Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
Hazard labels (DOT) : 2.1 - Flammable gas



DOT Special Provisions (49 CFR 172.102) : N89 - When steel UN pressure receptacles are used, only those bearing the "H" mark are authorized

Additional information

Emergency Response Guide (ERG) Number : 115 (UN1049)
Other information : No supplementary information available.
Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG) : 1049
Proper Shipping Name (IMDG) : HYDROGEN, COMPRESSED
Class (IMDG) : 2 - Gases
MFAG-No : 115

Air transport

UN-No. (IATA) : 1049
Proper Shipping Name (IATA) : Hydrogen, compressed
Class (IATA) : 2
Civil Aeronautics Law : Gases under pressure/Gases flammable under pressure

SECTION 15: Regulatory information

15.1 US Federal regulations

Hydrogen, compressed (1333-74-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Fire hazard

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Hydrogen, compressed

Safety Data Sheet P-4604

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1980 Revision date: 10/17/2016 Supersedes: 06/03/2015

15.2 International regulations

CANADA

Hydrogen, compressed (1333-74-0)
Listed on the Canadian DSL (Domestic Substances List)
Hydrogen (1333-74-0)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Hydrogen, compressed (1333-74-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2 National regulations

Hydrogen, compressed (1333-74-0)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3 US State regulations

Hydrogen, compressed (1333-74-0)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Hydrogen (1333-74-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

Hydrogen (1333-74-0)				
U.S. - Massachusetts - Right To Know List				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				

Hydrogen, compressed

Safety Data Sheet P-4604

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1980 Revision date: 10/17/2016 Supersedes: 06/03/2015

SECTION 16: Other information

Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc, it is the user's obligation to determine the conditions of safe use of the product

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NFPA health hazard

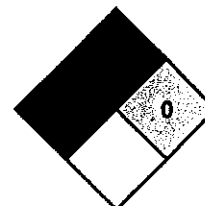
: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

: 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 0 Minimal Hazard - No significant risk to health

Flammability

: 4 Severe Hazard

Physical

: 3 Serious Hazard

SDS US (GHS HazCom 2012) - Praxair

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Making our planet more productive™

Helium, Refrigerated Liquid

Safety Data Sheet P-4600

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Date of issue: 01/01/1979

Revision date: 10/17/2016

Supersedes: 10/21/2014

SECTION: 1. Product and company identification

1.1 Product identifier

Product form : Substance
Name : Helium, Refrigerated Liquid
CAS No : 7440-59-7
Formula : He
Other means of identification : Helium, Refrigerated Liquid; Helium-4; Refrigerant Gas R-704

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use. Use as directed.

Diving Gas (Underwater Breathing)

1.3 Details of the supplier of the safety data sheet

Praxair, Inc.
10 Riverview Drive
Danbury, CT 06810-6268 - USA
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146
www.praxair.com

1.4 Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week
— Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887
(collect calls accepted, Contract 17729)

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS-US classification

Refrigerated liquefied gas H281

2.2 Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS04

Signal word (GHS-US)

: WARNING

Hazard statements (GHS-US)

: H281 - CONTAINS REFRIGERATED GAS; MAY CAUSE CRYOGENIC BURNS OR INJURY
OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION

Precautionary statements (GHS-US)

: P202 - Do not handle until all safety precautions have been read and understood
P271+P403 - Use and store only outdoors or in a well-ventilated place
P282 - Wear cold insulating gloves/face shield/eye protection. cold insulating gloves, face shield, eye protection
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG24 - DO NOT change or force fit connections
CGA-PG06 - Close valve after each use and when empty
CGA-PG26 - Use insulated hoses and piping to avoid condensation of oxygen-rich liquid air
CGA-PG23 - Always keep container in upright position

Helium, Refrigerated Liquid

Safety Data Sheet P-4600

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2.3 Other hazards

Other hazards not contributing to the classification

: Asphyxiant in high concentrations

Contact with liquid may cause cold burns/frostbite.

2.4 Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1 Substance

Name	Product Identifier	%
Helium, Refrigerated Liquid (Main constituent)	(CAS No) 7440-59-7	100

3.2 Mixtures

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aid measures after inhalation

: Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First-aid measures after skin contact

: The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.

First-aid measures after eye contact

: Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately. Get immediate medical attention.

First-aid measures after ingestion

: Ingestion is not considered a potential route of exposure.

4.2 Most important symptoms and effects, both acute and delayed

No additional information available

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

: Use extinguishing media appropriate for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Reactivity

: No reactivity hazard other than the effects described in sub-sections below.

5.3 Advice for firefighters

Firefighting instructions

: DANGER! Extremely cold liquid and gas under pressure. Take care not to direct spray onto vents on top of container. Do not discharge sprays directly into liquid; cryogenic liquid can freeze water rapidly

Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Protection during firefighting

: Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.

Special protective equipment for fire fighters

: Use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

Helium, Refrigerated Liquid

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Specific methods

: Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems

Exposure to fire may cause containers to rupture/explode

Stop flow of product if safe to do so

Use water spray or fog to knock down fire fumes if possible

If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire.

Other information

: Cryogenic liquid causes severe frostbite, a burn-like injury. Heat of fire can build pressure in a closed container and cause it to rupture. Venting vapors may obscure visibility. Air will condense on surfaces such as vaporizers or piping exposed to liquid or cold gas. Nitrogen, which has a lower boiling point than oxygen, evaporates first, leaving an oxygen-enriched condensate.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

General measures

: Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Stop leak if safe to do so.

6.1.1 For non-emergency personnel

No additional information available

6.1.2 For emergency responders

No additional information available

6.2 Environmental precautions

Try to stop release.

6.3 Methods and material for containment and cleaning up

No additional information available

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions for safe handling

: Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

Safe use of the product

: The suitability of this product as a component in underwater breathing gas mixtures is to be determined by or under the supervision of personnel experienced in the use of underwater breathing gas mixtures and familiar with the physiological effects, methods employed, frequency and duration of use, hazards, side effects, and precautions to be taken.

Helium, Refrigerated Liquid

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7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

: Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods

OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

7.3 Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Helium, Refrigerated Liquid (7440-59-7)	
ACGIH	Not established
USA OSHA	Not established

8.2 Exposure controls

Appropriate engineering controls : Product to be handled in a closed system. Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.

Hand protection : Wear working gloves when handling gas containers.

Eye protection : Wear safety glasses with side shields. Wear goggles and a face shield when transfilling or breaking transfer connections.

Respiratory protection : Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.

Thermal hazard protection : Wear cold insulating gloves.

Environmental exposure controls : None necessary.

Other information : Wear safety shoes while handling containers.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Gas

Appearance : Colorless gas.

Molecular mass : 4 g/mol

Color : Colorless.

Odor : Odorless.

Odor threshold : No data available

pH : Not applicable.

Relative evaporation rate (butyl acetate=1) : No data available

Relative evaporation rate (ether=1) : Not applicable.

Melting point : -272 °C

Freezing point : No data available

Boiling point : -268.93 °C

Flash point : No data available

Critical temperature : -268 °C

Helium, Refrigerated Liquid

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Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: Not applicable.
Critical pressure	: 2.3 kPa
Relative vapor density at 20 °C	: 0.166 kg/m ³ absolute vapor density at 70°C (21.1°C) and 1 atm
Relative density	: 0.12
Density	: 124.98 kg/m ³ Liquid density at boiling point and 1 atm
Relative gas density	: 0.14
Solubility	: Water: 1.5 mg/l
Log Pow	: Not applicable.
Log Kow	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Explosion limits	: No data available

9.2. Other Information

Gas group	: Refrigerated liquefied gas
Additional information	: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified

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Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1 Toxicity

Ecology - general : No ecological damage caused by this product.

12.2 Persistence and degradability

Helium, Refrigerated Liquid (7440-59-7)

Persistence and degradability	No ecological damage caused by this product.
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12.3 Bioaccumulative potential

Helium, Refrigerated Liquid (7440-59-7)

Log Pow	Not applicable.
Log Kow	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.

12.4 Mobility in soil

Helium, Refrigerated Liquid (7440-59-7)

Mobility in soil	No data available.
Ecology - soil	No ecological damage caused by this product.

12.5 Other adverse effects

Other adverse effects : Can cause frost damage to vegetation.
Effect on ozone layer : None
Effect on the global warming : None

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1963 Helium, refrigerated liquid, 2.2
UN-No.(DOT) : UN1963
Proper Shipping Name (DOT) : Helium, refrigerated liquid
Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT) : 2.2 - Non-flammable gas



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DOT Special Provisions (49 CFR 172.102)

: T75 - When portable tank instruction T75 is referenced in Column (7) of the 172.101 Table, the applicable refrigerated liquefied gases are authorized to be transported in portable tanks in accordance with the requirements of 178.277 of this subchapter
TP5 - For a portable tank used for the transport of flammable refrigerated liquefied gases or refrigerated liquefied oxygen, the maximum rate at which the portable tank may be filled must not exceed the liquid flow capacity of the primary pressure relief system rated at a pressure not exceeding 120 percent of the portable tank's design pressure. For portable tanks used for the transport of refrigerated liquefied helium and refrigerated liquefied atmospheric gas (except oxygen), the maximum rate at which the tank is filled must not exceed the liquid flow capacity of the pressure relief device rated at 130 percent of the portable tank's design pressure. Except for a portable tank containing refrigerated liquefied helium, a portable tank shall have an outage of at least two percent below the inlet of the pressure relief device or pressure control valve, under conditions of incipient opening, with the portable tank in a level attitude. No outage is required for helium

Additional information

Emergency Response Guide (ERG) Number

: 120 (UN1963);121 (UN1046)

Other information

: No supplementary information available.

Special transport precautions

: Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers:
- Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG)

: 1963

Proper Shipping Name (IMDG)

: HELIUM, REFRIGERATED LIQUID

Class (IMDG)

: 2 - Gases

MFAG-No

: 120

Air transport

UN-No. (IATA)

: 1963

Proper Shipping Name (IATA)

: Helium, refrigerated liquid

Class (IATA)

: 2

Civil Aeronautics Law

: Gases under pressure/Gases nonflammable nontoxic under pressure

SECTION 15: Regulatory information

15.1 US Federal regulations

Helium, Refrigerated Liquid (7440-59-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes

Immediate (acute) health hazard
Sudden release of pressure hazard

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2 International regulations

CANADA

Helium, Refrigerated Liquid (7440-59-7)

Listed on the Canadian DSL (Domestic Substances List)

Helium, Refrigerated Liquid

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EU-Regulations

Helium, Refrigerated Liquid (7440-59-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.2. National regulations

Helium, Refrigerated Liquid (7440-59-7)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3 US State regulations

Helium, Refrigerated Liquid (7440-59-7)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

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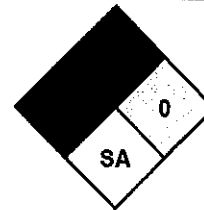
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- NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
- NFPA fire hazard : 0 - Materials that will not burn.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
- NFPA specific hazard : SA - This denotes gases which are simple asphyxiants.



HMIS III Rating

- Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- Flammability : 0 Minimal Hazard
- Physical : 2 Moderate Hazard

SDS US (GHS HazCom 2012) - Praxair

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Safety Data Sheet



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name

- Macro Synthetic Polyolefin PP-PE Fibers for Concrete Reinforcement

Synonyms

- Polyolefin Fibers for Concrete Reinforcement; PP/PE Fibers for Concrete Reinforcement
- Applicable brands and styles: Fibermesh® grades 650, 650S; Enduro® 600; Enduro® HPP; Novomesh® 950, Fibermesh®4Roads (FM4R).

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s)

- Fibers for Concrete Reinforcement

Use(s) advised against

- Other than intended by manufacturer

1.3 Details of the supplier of the safety data sheet

Manufacturer

- Propex Operating Company, LLC

4019 Industry Drive
Chattanooga, TN 37416
United States
www.propexglobal.com

Telephone (General) • 18006210444

Supplier

- Propex Concrete Systems Ltd.
9 Royal Court
Basil Close Chesterfield S41 7SL
United Kingdom

Telephone (General) • 44 1246564200

1.4 Emergency telephone number

Manufacturer

- 18004249300 - North America

Manufacturer

- 18005273887 - International

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

2.1 Classification of the substance or mixture

CLP

- Not classified

2.2 Label Elements

CLP

Hazard statements• No label element(s) required

2.3 Other Hazards

CLP

- This material is exempt from CLP/REACH obligations as an article as specified in REACH (1907/2006) and related ECHA guidance.
-

UN GHS

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2.1 Classification of the substance or mixture

UN GHS

- Not classified

2.2 Label elements

UN GHS

Hazard statements• No label element(s) required

2.3 Other hazards

UN GHS

- Under United Nations Globally Harmonized System for the Classification and Labeling of Hazardous Chemicals (GHS) this product is exempt from regulation as a manufactured article.
-

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

3.1 Classification of the substance or mixture

OSHA HCS 2012

- Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements• No label element(s) required

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200(c) - Hazard Communication Standard), the product(s) listed above are exempt as article(s) under stated normal conditions of use.
-

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Not classified

2.2 Label elements

WHMIS

- No label element(s) required.

2.3 Other hazards

WHMIS

- Under Canadian regulations (Workplace Hazardous Materials Information System (WHMIS) - Hazardous Products Act (HPA), Section 11(1)), these product(s) are exempt and considered manufactured article(s) under stated normal conditions of use.
-

Section 3 Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition			
Chemical Name	Identifiers	%	Comments
Polypropylene	CAS:9003-07-0	80% TO 95%	NDA
Polyethylene	CAS:9002-88-4	5% TO 19%	NDA
Lubricants: Fatty acids And/or Esters	NDA	0.1% TO 1%	NDA
Carbon Black	CAS:1333-86-4 EC Number:215-609-9	< 1%	On some pucked products only

Section 4 First Aid Measures

4.1 Description of first aid measures

Inhalation

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If signs/symptoms develop, move person to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. Wash skin with soap and water. If signs/symptoms develop, get medical attention.

Eye

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If contact with material occurs flush eyes with water. If signs/symptoms develop, get medical attention.

Ingestion

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended. If signs/symptoms develop, get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

- Under normal conditions of use, no health effects are expected.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- No specific actions or treatments recommended related to exposure to this material.

Section 5 Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media • Carbon dioxide, regular dry chemical, regular foam, water.

Unsuitable Extinguishing Media • No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • Slight fire hazard.

Hazardous Combustion Products • Incomplete burning can produce carbon monoxide and/or carbon dioxide and other harmful products.

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Move material from fire area if it can be done without risk.

Section 6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- No special precautions expected to be necessary if material is used under ordinary conditions and as recommended.
- Emergency Procedures**
- No emergency procedures are expected to be necessary if material is used under ordinary conditions as recommended. Use normal clean up procedures.

6.2 Environmental precautions

- Keep out of drains and water sources.

6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Contain and remove by mechanical means.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 Handling and Storage

7.1 Precautions for safe handling

- Handling**
- Use good safety and industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

- Storage**
- Store and handle in accordance with all current regulations and standards. Store product in a dry environment to avoid deterioration of packaging.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Australia	Belgium	Czech Republic	Denmark
Carbon Black (1333864)	TWAs	3 mg/m ³ TWA (inhalable fraction)	3 mg/m ³ TWA	3.5 mg/m ³ TWA	2.0 mg/m ³ TWA (dust)	3.5 mg/m ³ TWA
Polyethylene (9002884)	TWAs	Not established	Not established	Not established	5 mg/m ³ TWA (dust)	Not established
Polypropylene (9003070)	TWAs	Not established	Not established	Not established	5 mg/m ³ TWA (dust)	Not established
Exposure Limits/Guidelines (Con't)						
	Result	Estonia	Finland	France	Greece	Iceland
Carbon Black (1333864)	TWAs	3 mg/m ³ TWA (dust)	3.5 mg/m ³ TWA	3.5 mg/m ³ TWA [VME]	3.5 mg/m ³ TWA	3.5 mg/m ³ TWA
	STELs	Not established	7 mg/m ³ STEL	Not established	7 mg/m ³ STEL	Not established
	Ceiling	Not established	Not established	Not established	Not established	7 mg/m ³ Ceiling

Exposure Limits/Guidelines (Con't.)						
	Result	Ireland	Israel	Latvia	Malaysia	New Zealand
Carbon Black (1333864)	TWAs	3.5 mg/m3 TWA	3 mg/m3 TWA (inhalable fraction)	Not established	3.5 mg/m3 TWA	3 mg/m3 TWA
	STELs	7 mg/m3 STEL	Not established	Not established	Not established	Not established
Polyethylene (9002884)	TWAs	Not established	Not established	5 mg/m3 TWA (dust, listed under Polymer dust)	Not established	Not established
Polypropylene (9003070)	TWAs	Not established	Not established	5 mg/m3 TWA (dust, listed under Polymer dust)	Not established	Not established
Exposure Limits/Guidelines (Con't.)						
	Result	NIOSH	Norway	OSHA	Poland	Portugal
Carbon Black (1333864)	TWAs	3.5 mg/m3 TWA; 0.1 mg/m3 TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)	3.5 mg/m3 TWA	3.5 mg/m3 TWA	4.0 mg/m3 TWA [NDS] (applies to carbon black containing Benzo(a) pyrene < 35 mg in 1 kg of carbon black, total inhalable dust)	3.5 mg/m3 TWA [VLE-MP]
Exposure Limits/Guidelines (Con't.)						
	Result	Singapore	South Africa	Spain	Sweden	United Kingdom
Carbon Black (1333864)	TWAs	3.5 mg/m3 PEL	3.5 mg/m3 TWA	3.5 mg/m3 TWA [VLA-ED]	3 mg/m3 LLV (total dust)	3.5 mg/m3 TWA
	STELs	Not established	7 mg/m3 STEL	Not established	Not established	7 mg/m3 STEL

Exposure Control Notations

Portugal

'Carbon Black (1333864): Carcinogens: (A4 - Not Classifiable as a Human Carcinogen)

South Africa

'Carbon Black (1333864): Carcinogens: (Suspected Human Carcinogen)

Germany DFG

'Carbon Black (1333864): Carcinogens: (Category 3B (could be carcinogenic for man, inhalable fraction))

Exposure Limits Supplemental

Israel

'Carbon Black (1333864): Action Levels: (1.50 mg/m3 AL) | Substances Requiring Environmental - Occu: (Present)

8.2 Exposure controls

Engineering

Measures/Controls

- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Respiratory

- ' No respirator is required under normal conditions of use. If respirable dusts are generated, respirator protection may be needed.

Eye/Face

- ' None required; however, use of eye protection is good industrial practice.

Skin/Body

- ' Protective gloves are recommended for handling bags of fiber or loose fiber.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Key to abbreviations

CGIH = American Conference of Governmental Industrial Hygiene

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

LLV = Limit Level Value is the exposure limit for 8 hour work day

STEL = Short Term Exposure Limits are based on 15-minute exposures

OSHA = National Institute of Occupational Safety and Health
 TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures
 Occupational Safety and Health
 OSHA = Administration

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Solid	Appearance/Description	Colorless, light gray, or white fibrous materials packaged in paper bags or pucks with no odor.
Color	Colorless, light gray, or white.	Odor	Odorless
Odor Threshold	NIL		
General Properties			
Boiling Point	No data available	Melting Point/Freezing Point	160 C(320 F)
Decomposition Temperature	No data available	pH	Not relevant
Specific Gravity/Relative Density	≈ 0.9 Water=1	Water Solubility	Negligible < 0.1 %
Viscosity	Not relevant	Explosive Properties	Not relevant.
Oxidizing Properties:	Not relevant.		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	383 C(721.4 F)	UEL	No data available
LEL	No data available	Autoignition	404 C(759.2 F)
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- None identified.

10.5 Incompatible materials

- Oxidizing materials.

10.6 Hazardous decomposition products

- Thermal decomposition products of combustion: oxides of carbon.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

GHS Properties	Classification
Respiratory sensitization	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
Serious eye damage/Irritation	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
Acute toxicity	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
Aspiration Hazard	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
Carcinogenicity	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
Skin corrosion/Irritation	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
Skin sensitization	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
STOT-RE	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
STOT-SE	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
Toxicity for Reproduction	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant
Germ Cell Mutagenicity	EU/CLP • Not relevant OSHA HCS 2012 • Not relevant UN GHS • Not relevant

Potential Health Effects

Inhalation

Acute (Immediate)

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Under normal conditions of use, no health effects are expected.

Skin**Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Under normal conditions of use, no health effects are expected.

Eye**Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Under normal conditions of use, no health effects are expected.

Ingestion**Acute (Immediate)**

- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)

- Under normal conditions of use, no health effects are expected.

Carcinogenic Effects

- Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

Carcinogenic Effects		
	CAS	IARC
Carbon Black	1333864	Group 2B-Possible Carcinogen

11.2 Other information

- The toxicological properties have not been fully investigated. Polypropylene was tested in rats by subcutaneous implantation of discs or powder. Local sarcomas were induced at the site of implantation. Subcutaneous injections are not a normal route of exposure. All inorganic pigments, if present in of this product, are considered to be fully bound within the polymer matrix, and therefore, are not readily available under normal conditions.

Section 12 - Ecological Information**12.1 Toxicity**

- Propex has not conducted ecological testing on this material.

12.2 Persistence and degradability

- No data available

12.3 Bioaccumulative potential

- No data available

12.4 Mobility in Soil

- No data available

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 Disposal Considerations**13.1 Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14: Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user • None specified.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Not Applicable – Article.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • None

Inventory						
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS	TSCA
Polypropylene	9003070	Yes	No	No	No	Yes
Carbon Black	1333864	Yes	No	Yes	Yes	Yes
Polyethylene	9002884	Yes	No	No	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Carbon Black

1333864

D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Carbon Black, non-respirable on Health Canada's WHMIS Division

• Polyethylene

9002884

Not Listed

• Polypropylene

9003070

Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

• Carbon Black

1333864

1 %

• Polyethylene

9002884

Not Listed

• Polypropylene

9003070

Not Listed

Environment

Canada - CEPA - Priority Substances List

• Carbon Black

1333864

Not Listed

• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

United States - California

Environment**U.S. - California - Proposition 65 - Carcinogens List**

• Carbon Black	1333864	carcinogen, initial date 2/21/03 (airborne, unbound particles of respirable size)
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

U.S. - California Proposition 65 Reproductive Toxicity Male

• Carbon Black	1333864	Not Listed
• Polyethylene	9002884	Not Listed
• Polypropylene	9003070	Not Listed

15.2 Chemical Safety Assessment

- Chemical Safety Assessment is not required.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16 Other Information

Revision Date	• 21/June/2016
Preparation Date	• 16/September/2014
Disclaimer/Statement of Liability	<ul style="list-style-type: none"> • This publication should not be construed as engineering advice. While information contained in this publication is accurate to the best of our knowledge, Propex does not warrant its accuracy or completeness. The ultimate customer and user of the products should assume sole responsibility for the final determination of the suitability of the information and the products for the contemplated and actual use. The only warranty made by Propex for its products is set forth in our product data sheets for the product, or such other written warranty as may be agreed by Propex and individual customers. Propex specifically disclaims all other warranties express or implied, including without limitation, warranties of merchantability or fitness for a particular purpose, or arising from provision of samples, a course of dealing or usage of trade.

Key to abbreviations

DA = No Data Available

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SECTION 1. IDENTIFICATION

Product name : ShellSol OMS

Product code : Q7432

Manufacturer or supplier's details

Company : **Shell Chemical LP**
PO Box 2463
HOUSTON TX 77252-2463
USA

SDS Request : 1-800-240-6737

Customer Service : 1-855-697-4355

Emergency telephone number

Chemtrec Domestic (24 hr) : 1-800-424-9300

Chemtrec International (24 hr) : 1-703-527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Industrial Solvent.

Restrictions on use : This product must not be used in applications other than the above without first seeking the advice of the supplier.

Other information : SHELLSOL is a registered trademark of Shell trademark Management BV.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Aspiration hazard : Category 1

Chronic aquatic toxicity : Category 4

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : **PHYSICAL HAZARDS:**
H226 Flammable liquid and vapour.
HEALTH HAZARDS:
H304 May be fatal if swallowed and enters airways.
ENVIRONMENTAL HAZARDS:

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H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces.

No smoking.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P273 Avoid release to the environment.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370 + P378 In case of fire: Use appropriate media to extinguish.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P331 Do NOT induce vomiting.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P235 Keep cool.

P405 Store locked up.

Disposal:

P501 Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other hazards which do not result in classification

In use, may form flammable/explosive vapour-air mixture.

This material is a static accumulator.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

Repeated exposure may cause skin dryness or cracking.

The classification of this material is based on OSHA HCS 2012 criteria.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Substance

Hazardous components

Chemical name	Synonyms	CAS-No.	Concentration (%)
naphtha (petroleum), heavy alkylate	Naphtha (petroleum), heavy alkylate	64741-65-7	100

SECTION 4. FIRST-AID MEASURES

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- | | |
|---|---|
| General advice | : Not expected to be a health hazard when used under normal conditions. |
| If inhaled | : No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice. |
| In case of skin contact | : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention. |
| In case of eye contact | : Flush eye with copious quantities of water.
If persistent irritation occurs, obtain medical attention. |
| If swallowed | : If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3°C), shortness of breath, chest congestion or continued coughing or wheezing. |
| Most important symptoms and effects, both acute and delayed | : If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever.
The onset of respiratory symptoms may be delayed for several hours after exposure.
Defatting dermatitis signs and symptoms may include a burning sensation and/or a dried/cracked appearance. |
| Protection of first-aiders | : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings. |
| Immediate medical attention, special treatment | : Potential for chemical pneumonitis.
Call a doctor or poison control center for guidance. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | |
|---------------------------------------|---|
| Suitable extinguishing media | : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. |
| Unsuitable extinguishing media | : Do not use water in a jet. |
| Specific hazards during fire-fighting | : Clear fire area of all non-emergency personnel.
Hazardous combustion products may include:
A complex mixture of airborne solid and liquid particulates and gases (smoke).
Carbon monoxide.
Unidentified organic and inorganic compounds.
Flammable vapours may be present even at temperatures below the flash point.
The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Will float and can be reignited on surface water. |

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- Specific extinguishing methods : Standard procedure for chemical fires.
- Further information : Keep adjacent containers cool by spraying with water.
- Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Observe all relevant local and international regulations. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.
- : Avoid contact with skin, eyes and clothing. Isolate hazard area and deny entry to unnecessary or unprotected personnel. Do not breathe fumes, vapour. Do not operate electrical equipment.
- Environmental precautions : Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas indicator.
- Methods and materials for containment and cleaning up : For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
- Ventilate contaminated area thoroughly. If contamination of site occurs remediation may require specialist advice.

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Additional advice : For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.
For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Chapter 15) to the National Response Center at (800) 424-8802.

Under Section 311 of the Clean Water Act (CWA) this material is considered an oil. As such, spills into surface waters must be reported to the National Response Center at (800) 424-8802.

This material is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Petroleum Exclusion. Therefore, releases to the environment may not be reportable under CERCLA.

SECTION 7. HANDLING AND STORAGE

Technical measures : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Ensure that all local regulations regarding handling and storage facilities are followed.

Precautions for safe handling : Avoid inhaling vapour and/or mists.
Avoid contact with skin, eyes and clothing.
Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
Bulk storage tanks should be diked (bunded).
When using do not eat or drink.

The vapour is heavier than air, spreads along the ground and distant ignition is possible.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges. These include but are not limited to pumping (especially turbulent flow), mixing, filtering, splash filling, cleaning and filling of tanks and

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containers, sampling, switch loading, gauging, vacuum truck operations, and mechanical movements. These activities may lead to static discharge e.g. spark formation. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/s until fill pipe submerged to twice its diameter, then ≤ 7 m/s). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations.

Refer to guidance under Handling section.

Storage

Conditions for safe storage, including any incompatibilities

: Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Other data

: Storage Temperature:
Ambient.

Bulk storage tanks should be diked (bunded).
Locate tanks away from heat and other sources of ignition.
Cleaning, inspection and maintenance of storage tanks is a specialist operation, which requires the implementation of strict procedures and precautions.
Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat.
Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment.
Electrostatic charges will be generated during pumping.
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.
The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable.

Packaging material

: Suitable material: For containers, or container linings use mild steel, stainless steel., For container paints, use epoxy paint, zinc silicate paint.
Unsuitable material: Avoid prolonged contact with natural, butyl or nitrile rubbers.

Container Advice

: Do not cut, drill, grind, weld or perform similar operations on or near containers.

Specific use(s)

: Not applicable

See additional references that provide safe handling practices for liquids that are determined to be static accumulators:
American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or
National Fire Protection Agency 77 (Recommended Practices on Static Electricity).
IEC/TS 60079-32-1: Electrostatic hazards, guidance

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SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Naphtha (petroleum), heavy alkylate	64741-35-7	TWA	500 ppm 2000 mg/m ³	OSHA 29

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods
<http://www.cdc.gov/niosh/>

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods
<http://www.osha.gov/>

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances
<http://www.hse.gov.uk/>

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany
<http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil>

Engineering measures

- : The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:
 - Use sealed systems as far as possible.
 - Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.
 - Local exhaust ventilation is recommended.
 - Firewater monitors and deluge systems are recommended.
 - Eye washes and showers for emergency use.
 - Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Practice good housekeeping.

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this

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product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

Respiratory protection

- : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [Type A boiling point >65°C (149°F)].

Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Hand protection Remarks

- : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Nitrile rubber gloves. Incidental contact/Splash protection: PVC, neoprene or nitrile rubber gloves For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

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- Eye protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended.
- Skin and body protection : Skin protection is not required under normal conditions of use.
For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure.
If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.
Wear antistatic and flame retardant clothing, if a local risk assessment deems it so.
- Protective measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet.
Launder contaminated clothing before re-use.
Do not ingest. If swallowed then seek immediate medical assistance.

Environmental exposure controls

- General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.
Information on accidental release measures are to be found in section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid.
- Colour : Light coloured
- Odour : Hydrocarbon
- Odour Threshold : Data not available
- pH : Not applicable
- Melting point/freezing point : Data not available
- Boiling point/boiling range : 175.0 - 195.0 °C / 347.0 - 383.0 °F
- Flash point : 51 °C / 124 °F
Method: Tagliabue Closed Cup
- Evaporation rate : 0.1
Method: ASTM D 3539, nBuAc=1

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Flammability (solid, gas)	: Not applicable
Upper explosion limit	: 7.0 %(V)
Lower explosion limit	: 0.6 %(V)
Vapour pressure	: 0.07 kPa (20 °C / 68 °F)
Relative vapour density	: 5.3
Relative density	: 0.758 (15.6 °C / 60.1 °F)
Density	: Data not available
Solubility(ies)	
Water solubility	: 0.05 g/l negligible
Partition coefficient: n-octanol/water	: Data not available
Auto-ignition temperature	: 347.8 °C / 658.0 °F
Decomposition temperature	: Data not available
Viscosity	
Viscosity, dynamic	: Data not available
Viscosity, kinematic	: Data not available
Explosive properties	: Not applicable
Oxidizing properties	: Data not available
Surface tension	: Data not available
Conductivity	: Low conductivity: < 100 pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid
Molecular weight	: Data not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	: No hazardous reaction is expected when handled and stored according to provisions

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Stable under normal conditions of use.

Possibility of hazardous reactions : Reacts with strong oxidising agents.

Conditions to avoid : Avoid heat, sparks, open flames and other ignition sources.
In certain circumstances product can ignite due to static electricity.

Incompatible materials : Strong oxidising agents.

Hazardous decomposition products : Hazardous decomposition products are not expected to form during normal storage.
Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on product testing, and/or similar products, and/or components.

Information on likely routes of exposure

Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Low toxicity:

Acute inhalation toxicity : (Rat): Remarks: Low toxicity:
LC50 greater than near-saturated vapour concentration.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Remarks: Low toxicity:

Skin corrosion/irritation

Product:

Remarks: Causes mild skin irritation., Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

Serious eye damage/eye irritation

Product:

Remarks: Not irritating to eye.

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Respiratory or skin sensitisation

Product:

Remarks: Not expected to be a sensitizer.

Germ cell mutagenicity

Product:

: Remarks: Not mutagenic.

Carcinogenicity

Product:

Remarks: Not expected to be carcinogenic., Tumours produced in animals are not considered relevant to humans.

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

:
Remarks: Not expected to impair fertility., Not expected to be a developmental toxicant.

STOT - single exposure

Product:

Remarks: Not expected to be a hazard.

STOT - repeated exposure

Product:

Remarks: Kidney: caused kidney effects in male rats which are not considered relevant to humans

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Aspiration toxicity

Product:

Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Further information

Product:

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Incomplete ecotoxicological data are available for this product.
The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity) : Remarks: Expected to be not toxic at limit of water solubility.

Toxicity to daphnia and other aquatic invertebrates (Acute toxicity) : Remarks: Expected to be not toxic at limit of water solubility.

Toxicity to algae (Acute toxicity) : Remarks: Expected to be not toxic at limit of water solubility.

Toxicity to fish (Chronic toxicity) : Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: NOEC/NOEL expected to be > 1.0 - <= 10 mg/l

Toxicity to bacteria (Acute toxicity) : Remarks: Expected to be practically non toxic:
LC/EC/IC50 > 100 mg/l

Persistence and degradability

Product:

Biodegradability : Remarks: Inherently biodegradable.
Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Has the potential to bioaccumulate.

Mobility in soil

Product:

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Mobility : Remarks: Floats on water.
If it enters soil, it will adsorb to soil particles and will not be mobile.

Other adverse effects

no data available

Product:

Additional ecological information : Not expected to have ozone depletion potential.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

Do not dispose into the environment, in drains or in water courses

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or national requirements and must be complied with.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.
Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.
Send to drum recoverer or metal reclaimer.
Comply with any local recovery or waste disposal regulations.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

UN/ID/NA number : UN 1268
Proper shipping name : Petroleum distillates, n.o.s.
Class : 3
Packing group : III
Labels : 3
ERG Code : 128
Marine pollutant : no

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Remarks : Oil

International Regulations

IATA-DGR

UN/ID No. : UN 1268
Proper shipping name : Petroleum distillates, n.o.s.
Class : 3
Packing group : III
Labels : 3

IMDG-Code

UN number : UN 1268
Proper shipping name : PETROLEUM DISTILLATES, N.O.S.
Class : 3
Packing group : III
Labels : 3
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category : Annex I
Ship type : Annex I or Double hull vessels with carriage of oil certification
Product name : Petroleum naphtha

Special precautions for user

Remarks : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Additional Information : This material is an 'OIL' under 49 CFR Part 130 when transported in a container of 3500 gallon capacity or greater. This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen enriched atmospheres displaces available oxygen which may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.

SECTION 15. REGULATORY INFORMATION

OSHA Hazards : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

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SARA 302

: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313

: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Water Act

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

AICS : Listed

DSL : Listed

IECSC : Listed

KECI : Listed

PICCS : Listed

EINECS : Listed

TSÇA : Listed

Other regulations : The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

SECTION 16. OTHER INFORMATION

Further Information

NFPA Rating (Health, Fire, Reactivity) 1, 2, 0

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial Hygienists

ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road

AICS = Australian Inventory of Chemical Substances

ASTM = American Society for Testing and Materials

BEL = Biological exposure limits

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BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
COC = Cleveland Open-Cup
DIN = Deutsches Institut für Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
INV = Chinese Chemicals Inventory
IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables
KECI = Korea Existing Chemicals Inventory
LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level
OE_HP V = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of Chemicals
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit
TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

Sources of key data used to : The quoted data are from, but not limited to, one or more

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sources of information (e.g. toxicological data from Shell
Health Services, material suppliers' data, CONCAWE, EU
IUCID data base, EC 1272 regulation, etc).

Revision Date

: 09/16/2016

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



EUCLID CHEMICAL

Version: 1.0
Revision Date: 07/30/2015

This is a kit that contains the following components:

DURALPREP AC PART A
DURALPREP AC PART B
DURALPREP AC PART C

Valspar Greenbar® Touchup Coating Kit

Valspar Greenbar® Touchup Coating Kit is a two-component, catalyzed epoxy system supplied in kit form for ease of handling. It is designed for making repairs to rebar coated with Valspar Greenbar® Powder Coating. The material is formulated to provide the same excellent protection as the original plant-applied Valspar Greenbar® Coating.

Specifications	
Product Number	Component A EEG0034 (Valspar Greenbar® Green) Component B CEC0091 (Valspar Greenbar® Catalyst)
Surface Preparation	Surfaces should be clean, dry, and free from dirt, rust, grease, oil, or other contaminants. All disbanded areas of powder, burrs, and rust must be removed via blast cleaning, filing, power brushing, wire brushing, or other mechanical methods that completely removes the defect or corrosion prior to the application of Greenbar® patch. If rebar has been exposed to sunlight for more than three weeks, the surface should be roughened by sanding or wire brushing before coating.
Surface Temperature	Surface Temperature: Minimum 50°F/10°C, Maximum: 100°F/38°C
Mixing	<p>Stir each component before combining to make sure no pigment remains on the bottom of the container. Pour a measured amount of Component B into a container holding a pre-measured amount of the Component A. Add 2 parts by volume of Component A to 1 part by volume of Component B while stirring. Mix the two components together until homogeneous.</p> <p>Mixing by volume ratio: 2 parts EEG0034, to 1 part CEC0091 is required.</p> <p>Mixing by weight ratio: 1g of EEG0034, to 0.55g CEC0091 is required.</p> <p>Thinning: Reduce with Xylene.</p>

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Specifications <i>con't</i>											
Pot Life	60 minutes @ 77°F/25°C										
Physical Data	Mixed component solids by weight: 83.29% Mixed component theoretical solids by volume: 68.49% Mixed component VOC as supplied: 1.69 Lb/Gal Mixed component weight per gallon: 10.14 Lb/Gal Viscosity: 100-128 KU's mixed @ 77°F/25°C Color: Green										
Application	For best coating performance, Valspar Greenbar® Touchup Coating should be applied by brush, roller, conventional spray equipment, or airless spray equipment to a thickness minimum of 8 mils/203 microns dry overlapping the Valspar Greenbar® Powder Coating surface.										
Coverage	One gallon of mixed material will cover 137 square feet / 12.7 square meters of smooth surface at 8 mils/203 microns dry film thickness with no allowance for loss or waste.										
Application thickness	For best coating performance, Valspar Greenbar® Touchup Coating should be applied to the wet film thickness listed below. It will then dry to the corresponding dry film thickness: <table> <tr> <th>Film condition</th><th>Thickness range</th></tr> <tr> <td>Wet Film Thickness</td><td>10-13 Mils</td></tr> <tr> <td>Dry Film Thickness</td><td>7-9 Mils</td></tr> </table>	Film condition	Thickness range	Wet Film Thickness	10-13 Mils	Dry Film Thickness	7-9 Mils				
Film condition	Thickness range										
Wet Film Thickness	10-13 Mils										
Dry Film Thickness	7-9 Mils										
Drying Time	A surface that can be handled will be obtained after two hours at 75°F/24°C. The coating will cure at temperatures as low as 50°F/10°C, but a much longer period of time will be required. This is the recommended cure schedule for dry to handle: <table> <tr> <th>Temperature</th><th>Time</th></tr> <tr> <td>100°F/ 38°C</td><td>1 hour</td></tr> <tr> <td>200°F/ 93°C</td><td>30 minutes</td></tr> <tr> <td>250°F/121°C</td><td>20 minutes</td></tr> <tr> <td>300°F/149°C</td><td>15 minutes</td></tr> </table>	Temperature	Time	100°F/ 38°C	1 hour	200°F/ 93°C	30 minutes	250°F/121°C	20 minutes	300°F/149°C	15 minutes
Temperature	Time										
100°F/ 38°C	1 hour										
200°F/ 93°C	30 minutes										
250°F/121°C	20 minutes										
300°F/149°C	15 minutes										
Cleanup	Equipment should be cleaned before the coating's pot life has expired. A solvent such as methyl ethyl ketone (MEK) is suitable.										

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Safety	See MSDS and product label.
Storage	Container should be stored between 50°F/10°C and 90°F/32°C
Shelf Life	Component A EEG0034: 6 months Component B CEC0091: 6 months

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valspar

if it matters, we're on it.

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID:**EEG0034****Product Name:**

Valspar Greenbar Touch Up Coating Epoxy

Product Use:

Paint or Coatings Related Product

Print date:

09/Apr/2012

Revision Date:

09/Apr/2012

Company Identification

The Valspar Corporation

PO Box 1461

Minneapolis, MN 55440

Manufacturer's Phone:

1-812-851-7000

**24-Hour Medical Emergency
Phone:**

1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:

Inhalation

Ingestion

Skin absorption

Eye Contact:

- Moderate eye irritation

Skin Contact:

- Causes skin irritation.
- Can be absorbed through skin.
- May cause sensitization by skin contact.

Ingestion:

- Irritation of the mouth, throat, and stomach.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- Causes respiratory tract irritation.
- Harmful by inhalation.

Target Organ and Other Health Effects:

- Kidney injury may occur.
- Liver injury may occur.
- Causes headache, drowsiness or other effects to the central nervous system.

This product contains ingredients that may contribute to the following potential chronic health effects:

- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
- Prolonged exposure over TLV may produce pneumoconiosis.
- Possible sensitization.

Carcinogens:

- Possible cancer hazard. Contains material which may cause cancer based on animal data.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name
PROPRIETARY RESIN	60 - 65	PROPRIETARY RESIN
XYLENE 1330-20-7	15 - 20	Xylenes (o-, m-, p- isomers)
TITANIUM DIOXIDE 13463-67-7	5 - 10	Titanium dioxide
ETHYLBENZENE 100-41-4	1 - 5	Ethyl benzene
PROPRIETARY INERT	1 - 5	PROPRIETARY INERT
PROPRIETARY INERT	1 - 5	PROPRIETARY INERT

If this section is blank there are no hazardous components per OSHA guidelines.

4. FIRST AID MEASURES**Eye Contact:**

Get medical attention, if symptoms develop or persist. Immediately flush eye(s) with plenty of water. Remove any contact lenses and open eyes wide apart.

Skin Contact:

Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:

Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:

Move injured person into fresh air and keep person calm under observation. Get medical attention immediately.

Medical conditions aggravated by exposure:
Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	45
Flash point (Celsius):	7
Lower explosive limit (%):	1
Upper explosive limit (%):	21
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

Hazardous combustion products: See Section 10.

Unusual fire and explosion hazards:
None known.

Extinguishing media:
Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:
Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Action to be taken if material is released or spilled:
Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or alrmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of Ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid all personal contact.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage:
Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an Ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

Personal Protective Equipment

Eye and face protection:
Wear safety glasses or goggles to protect against exposure.

Skin protection:
Gloves: Neoprene or other nonporous.

Other Personnel Protection Data:
To prevent skin contact wear protective clothing covering all exposed areas. Chemical resistant apron

Respiratory protection:

If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation

Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines**OSHA Permissible Exposure Limits (PEL's)**

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
XYLENE 1330-20-7	15 - 20	100 ppm TWA 435 mg/m ³ TWA		
TITANIUM DIOXIDE 13463-67-7	5 - 10	15 mg/m ³ TWA dust total		
ETHYLBENZENE 100-41-4	1 - 5	100 ppm TWA 435 mg/m ³ TWA		
PROPRIETARY INERT	1 - 5	5 mg/m ³ Respirable fraction. 15 mg/m ³ Total dust. Respirable fraction. Listed. Total dust. Listed.		
PROPRIETARY INERT	1 - 5	5 mg/m ³ Respirable fraction. 15 mg/m ³ Total dust. Respirable fraction. Listed. Total dust. Listed.		

ACGIH Threshold Limit Value (TLV's)

Ingredient Name CAS-No.	Approx. Weight %	TWA	STEL	Ceiling limits	Skin designations
XYLENE 1330-20-7	15 - 20	100 ppm TWA	150 ppm STEL		
TITANIUM DIOXIDE 13463-67-7	5 - 10	10 mg/m ³ TWA			
ETHYLBENZENE 100-41-4	1 - 5	100 ppm TWA	125 ppm STEL		
PROPRIETARY INERT	1 - 5	10 mg/m ³			
PROPRIETARY INERT	1 - 5	10 mg/m ³			

9. PHYSICAL PROPERTIES

Odor:

Physical State:

pH:

Vapor pressure:

Normal for this product type.

liquid

not determined

90.2255639 mmHg @ 77°F (25°C)

9. PHYSICAL PROPERTIES

Vapor density (air = 1.0):	3.7
Boiling point:	not determined
Solubility in water:	not determined
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	9.94
Specific Gravity:	1.19
Evaporation rate (butyl acetate = 1.0):	0.81
Flash point (Fahrenheit):	45
Flash point (Celsius):	7
Lower explosive limit (%):	1
Upper explosive limit (%):	21
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Carbon monoxide and carbon dioxide. Metal oxide fumes.

Sensitivity to static discharge: Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
PROPRIETARY RESIN	60 - 65	= 11400 mg/kg Oral LD50 Rat
XYLENE 1330-20-7	15 - 20	= 4300 mg/kg Oral LD50 Rat = 47635 mg/L Inhalation LC50 Rat 4 h = 5000 ppm Inhalation LC50 Rat 4 h > 1700 mg/kg Dermal LD50 Rabbit
TITANIUM DIOXIDE 13463-67-7	5 - 10	> 10000 mg/kg Oral LD50 Rat
ETHYLBENZENE 100-41-4	1 - 5	= 15354 mg/kg Dermal LD50 Rabbit = 17.2 mg/L Inhalation LC50 Rat 4 h = 3500 mg/kg Oral LD50 Rat
PROPRIETARY INERT	1 - 5	> 2.2 mg/L Inhalation LC50 Rat 1 h > 2000 mg/kg Dermal LD50 Rabbit > 5000 mg/kg Oral LD50 Rat
PROPRIETARY INERT	1 - 5	= 3160 mg/kg Oral LD50 Rat

Mutagens/Teratogens/Carcinogens:

Possible mutagen

Possible cancer hazard. Contains material which may cause cancer based on animal data.

Contains ethylbenzene, which has been determined by NTP to be an animal carcinogen with no known relevance to humans. IARC has classified ethylbenzene as possibly carcinogenic to humans (2b) on the basis of sufficient evidence of carcinogenicity in laboratory animals but inadequate evidence of cancer in humans. Contains TiO₂ which is listed by IARC as a possible human carcinogen (Group 2B) based on animal data. Neither long term animal studies, nor human epidemiology studies of workers exposed to TiO₂ provide an adequate basis to conclude TiO₂ is carcinogenic. TiO₂ is not classified as a carcinogen by NTP, U.S. OSHA, or the U.S. EPA.

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Reproductive (Female)	California Prop 65 - Carcinogen
ETHYLBENZENE 100-41-4	1 - 5		Listed, initial date 8/11/04 - carcinogen

Ingredient Name CAS-No.	Approx. Weight %	IARC Group 1 - Human Evidence	IARC Group 2A - Limited Human Data	IARC Group 2B - Sufficient Animal Data
TITANIUM DIOXIDE 13463-87-7	5 - 10			Monograph 47 [1989]
ETHYLBENZENE 100-41-4	1 - 5			Monograph 77 [2000]

Ingredient Name CAS-No.	Approx. Weight %	NTP Known Carcinogens	NTP Suspect Carcinogens	NTP Evidence of Carcinogenicity
XYLENE 1330-20-7	15 - 20			male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence
TITANIUM DIOXIDE 13463-87-7	5 - 10			male rat-negative; female rat-negative; male mice-negative; female mice-negative
ETHYLBENZENE 100-41-4	1 - 5			male rat-clear evidence; female rat-some evidence; male mice- some evidence; female mice-some evidence

Ingredient Name CAS-No.	Approx. Weight %	OSHA - Hazard Communication Carcinogens	OSHA - Specifically Regulated Carcinogens	ACGIH Carcinogens
TITANIUM DIOXIDE 13463-87-7	5 - 10	Present		
ETHYLBENZENE 100-41-4	1 - 5	Present		A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation

UN ID Number (msds): UN1263
 Proper Shipping Name: PAINT
 Hazard Class: 3
 Packing Group: II

14. TRANSPORTATION INFORMATION

U.S. Hazmat and/or International DG shipment exceptions

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

Reportable Quantity Description:

International Air Transport Association (IATA):

UN ID Number (msds): UN1263
Proper Shipping Name: Paint
Hazard Class: 3
Packing Group: II

International Maritime Organization (IMO):

IMO UN/ID Number (msds): UN1263
Proper Shipping Name: PAINT
Hazard Class: 3
Packing Group: II
Marine Pollutant: YES
Marine Pollutant Ingredient 1: EPOXY RESIN

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

Ingredient Name CAS-No.	Approx. Weight %	SARA 302	SARA 313	CERCLA RQ in lbs.
XYLENE 1330-20-7	15 - 20		form R reporting required for 1.0% de minimis concentration	100
ETHYLBENZENE 100-41-4	1 - 5		form R reporting required for 1.0% de minimis concentration	1000

SARA 311/312 Hazard Class:

Acute: yes
Chronic: yes
Flammability: yes
Reactivity: no
Sudden Pressure: no

U.S. STATE REGULATIONS:

Right to Know:

The specific chemical identity of a component may be withheld as a trade secret under 34 Pennsylvania Code, Chapter 317.

Pennsylvania Right To Know:

ETHYLBENZENE	100-41-4
PROPRIETARY INERT	Trade Secret
XYLENE	1330-20-7
TITANIUM DIOXIDE	13463-67-7
PROPRIETARY RESIN	Trade Secret
PROPRIETARY INERT	Trade Secret

Additional Non-Hazardous Materials

PROPRIETARY COLOR PIGMENT	Trade Secret
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California Proposition 65:

WARNING! This product contains a chemical known in the State of California to cause cancer.

Rule 66 status of product

Photochemically reactive.

INTERNATIONAL REGULATIONS - Chemical Inventories

US TSCA Inventory:

All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada Domestic Substances List:

All components of this product are listed on the Domestic Substances List.

16. OTHER INFORMATION

HMS Codes

Health:	2*
Flammability:	3
Reactivity:	1
PPE:	X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:

OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:

The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By:	Regulatory Affairs Department
Print date:	09/Apr/2012
Revision Date:	09/Apr/2012



VEXCON
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HAZARD RATING
4=EXTREME
3=HIGH
2=MODERATE
1=SLIGHT
0=INSIGNIFICANT

REACTIVITY **0**

SAFETY DATA SHEET
VEXCON NO. CC101
CERTI-VEX ENVIO CURE
WHITE 100, 500, 1000

SECTION I - GENERAL INFORMATION

PRODUCT IDENTIFICATION:	
CERTI-VEX ENVIO CURE WHITE 100, 500, 1000	
VOC CONTENT:	<350 GR/LITER OR <2.92 #/GAL
CATEGORY:	CONCRETE CURING COMPOUND
COMMON NAME:	HYDROCARBON POLYMER EMULSION WITH PIGMENTS
MANUFACTURER:	VEXCON CHEMICALS, INC
ADDRESS:	7240 STATE RD, PHILADELPHIA, PA 19135
EMERGENCY NO.:	800.858.2828 (PolySat Inc)
TELEPHONE NO.:	215.332.7709 (Vexcon)
CHEMTREC NO.:	800.424.9300 (CCN# 23822)
PREPARED:	DECEMBER 1998
UPDATED:	JULY 2016
PREPARED BY:	DARRY F. MANUEL, PRESIDENT

SECTION II - HAZARD IDENTIFICATION

DOT SHIPPING NAME:
UN ID NUMBER / SHIPPING NAME / HAZARD CLASS / PKG GROUP
IN CONTAINERS LESS THAN AND GREATER THAN 119 GALS: IN ALL MODES
OF TRANSPORTATION
(NON-REGULATED)

HEALTH AND SAFETY:

THIS PRODUCT IS AN ORGANIC LIQUID AND WATER EMULSION. PER NFPA 30 THIS MIXTURE WITH A FLASH POINT GREATER THAN 200 F IS A CLASS III B COMBUSTIBLE LIQUID. ALL PRECAUTIONS PROVIDED ARE FOR THE ORGANIC LIQUID PORTION OF WHICH THIS PRODUCT MAY CONTAIN AS LITTLE AS 5%. USE WITH ADEQUATE VENTILATION. DO NOT INDUCE VOMITING IF SWALLOWED. USE OF SOLVENT RESISTANT GLOVES, GOGGLES AND OTHER PROTECTIVE CLOTHING IS ADVISED WHEN HANDLING THIS PRODUCT. **KEEP FROM FREEZING.**



SECTION III HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENTS	CAS NO.	%	HAZARD DATA	UN#
STODDARD SOLVENT	8052-41-3	1-5%	ACGIH TLV: 100 ppm, 525 mg/m3 (TWA) OSHA PEL: 500 ppm, 2900 mg/m3 (TWA) NIOSH REL: 350 mg/m3 (TWA) OSHA HAZARD: COMBUSTIBLE LIQUID	1268
1. TITANIUM DIOXIDE	13463-67-7	1-5%	OSHA PEL 15 mg/m3 (TWA) ACGIH TLV 10 mg/m3 (TWA) RESPIRABLE DUST	
2. CALCIUM CARBONATE	1317-85-3	10-20%	OSHA TWA 5.0 mg/m3 RESP. OSHA TWA 15.0 mg/m3 TOTAL	
THIS PRODUCT DOES NOT CONTAIN ANY § SECTION 313 REPORTABLE INGREDIENTS.				

SECTION IV FIRST AID MEASURES

HEALTH HAZARD DATA HAZARD CLASSIFICATION
BASIS FOR CLASSIFICATION SOURCE

ROUTES OF EXPOSURE:	
INHALATION:	THIS PRODUCT MAY CREATE BREATHING DIFFICULTIES, DIZZINESS, LIGHTEADEDNESS WHEN WORKING IN AREAS WITH HIGH VAPOR CONCENTRATION. STODDARD SOLVENT COMPONENT.
SKIN CONTACT:	THIS PRODUCT MAY CAUSE SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT. STODDARD SOLVENT COMPONENT.
SKIN ABSORPTION:	THIS PRODUCT MAY CAUSE SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT. STODDARD SOLVENT COMPONENT.
EYE CONTACT:	THIS PRODUCT MAY BE AN EYE IRRITANT. STODDARD SOLVENT COMPONENT.
INGESTION / INHALATION	SMALL AMOUNTS OF LIQUID ASPIRATED INTO THE RESPIRATORY SYSTEM DURING INGESTION, OR FROM VOMITING, MAY CAUSE BRONCHOPNEUMONIA OR PULMONARY EDEMA. DO NOT INDUCE VOMITING. SEEK IMMEDIATE MEDICAL ATTENTION.
EFFECTS OF OVEREXPOSURE:	TLV 50-100 ppm; ESTIMATED FROM SIMILAR PRODUCTS. STODDARD SOLVENT COMPONENT. ANESTHESIA, HEADACHE, NAUSEA, DIZZINESS. LIQUIDS MODERATELY IRRITATING ON SKIN AND EYES.
ACUTE OVEREXPOSURE:	ANESTHESIA, HEADACHE, NAUSEA, DIZZINESS: MODERATE IRRITATION BY LIQUID TO SKIN AND EYES. PROLONGED CONTACT ON THE SKIN WILL CLAY AND DEFAIT THE SKIN POSSIBLY CAUSING DERMATITIS.
NOTE ABOUT MINERAL SPIRITS OR STODDARD SOLVENT:	NOTE: THE THRESHOLD LIMIT VALUE (TLV) OF 100 ppm VAPOR IN AIR HAS BEEN ESTABLISHED BY THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS FOR STODDARD SOLVENT AND IS THUS APPLICABLE TO MINERAL SPIRITS. IN A STUDY OF EXXON CORP. MEDICAL RESEARCH WITH LABORATORY ANIMALS (RATS) EXPOSED TO VAPORS IN AIR OF A SOLVENT SIMILAR TO MINERAL SPIRITS, KIDNEY DAMAGE WAS NOTED IN MALE RATS AT THIS CONCENTRATION. THE RECENT STUDY SUGGESTS THAT THIS OCCUPATIONAL EXPOSURE LIMIT MAY HAVE TO BE LOWERED FOR THIS PRODUCT. WORK IS CONTINUING TO VALIDATE THESE FINDINGS AND WHETHER A REVISED OCCUPATIONAL EXPOSURE LIMIT SHOULD BE RECOMMENDED FOR MINERAL SPIRITS.

EMERGENCY AND FIRST AID PROCEDURES:

EYES:	FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK IMMEDIATE MEDICAL ATTENTION.
SKIN:	WASH WITH SOAP AND LARGE QUANTITIES OF WATER. SEEK MEDICAL ATTENTION IF SKIN IRRITATION DEVELOPS AND PERSISTS.
INHALATION:	MOVE TO LOCATION FREE FROM VAPORS. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IF BREATHING STOPS, BEGIN ARTIFICIAL RESPIRATION AND SEEK IMMEDIATE MEDICAL ATTENTION.
INGESTION:	DO NOT INDUCE VOMITING; SEEK IMMEDIATE MEDICAL ATTENTION.

SECTION V FIREFIGHTING MEASURES

EXTINGUISHING MEDIA:	FIRES INVOLVING THIS PRODUCT MAY BE CONTROLLED BY REGULAR FOAM, CARBON DIOXIDE, DRY CHEMICALS OR WATER SPRAY.
GENERAL HAZARD:	COMBUSTIBLE LIQUID - CAN FORM COMBUSTIBLE MIXTURES AT TEMPERATURES AT OR ABOVE THE FLASH POINT. "EMPTY" CONTAINERS RETAIN PRODUCT RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION: THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. EMPTY DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY RETURNED TO A DRUM RECONDITIONER, OR PROPERLY DISPOSED OF.
UNUSUAL FIRE AND EXPLOSION HAZARD:	PRODUCT WILL BURN IF TEMPERATURE EXCEEDS BOILING POINT. POLYMER FILM IS CAPABLE OF BURNING, GIVING OFF OXIDES OF CARBON. IF STORAGE CONTAINERS ARE EXPOSED TO EXCESSIVE HEAT, OVER PRESSURIZATION OF THE CONTAINERS CAN RESULT. VAPOR IS HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR THROUGH VENTILATION SYSTEM CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. KEEP WORK AREAS FREE OF HOT METAL SURFACES AND OTHER SOURCES OF IGNITION.
SPECIAL FIRE FIGHTING PROCEDURES	THE USE OF SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE SHOULD BE PROVIDED FOR FIRE FIGHTERS IN BUILDINGS OR CONFINED AREAS WHERE THIS PRODUCT IS STORED. STORAGE CONTAINERS EXPOSED TO FIRE SHOULD BE KEPT COOL WITH WATER SPRAY IN ORDER TO PREVENT PRESSURE BUILD UP.

SECTION VI ACCIDENTAL RELEASE MEASURES

AQUATIC TOXICITY (E.G. 96 HR. TLM): DO NOT DISCHARGE THIS PRODUCT INTO PUBLIC WATERS OR WATERWAYS UNLESS AUTHORIZED BY A NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA).
STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: ELIMINATE SOURCES OF IGNITION (FLARES, FLAMES, PILOT LIGHTS, ELECTRICAL SPARKS). PREVENT ADDITIONAL DISCHARGE OF MATERIAL; IF POSSIBLE TO DO SO WITHOUT HAZARD, FOR SMALL SPILLS, IMPLEMENT CLEANUP PROCEDURES. FOR LARGE SPILL, IMPLEMENT CLEAN UP PROCEDURES AND, IF IN PUBLIC AREA, KEEP PUBLIC AWAY AND ADVISE AUTHORITIES. DIKE SPILL AREA WITH SAND OR EARTH TO CONTAIN SPILLED LIQUID AND PREVENT SPREADING. DO NOT USE COMBUSTIBLE MATERIALS SUCH AS SAWDUST. PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID CAN BE TAKEN UP ON SAND, EARTH, FLOOR ABSORBENT, OR WITH ANOTHER SUITABLE ABSORBENT MATERIAL AND SHOVELLED INTO CONTAINERS. CONSULT AN EXPERT ON DISPOSAL OF RECOVERED MATERIAL AND ENSURE CONFORMITY TO EPA, FEDERAL, STATE, AND LOCAL DISPOSAL REGULATIONS.

SECTION VII HANDLING AND STORAGE

PRECAUTIONARY STATEMENTS: PERSONNEL SHOULD AVOID INHALATION OF VAPORS. PERSONAL CONTACT WITH THE PRODUCT SHOULD BE AVOIDED. SHOULD CONTACT BE MADE, REMOVE SATURATED APPAREL AND FLUSH AFFECTED BODY AREAS WITH WATER. CLOTHING MUST BE WASHED AND DRIED BEFORE REUSE. CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUE (VAPOR, LIQUID AND/OR SOLID). ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET MUST BE OBSERVED.
FIRE FIGHTING: WATER MAY BE UNSUITABLE AS AN EXTINGUISHING MEDIUM BUT HELPFUL IN KEEPING ADJACENT CONTAINERS COOL. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES. PERSONNEL SHOULD AVOID INHALATION OF VAPORS.
OTHER HANDLING AND STORAGE REQUIREMENTS: STORE AND USE IN WELL VENTILATED AREA, EQUIVALENT TO FRESH AIR. KEEP CONTAINER TIGHTLY CLOSED. DO NOT STORE WITH INCOMPATIBLE MATERIALS. STORE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. DO NOT STORE OR CONSUME FOOD, DRINK, OR TOBACCO IN AREAS WHERE THEY MAY BECOME CONTAMINATED WITH THIS MATERIAL. KEEP AWAY FROM HIGH TEMPERATURES, OPEN FLAMES, SPARKS, SOURCES OF IGNITION, ETC. USE WITH EXPLOSION PROOF EQUIPMENT IS HIGHLY ADVISABLE.

SECTION VIII EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION REQUIREMENTS: LOCAL MECHANICAL VENTILATION MAY BE SUFFICIENT TO KEEP PRODUCT VAPOR CONCENTRATIONS WITHIN SPECIFIED TIME-WEIGHTED TLV RANGES. IF LOCAL VENTILATION PROVES INADEQUATE TO MAINTAIN SAFE VAPOR CONCENTRATIONS, SUPPLEMENTAL LOCAL EXHAUST MAY BE REQUIRED. OTHER SPECIAL PRECAUTIONS SUCH AS RESPIRATORY MASKS OR ENVIRONMENTAL CONTAINMENT DEVICES MAY BE REQUIRED IN EXTREME CASES.
--

RESPIRATORY (SPECIFY IN DETAIL): THE USE OF RESPIRATORY PROTECTION DEPENDS ON VAPOR CONCENTRATION ABOVE THE TIME WEIGHTED TLV: USE OF OSHA APPROVED CARTRIDGE RESPIRATOR OR GAS MASK OR AIR-PACK. CHEMICAL CARTRIDGE RESPIRATOR: HALF MASK ORGANIC VAPOR CARTRIDGE. FULL FACE ORGANIC VAPOR CARTRIDGE IF EYE PROTECTION IS NEEDED.
EYES: CHEMICAL GOGGLES AND/OR FACE SHIELD ARE RECOMMENDED TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY.
GLOVES: THE USE OF IMPERMEABLE GLOVES IS ADVISED TO PREVENT SKIN IRRITATION IN SENSITIVE INDIVIDUALS. IMPERVIOUS GLOVES, (CHEMICAL RESISTANT) SUCH AS NEOPRENE, LATEX OR PVA.
OTHER CLOTHING AND EQUIPMENT: TO PREVENT BODY CONTACT, IMPERVIOUS CLOTHING AND BOOTS ARE RECOMMENDED. IMPERVIOUS APRONS AND HELMETS (HEAD COVER) ARE RECOMMENDED WHEN WORKING WITH THIS PRODUCT. THE AVAILABILITY OF EYE WASHES AND SAFETY SHOWERS IN WORK AREAS IS RECOMMENDED.

SECTION IX PHYSICAL / CHEMICAL CHARACTERISTICS

BOILING POINT: (760mmHg) AZEOTROPE MS+WATER 93°C / 200°F	MELTING/FREEZING POINT: NOT DETERMINED For reference: -40°C / -40°F (Stoddard Solvent)
VAPOR PRESSURE: 5 mmHg @ 68°F/25°C (Stoddard solvent)	VAPOR DENSITY (AIR=1): 4.8 (Stoddard solvent) HEAVIER THAN AIR
SOLUBILITY IN H2O % BY WT: MISCIBLE	% VOLATILES BY VOL: 60-70%
EVAPORATION RATE (BuAc=1): SLOW 0.1 (Stoddard Solvent)	SPECIFIC GRAVITY (H2O=1) 1.09
pH (AS IS): 9-10 TYPICAL	pH (1% SOLN): 8.5-9
APPEARANCE AND ODOR:	WHITE PAINT-LIKE LIQUID EMULSION
FLASH POINT: (TEST METHOD)	>93°C / >200°F (TCC)
AUTOIGNITION TEMP:	232°C / 450°F (STODDARD SOLVENT)
FLAMMABLE LIMITS IN AIR, % BY VOL:	LOWER: 0.8% UPPER: 6.0% (STODDARD SOLVENT)

SECTION X STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY:	THIS PRODUCT IS STABLE.
INCOMPATIBILITY:	THIS PRODUCT IS INCOMPATIBLE WITH STRONG OXIDIZING AGENTS, STRONG ACIDS OR BASES, AND SELECTED AMINES.
HAZARDOUS DECOMPOSITION PRODUCTS:	THERMAL DECOMPOSITION IN THE PRESENCE OF AIR MAY YIELD CARBON MONOXIDE AND/OR CARBON DIOXIDE, AND UNIDENTIFIED ORGANICS.
CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:	N/A WILL NOT OCCUR

SECTION XI TOXICOLOGICAL INFORMATION

ROUT OF TOXICITY	CONCLUSION/REMARKS	
INHALATION	TOXICITY	MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
	IRRITATION	NEGLECTIBLE HAZARD AT AMBIENT/NORMAL HANDLING TEMPERATURES.
INGESTION	TOXICITY: LD50 >5000 mg/kg	MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
	TOXICITY: LD50 >3160 mg/kg	MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
SKIN	IRRITATION	MAY DRY THE SKIN LEADING TO DISCOMFORT AND DERMATITIS. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS
	IRRITATION	MAY CAUSE MILD, SHORT - LASTING DISCOMFORT TO EYES. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS

CHRONIC/OTHER EFFECTS	FOR THE PRODUCT ITSELF	VAPOR/AEROSOL CONCENTRATIONS ABOVE RECOMMENDED EXPOSURE LEVELS ARE IRRITATING TO THE EYES AND RESPIRATORY TRACT, MAY CAUSE HEADACHES, DIZZINESS, ANESTHESIA, DROWSINESS, UNCONSCIOUSNESS, AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DEATH. PROLONGED AND/OR REPEATED SKIN MAY DEFAT THE SKIN RESULTING IN POSSIBLE IRRITATION AND DERMATITIS. SMALL AMOUNTS OF LIQUID ASPIRATED INTO THE LUNGS DURING INGESTION OR FROM VOMITING MAY CAUSE CHEMICAL PNEUMONITIS OR PULMONARY EDEMA.
	CONTAINS	NAPHTHALENE: EXPOSURE TO HIGH CONCENTRATIONS OF NAPHTHALENE MAY CAUSE DESTRUCTION OF RED BLOOD CELLS, ANEMIA AND CATARACTS. NAPHTHALENE CAUSED CANCER IN LABORATORY ANIMALS STUDIES, BUT THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNCERTAIN. ETHYLBENZENE: CAUSED CANCER IN LABORATORY ANIMALS STUDIES. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNCERTAIN.

SECTION XII ECOLOGICAL INFORMATION

THE INFORMATION GIVEN IS BASED ON DATA AVAILABLE FOR THE MATERIAL, THE COMPONENTS OF THE MATERIALS AND SIMILAR MATERIALS	
ECOTOXICITY	MATERIAL EXPECTED TO BE TOXIC TO AQUATIC ORGANISMS. MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT. (WHITE SPIRITS, LOW (15-20%) AROMATIC, 49CFR, 172.101, APPENDIX B)
MOBILITY	MATERIAL HIGHLY VOLATILE, WILL PARTITION RAPIDLY TO AIR, NOT EXPECTED TO PARTITION TO SEDIMENT AND WASTEWATER SOLIDS.
PERSISTENCE AND DEGRADABILITY	
BIODEGRADATION	MATERIAL EXPECTED TO BE INHERENTLY BIODEGRADABLE
HYDROLYSIS	MATERIAL TRANSFORMATION DUE TO HYDROLYSIS NOT EXPECTED TO BE SIGNIFICANT
PHOTOLYSIS	MATERIAL TRANSFORMATION DUE TO PHOTOLYSIS NOT EXPECTED TO BE SIGNIFICANT.
ATMOSPHERIC OXIDATION	MATERIAL EXPECTED TO DEGRADE RAPIDLY IN AIR

SECTION XIII DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: IF POSSIBLE, PUMP TO CONTROLLED CONTAINMENT AREA. ABSORB ON CLAY OR SAND. DISPOSE OF IN COMPLIANCE WITH EPA, FEDERAL, STATE, AND LOCAL REGULATIONS. TREATMENT, TRANSPORTATION AND DISPOSAL MUST BE IN COMPLIANCE WITH EPA, FEDERAL, STATE, AND LOCAL REGULATIONS UNDER THE RESOURCES CONSERVATION AND RECOVERY ACT (RCRA, 40 CFR 261). TYPICALLY CONTROLLED BURNING, INCINERATION OR APPROVED LAND FILL SITES ARE AVAILABLE.

SECTION XIV TRANSPORTATION INFORMATION

Governing Body	Mode	UN Number	Proper Shipping Name	Hazard Class	Packing Group
DOT	GROUND	NON-REGULATED	NON REGULATED	NON REGULATED	NA
IATA	AIR	NON REGULATED	NON REGULATED	NON REGULATED	NA
IMDG	OCEAN	NON REGULATED	NON REGULATED	NON REGULATED	NA
MARINE POLLUTANT:		THIS PRODUCT DOES CONTAIN A MATERIAL ON THE MARINE POLLUTANTS TABLE (HMT 172.101 APPENDIX B) MINERAL SPIRITS			

SECTION XV REGULATORY INFORMATION

TSCA: THE SOLVENT PORTION OF THIS PRODUCT IS LISTED ON THE TSCA INVENTORY AS A UVCB (UNKNOWN, VARIABLE COMPOSITION OR BIOLOGICAL) CHEMICAL AT CAS REGISTRY NUMBER, 8052-41-3 (STODDARD SOLVENT)
CERCLA: IF THE REPORTABLE QUANTITY OF THIS PRODUCT IS ACCIDENTALLY SPILLED, THE INCIDENT IS SUBJECT TO THE PROVISIONS OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA) AND MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER BY CALLING 1-800-424-8802 or 202-426-2875. NO REPORTABLE SPILL QUANTITY (RQ) HAS BEEN ESTABLISHED FOR THIS PRODUCT.
SARA TITLE III: UNDER THE PROVISIONS OF TITLE III, SECTIONS 311/312 OF THE SUPERFUND AMENDMENTS AND RE-AUTHORIZATION ACT, THIS PRODUCT IS CLASSIFIED INTO THE FOLLOWING HAZARD CATEGORIES: DELAYED HEALTH, FIRE
ADDITIONAL REGULATORY CONCERNS: (FEDERAL, FDA, USDA, CPSC, STATE, OTHER)
FEDERAL:
USDA:
CERCLA / RQ: NONE
MARINE POLLUTANTS: THIS PRODUCT DOES CONTAIN A MATERIAL ON THE MARINE POLLUTANTS TABLE (HMT 172.101 Appendix B). SEE SECTION XIV
TSCA: IS THIS PRODUCT, OR ALL ITS INGREDIENTS, BEING CERTIFIED FOR INCLUSION ON THE TOXIC SUBSTANCES CONTROL ACT INVENTORY OF CHEMICAL SUBSTANCES? YES

SECTION XVI OTHER INFORMATION

PREPARED BY	DARRYL MANUEL / PRESIDENT
COMPANY:	VEXCON CHEMICALS, INC.
ADDRESS:	7240 STATE RD., PHILA., PA 19135 USA
THE INFORMATION PROVIDED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN OBTAINED FROM SOURCES BELIEVED TO BE RELIABLE. VEXCON PROVIDES NO WARRANTIES, EXPRESSED OR IMPLIED, AND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED HEREIN.	

HMIS HAZARD RATINGS:

THIS INFORMATION IS FOR PEOPLE TRAINED IN: NATIONAL PAINT AND COATINGS ASSOCIATIONS (NPCA) HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA 704) IDENTIFICATION OF FIRE HAZARDS OF MATERIALS

VEXCON ENVIO CURE WHITE 100, 500, 1000	NPCA-HMIS	NFPA 704	KEY
HEALTH	1	1	4=SEVERE
FLAMMABILITY	1	1	3=SERIOUS
REACTIVITY	0	0	2=MODERATE
			1=SLIGHT
			0=MINIMAL



VEXCON
CHEMICALS, INC.

Concrete solutions for architects, engineers and builders since 1974
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HAZARD RATING
4=EXTREME
3=HIGH
2=MODERATE
1=SLIGHT
0=INSIGNIFICANT

REACTIVITY

0

SAFETY DATA SHEET
VEXCON NO. CC105
CERTI-VEX ENVIO CURE
100, 500, 1000

SECTION I - GENERAL INFORMATION

PRODUCT IDENTIFICATION: CERTI-VEX ENVIO CURE 100, 500, 1000	
VOC CONTENT:	<350 GR/LITER OR <2.92 #/GAL
CATEGORY:	CONCRETE CURING COMPOUND
COMMON NAME:	HYDROCARBON POLYMER EMULSION
MANUFACTURER:	VEXCON CHEMICALS, INC
ADDRESS:	7240 STATE RD, PHILADELPHIA, PA 19135
EMERGENCY NO:	800.858.2828 (PolySat Inc)
TELEPHONE NO:	215.332.7709 (Vexcon)
CHEMTREC NO:	800.424.9300 (CCN# 23822)
PREPARED:	DECEMBER 1998
UPDATED:	APRIL 2014
PREPARED BY:	DARRY F. MANUEL, PRESIDENT

SECTION II - HAZARD IDENTIFICATION

DOT SHIPPING NAME:

UN ID NUMBER / SHIPPING NAME / HAZARD CLASS / PKG GROUP
IN CONTAINERS LESS THAN AND GREATER THAN 119 GALS: IN ALL MODES
OF TRANSPORTATION
(NON-REGULATED)

HEALTH AND SAFETY:

THIS PRODUCT IS AN ORGANIC LIQUID AND WATER
EMULSION. PER NFPA 30 THIS MIXTURE WITH A
FLASH POINT GREATER THAN 200 F IS A CLASS III B
COMBUSTIBLE LIQUID. ALL PRECAUTIONS PROVIDED
ARE FOR THE ORGANIC LIQUID PORTION OF WHICH
THIS PRODUCT MAY CONTAIN AS LITTLE AS 5%. USE
WITH ADEQUATE VENTILATION. DO NOT INDUCE
VOMITING IF SWALLOWED. USE OF SOLVENT
RESISTANT GLOVES, GOGGLES AND OTHER PROTECTIVE CLOTHING IS
ADVISED WHEN HANDLING THIS PRODUCT. **KEEP FROM FREEZING.**



SECTION III HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENTS	CAS NO.	%	HAZARD DATA	UN#
HYDROCARBON POLYMER	68527-25-3	20-30%	ND	
STODDARD SOLVENT	8052-41-3	1-5%	ACGIH TLV: 100 ppm, 525 mg/m3 (TWA) OSHA PEL: 500 ppm, 2900 mg/m3 (TWA) NIOSH REL: 350 mg/m3 (TWA) OSHA HAZARD: COMBUSTIBLE LIQUID	1268
EMULSIFIERS / ADDITIVES	N/D	1-5%	N/A	NONE
WATER		50-70%	N/A	NONE

THIS PRODUCT DOES NOT CONTAIN ANY § SECTION 313 REPORTABLE INGREDIENTS.

SECTION IV FIRST AID MEASURES

HEALTH HAZARD DATA HAZARD CLASSIFICATION
BASIS FOR CLASSIFICATION SOURCE

ROUTES OF EXPOSURE:	
INHALATION:	THIS PRODUCT MAY CREATE BREATHING DIFFICULTIES, DIZZINESS, LIGHTEADEDNESS WHEN WORKING IN AREAS WITH HIGH VAPOR CONCENTRATION. STODDARD SOLVENT COMPONENT.
SKIN CONTACT:	THIS PRODUCT MAY CAUSE SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT. STODDARD SOLVENT COMPONENT.
SKIN ABSORPTION:	THIS PRODUCT MAY CAUSE SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT. STODDARD SOLVENT COMPONENT.
EYE CONTACT:	THIS PRODUCT MAY BE AN EYE IRRITANT. STODDARD SOLVENT COMPONENT.
INGESTION / INHALATION	SMALL AMOUNTS OF LIQUID ASPIRATED INTO THE RESPIRATORY SYSTEM DURING INGESTION, OR FROM VOMITING, MAY CAUSE BRONCHOPNEUMONIA OR PULMONARY EDEMA. DO NOT INDUCE VOMITING. SEEK IMMEDIATE MEDICAL ATTENTION.
EFFECTS OF OVEREXPOSURE:	TLV 50-100 ppm; ESTIMATED FROM SIMILAR PRODUCTS. STODDARD SOLVENT COMPONENT. ANESTHESIA, HEADACHE, NAUSEA, DIZZINESS. LIQUIDS MODERATELY IRRITATING ON SKIN AND EYES.
ACUTE OVEREXPOSURE:	ANESTHESIA, HEADACHE, NAUSEA, DIZZINESS: MODERATE IRRITATION BY LIQUID TO SKIN AND EYES. PROLONGED CONTACT ON THE SKIN WILL CLAY AND DEFAIT THE SKIN POSSIBLY CAUSING DERMATITIS.
NOTE ABOUT MINERAL SPIRITS OR STODDARD SOLVENT:	NOTE: THE THRESHOLD LIMIT VALUE (TLV) OF 100 ppm VAPOR IN AIR HAS BEEN ESTABLISHED BY THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS FOR STODDARD SOLVENT AND IS THUS APPLICABLE TO MINERAL SPIRITS. IN A STUDY OF EXXON CORP. MEDICAL RESEARCH WITH LABORATORY ANIMALS (RATS) EXPOSED TO VAPORS IN AIR OF A SOLVENT SIMILAR TO MINERAL SPIRITS, KIDNEY DAMAGE WAS NOTED IN MALE RATS AT THIS CONCENTRATION. THE RECENT STUDY SUGGESTS THAT THIS OCCUPATIONAL EXPOSURE LIMIT MAY HAVE TO BE LOWERED FOR THIS PRODUCT. WORK IS CONTINUING TO VALIDATE THESE FINDINGS AND WHETHER A REVISED OCCUPATIONAL EXPOSURE LIMIT SHOULD BE RECOMMENDED FOR MINERAL SPIRITS.

EMERGENCY AND FIRST AID PROCEDURES:

EYES:	FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. SEEK IMMEDIATE MEDICAL ATTENTION.
SKIN:	WASH WITH SOAP AND LARGE QUANTITIES OF WATER. SEEK MEDICAL ATTENTION IF SKIN IRRITATION DEVELOPS AND PERSISTS.
INHALATION:	MOVE TO LOCATION FREE FROM VAPORS. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IF BREATHING STOPS, BEGIN ARTIFICIAL RESPIRATION AND SEEK IMMEDIATE MEDICAL ATTENTION.
INGESTION:	DO NOT INDUCE VOMITING; SEEK IMMEDIATE MEDICAL ATTENTION.

SECTION V FIREFIGHTING MEASURES

EXTINGUISHING MEDIA:	FIRES INVOLVING THIS PRODUCT MAY BE CONTROLLED BY REGULAR FOAM, CARBON DIOXIDE, DRY CHEMICALS OR WATER SPRAY.
GENERAL HAZARD:	COMBUSTIBLE LIQUID - CAN FORM COMBUSTIBLE MIXTURES AT TEMPERATURES AT OR ABOVE THE FLASH POINT. "EMPTY" CONTAINERS RETAIN PRODUCT RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION: THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. EMPTY DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY RETURNED TO A DRUM RECONDITIONER, OR PROPERLY DISPOSED OF.
UNUSUAL FIRE AND EXPLOSION HAZARD:	PRODUCT WILL BURN IF TEMPERATURE EXCEEDS BOILING POINT. POLYMER FILM IS CAPABLE OF BURNING, GIVING OFF OXIDES OF CARBON. IF STORAGE CONTAINERS ARE EXPOSED TO EXCESSIVE HEAT, OVER PRESSURIZATION OF THE CONTAINERS CAN RESULT. VAPOR IS HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR THROUGH VENTILATION SYSTEM CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK. KEEP WORK AREAS FREE OF HOT METAL SURFACES AND OTHER SOURCES OF IGNITION.
SPECIAL FIRE FIGHTING PROCEDURES	THE USE OF SELF-CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE SHOULD BE PROVIDED FOR FIRE FIGHTERS IN BUILDINGS OR CONFINED AREAS WHERE THIS PRODUCT IS STORED. STORAGE CONTAINERS EXPOSED TO FIRE SHOULD BE KEPT COOL WITH WATER SPRAY IN ORDER TO PREVENT PRESSURE BUILD UP.

SECTION VI ACCIDENTAL RELEASE MEASURES

AQUATIC TOXICITY (E.G. 96 HR. TLM): DO NOT DISCHARGE THIS PRODUCT INTO PUBLIC WATERS OR WATERWAYS UNLESS AUTHORIZED BY A NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA).
STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: ELIMINATE SOURCES OF IGNITION (FLARES, FLAMES, PILOT LIGHTS, ELECTRICAL SPARKS). PREVENT ADDITIONAL DISCHARGE OF MATERIAL; IF POSSIBLE TO DO SO WITHOUT HAZARD. FOR SMALL SPILLS, IMPLEMENT CLEANUP PROCEDURES. FOR LARGE SPILL, IMPLEMENT CLEAN UP PROCEDURES AND, IF IN PUBLIC AREA, KEEP PUBLIC AWAY AND ADVISE AUTHORITIES. DIKE SPILL AREA WITH SAND OR EARTH TO CONTAIN SPILLED LIQUID AND PREVENT SPREADING. DO NOT USE COMBUSTIBLE MATERIALS SUCH AS SAWDUST. PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID CAN BE TAKEN UP ON SAND, EARTH, FLOOR ABSORBENT, OR WITH ANOTHER SUITABLE ABSORBENT MATERIAL AND SHOVELLED INTO CONTAINERS. CONSULT AN EXPERT ON DISPOSAL OF RECOVERED MATERIAL AND ENSURE CONFORMITY TO EPA, FEDERAL, STATE, AND LOCAL DISPOSAL REGULATIONS.

SECTION VII HANDLING AND STORAGE

PRECAUTIONARY STATEMENTS: PERSONNEL SHOULD AVOID INHALATION OF VAPORS. PERSONAL CONTACT WITH THE PRODUCT SHOULD BE AVOIDED. SHOULD CONTACT BE MADE, REMOVE SATURATED APPAREL AND FLUSH AFFECTED BODY AREAS WITH WATER. CLOTHING MUST BE WASHED AND DRIED BEFORE REUSE. CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUE (VAPOR, LIQUID AND/OR SOLID). ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET MUST BE OBSERVED.
FIRE FIGHTING: WATER MAY BE UNSUITABLE AS AN EXTINGUISHING MEDIUM BUT HELPFUL IN KEEPING ADJACENT CONTAINERS COOL. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES. PERSONNEL SHOULD AVOID INHALATION OF VAPORS.
OTHER HANDLING AND STORAGE REQUIREMENTS: STORE AND USE IN WELL VENTILATED AREA, EQUIVALENT TO FRESH AIR. KEEP CONTAINER TIGHTLY CLOSED. DO NOT STORE WITH INCOMPATIBLE MATERIALS. STORE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. DO NOT STORE OR CONSUME FOOD, DRINK, OR TOBACCO IN AREAS WHERE THEY MAY BECOME CONTAMINATED WITH THIS MATERIAL. KEEP AWAY FROM HIGH TEMPERATURES, OPEN FLAMES, SPARKS, SOURCES OF IGNITION, ETC. USE WITH EXPLOSION PROOF EQUIPMENT IS HIGHLY ADVISABLE.

SECTION VIII EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION REQUIREMENTS: LOCAL MECHANICAL VENTILATION MAY BE SUFFICIENT TO KEEP PRODUCT VAPOR CONCENTRATIONS WITHIN SPECIFIED TIME-WEIGHTED TLV RANGES. IF LOCAL VENTILATION PROVES INADEQUATE TO MAINTAIN SAFE VAPOR CONCENTRATIONS, SUPPLEMENTAL LOCAL EXHAUST MAY BE REQUIRED. OTHER SPECIAL PRECAUTIONS SUCH AS RESPIRATORY MASKS OR ENVIRONMENTAL CONTAINMENT DEVICES MAY BE REQUIRED IN EXTREME CASES.
--

RESPIRATORY (SPECIFY IN DETAIL): THE USE OF RESPIRATORY PROTECTION DEPENDS ON VAPOR CONCENTRATION ABOVE THE TIME WEIGHTED TLV: USE OF OSHA APPROVED CARTRIDGE RESPIRATOR OR GAS MASK OR AIR-PACK. CHEMICAL CARTRIDGE RESPIRATOR: HALF MASK ORGANIC VAPOR CARTRIDGE. FULL FACE ORGANIC VAPOR CARTRIDGE IF EYE PROTECTION IS NEEDED.
EYES: CHEMICAL GOGGLES AND/OR FACE SHIELD ARE RECOMMENDED TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY.
GLOVES: THE USE OF IMPERMEABLE GLOVES IS ADVISED TO PREVENT SKIN IRRITATION IN SENSITIVE INDIVIDUALS. IMPERVIOUS GLOVES, (CHEMICAL RESISTANT) SUCH AS NEOPRENE, LATEX OR PVA.
OTHER CLOTHING AND EQUIPMENT: TO PREVENT BODY CONTACT, IMPERVIOUS CLOTHING AND BOOTS ARE RECOMMENDED. IMPERVIOUS APRONS AND HELMETS (HEAD COVER) ARE RECOMMENDED WHEN WORKING WITH THIS PRODUCT. THE AVAILABILITY OF EYE WASHES AND SAFETY SHOWERS IN WORK AREAS IS RECOMMENDED.

SECTION IX PHYSICAL / CHEMICAL CHARACTERISTICS

BOILING POINT: (760mmHg) AZEOTROPE MS+WATER 93°C / 200°F	MELTING/FREEZING POINT: NOT DETERMINED For reference: -40°C / -40°F (Stoddard Solvent)
VAPOR PRESSURE: 5 mmHg @ 68°F/25°C (Stoddard solvent)	VAPOR DENSITY (AIR=1): 4.8 (Stoddard solvent) HEAVIER THAN AIR
SOLUBILITY IN H2O % BY WT: MISCIBLE	% VOLATILES BY VOL: 60-70%
EVAPORATION RATE (BuAc=1): SLOW 0.1 (Stoddard Solvent)	SPECIFIC GRAVITY (H2O=1) 1.09
pH (AS IS): 9-10 TYPICAL	pH (1% SOLN): 8.5-9
APPEARANCE AND ODOR:	BRIGHT YELLOW COLOR D LIQUID EMULSION - OR PINK WITH DYE (MAY CONTAIN FUGITIVE DYE)
FLASH POINT: (TEST METHOD)	>93°C / >200°F (TCC)
AUTOIGNITION TEMP:	232°C / 450°F (STODDARD SOLVENT)
FLAMMABLE LIMITS IN AIR, % BY VOL:	LOWER: 0.8% UPPER: 6.0% (STODDARD SOLVENT)

SECTION X STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY:	THIS PRODUCT IS STABLE.
INCOMPATIBILITY:	THIS PRODUCT IS INCOMPATIBLE WITH STRONG OXIDIZING AGENTS, STRONG ACIDS OR BASES, AND SELECTED AMINES.
HAZARDOUS DECOMPOSITION PRODUCTS:	THERMAL DECOMPOSITION IN THE PRESENCE OF AIR MAY YIELD CARBON MONOXIDE AND/OR CARBON DIOXIDE, AND UNIDENTIFIED ORGANICS.
CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:	N/A WILL NOT OCCUR

SECTION XI TOXICOLOGICAL INFORMATION

ROUT OF TOXICITY	CONCLUSION/REMARKS	
INHALATION	TOXICITY	MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
	IRRITATION	NEGLECTIBLE HAZARD AT AMBIENT/NORMAL HANDLING TEMPERATURES.
INGESTION	TOXICITY: LD50 >5000 mg/kg	MINIMALLY TOXIC. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS.
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EYE	IRRITATION	MAY CAUSE MILD, SHORT - LASTING DISCOMFORT TO EYES. BASED ON TEST DATA FOR STRUCTURALLY SIMILAR MATERIALS

CHRONIC/OTHER EFFECTS	FOR THE PRODUCT ITSELF	VAPOR/AEROSOL CONCENTRATIONS ABOVE RECOMMENDED EXPOSURE LEVELS ARE IRRITATING TO THE EYES AND RESPIRATORY TRACT, MAY CAUSE HEADACHES, DIZZINESS, ANESTHESIA, DROWSINESS, UNCONSCIOUSNESS, AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DEATH. PROLONGED AND/OR REPEATED SKIN MAY DEFAT THE SKIN RESULTING IN POSSIBLE IRRITATION AND DERMATITIS. SMALL AMOUNTS OF LIQUID ASPIRATED INTO THE LUNGS DURING INGESTION OR FROM VOMITING MAY CAUSE CHEMICAL PNEUMONITIS OR PULMONARY EDEMA.
	CONTAINS	NAPHTHALENE: EXPOSURE TO HIGH CONCENTRATIONS OF NAPHTHALENE MAY CAUSE DESTRUCTION OF RED BLOOD CELLS, ANEMIS AND CATARACTS. NAPHTHALENE CAUSED CANCER IN LABORATORY ANIMALS STUDIES, BUT THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNCERTAIN. ETHYLBENZENE: CAUSED CANCER IN LABORATORY ANIMALS STUDIES. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNCERTAIN.

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PERSISTENCE AND DEGRADABILITY	
BIODEGRADATION	MATERIAL EXPECTED TO BE INHERENTLY BIODEGRADABLE
HYDROLYSIS	MATERIAL TRANSFORMATION DUE TO HYDROLYSIS NOT EXPECTED TO BE SIGNIFICANT
PHOTOLYSIS	MATERIAL TRANSFORMATION DUE TO PHOTOLYSIS NOT EXPECTED TO BE SIGNIFICANT.
ATMOSPHERIC OXIDATION	MATERIAL EXPECTED TO DEGRADE RAPIDLY IN AIR

SECTION XIII DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:	IF POSSIBLE, PUMP TO CONTROLLED CONTAINMENT AREA. ABSORB ON CLAY OR SAND. DISPOSE OF IN COMPLIANCE WITH EPA, FEDERAL, STATE, AND LOCAL REGULATIONS. TREATMENT, TRANSPORTATION AND DISPOSAL MUST BE IN COMPLIANCE WITH EPA FEDERAL, STATE, AND LOCAL REGULATIONS UNDER THE RESOURCES CONSERVATION AND RECOVERY ACT (RCRA, 40 CFR 261). TYPICALLY CONTROLLED BURNING, INCINERATION OR APPROVED LAND FILL SITES ARE AVAILABLE.
-------------------------------	---

SECTION XIV TRANSPORTATION INFORMATION

Governing Body	Mode	UN Number	Proper Shipping Name	Hazard Class	Packing Group
DOT	GROUND	NON-REGULATED	NON REGULATED	NON REGULATED	NA
IATA	AIR	NON REGULATED	NON REGULATED	NON REGULATED	NA
IMDG	OCEAN	NON REGULATED	NON REGULATED	NON REGULATED	NA
MARINE POLLUTANT:		THIS PRODUCT DOES CONTAIN A MATERIAL. ON THE MARINE POLLUTANTS TABLE (HMT 172.101 APPENDIX B) MINERAL SPIRITS			

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SARA TITLE III: UNDER THE PROVISIONS OF TITLE III, SECTIONS 311/312 OF THE SUPERFUND AMENDMENTS AND RE-AUTHORIZATION ACT, THIS PRODUCT IS CLASSIFIED INTO THE FOLLOWING HAZARD CATEGORIES: DELAYED HEALTH, FIRE
ADDITIONAL REGULATORY CONCERNS: (FEDERAL, FDA, USDA, CPSC, STATE, OTHER)
FEDERAL:
USDA:
CERCLA / RQ: NONE
MARINE POLLUTANTS: THIS PRODUCT DOES CONTAIN A MATERIAL ON THE MARINE POLLUTANTS TABLE (HMT 172.101 Appendix B). SEE SECTION XIV
TSCA: IS THIS PRODUCT, OR ALL ITS INGREDIENTS, BEING CERTIFIED FOR INCLUSION ON THE TOXIC SUBSTANCES CONTROL ACT INVENTORY OF CHEMICAL SUBSTANCES? YES

SECTION XVI OTHER INFORMATION

PREPARED BY	DARRYL MANUEL / PRESIDENT
COMPANY:	VEXCON CHEMICALS, INC.
ADDRESS:	7240 STATE RD., PHILA., PA 19135 USA
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REACTIVITY	0	0	2=MODERATE
			1=SLIGHT
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SAFETY DATA SHEET

Klean Strip Paint Thinner

Page: 1

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Revision: 04/20/2015

Supersedes Revision: 09/08/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Klean Strip Paint Thinner

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Web site address: www.wmbarr.com

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Intended Use: Paint, stain, and varnish thinning.

Synonyms: CKPT94402, GKPT94002B, DKPT94403CA, EKPT94401, GKPT94002, GKPT94002P, GKPT94002T, GKPT94400, GPT1KS, PA12779, QKPT94003, QKPT94203, QPT1KS, GKPTDP

Additional Information This product is regulated by the United States Consumer Product Safety Commission and is subject to certain labeling requirements under the Federal Hazardous Substances Act. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS). The product label also includes other important information, including directions for use, and should always be read in its entirety prior to using the product.

2. HAZARDS IDENTIFICATION

Flammable Liquids, Category 3

Skin Corrosion/Irritation, Category 2

Serious Eye Damage/Eye Irritation, Category 2B

Toxic To Reproduction, Category 2

Specific Target Organ Toxicity (single exposure), Category 3

Specific Target Organ Toxicity (repeated exposure), Category 2

Aspiration Toxicity, Category 1



GHS Signal Word:

Danger

GHS Hazard Phrases:

H226: Flammable liquid and vapor.

H304: May be fatal if swallowed and enters airways.

H315: Causes skin irritation.

H320: Causes eye irritation.

H335: May cause respiratory irritation.

H336: May cause drowsiness or dizziness.

H361: Suspected of damaging fertility or the unborn child if inhaled.

H373: May cause damage to cardiovascular system and central nervous system through prolonged or repeated exposure.

GHS Precaution Phrases:

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233: Keep container tightly closed.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P260: Do not breathe gas/mist/vapors/spray.

P264: Wash hands thoroughly after handling.

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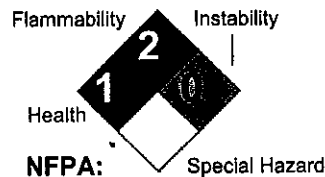
GHS Response Phrases:

P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P281: Use personal protective equipment as required.
P235: Keep cool.
P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P303+361+353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313: IF exposed or concerned: Get medical attention/advice.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P314: Get medical attention/advice if you feel unwell.
P321: Specific treatment see label.
P331: Do NOT induce vomiting.
P332+313: If skin irritation occurs, get medical advice/attention.
P337+313: If eye irritation persists, get medical advice/attention.
P362: Take off contaminated clothing and wash before re-use.
P370+378: In case of fire, use dry chemical powder to extinguish.
P403+233: Store container tightly closed in well-ventilated place.
P405: Store locked up.
P501: Dispose of contents/container according to local, state and federal regulations.

GHS Storage and Disposal Phrases:

Hazard Rating System:

HEALTH	*	1
FLAMMABILITY		2
PHYSICAL		0
PPE		



HMIS:

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

Potential Health Effects (Acute and Chronic):

Inhalation Acute Exposure Effects:

May cause dizziness; headache; watering of eyes; eye irritation; weakness; nausea; muscle twitches, and depression of central nervous system. Severe overexposure may cause convulsions; unconsciousness; and death. Intentional misuse of this product by deliberately concentrating and inhaling can be harmful or fatal.

Skin Contact Acute Exposure Effects:

May cause irritation; numbness in the fingers and arms; drying of skin; and dermatitis.
May cause increased severity of symptoms listed under inhalation.

Eye Contact Acute Exposure Effects:

This material is an eye irritant. May cause irritation; burns; conjunctivitis of eyes; and corneal ulcerations of the eye. Vapors may irritate eyes.

Ingestion Acute Exposure Effects:

Harmful or fatal if swallowed. May cause nausea; weakness; muscle twitches; gastrointestinal irritation; and diarrhea. Severe overexposure may cause convulsions; unconsciousness; and death.

Chronic Exposure Effects:

Reports have associated repeated and prolonged overexposure to solvents with neurological and other physiological damage. Prolonged or repeated contact may cause

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dermatitis. May cause jaundice; bone marrow damage; liver damage; anemia; and skin irritation.

Medical Conditions Generally Aggravated By Exposure: Diseases of the skin, eyes, liver, kidneys, central nervous system and respiratory system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration	RTECS #
64742-47-8	Hydrotreated light distillate (petroleum)	<=100.0 %	OA5504000
64742-82-1	Naphtha (petroleum), hydrodesulfurized heavy	<=100.0 %	NA
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	<=95.0 %	WJ8925000
25550-14-5	Benzene, Ethylmethyl-	<=1.5 %	NA
25551-13-7	Benzene, Trimethyl-	<=1.5 %	DC3220000
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	<=1.0 %	DC3325000
1330-20-7	Xylene (mixed isomers) {Benzene, dimethyl-}	<=1.0 %	ZE2100000
103-65-1	Benzene, Propyl- {N-Propylbenzene}	<=1.0 %	DA8750000

Additional Chemical Information Ingredients vary due to multiple blends and/or raw material suppliers

4. FIRST AID MEASURES

Emergency and First Aid Procedures:

Inhalation:

If user experiences breathing difficulty, move to air free of vapors, Administer oxygen or artificial medical assistance can be rendered.

Skin Contact:

Wash with soap and large quantities of water and seek medical attention if irritation from contact persists.

Eye Contact:

Flush with large quantities of water for at least 15 minutes and seek immediate medical attention.

Ingestion:

Do not induce vomiting. Call your local poison control center, hospital emergency room or physician immediately for instructions to induce vomiting.

If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.

Signs and Symptoms Of Exposure:

Inhalation, ingestion, and dermal are possible routes of exposure.

Note to Physician:

Call your local poison control center for further information.

Inhalation: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Administer supplemental oxygen with assisted ventilation as required.

Ingestion: If ingested, this material presents a significant aspiration and chemical

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pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.

5. FIRE FIGHTING MEASURES

Flash Pt: NFPA Class II
> 100.00 F

Explosive Limits: LEL: 0.5 UEL: 6

Autoignition Pt: No data.

Suitable Extinguishing Media: Use carbon dioxide, dry chemical powder, or foam.

Fire Fighting Instructions: Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined areas. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards: Combustible Liquid.

6. ACCIDENTAL RELEASE MEASURES

Steps To Be Taken In Case Material Is Released Or Spilled: Clean up:

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area.

Small spills:

Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills:

Dike far ahead of spill for later disposal.

Waste Disposal:

Dispose in accordance with applicable local, state and federal regulations.

7. HANDLING AND STORAGE

Precautions To Be Taken In Handling: Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters, and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always use proper bonding and grounding procedures.

Precautions To Be Taken in Storing: Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near flames or at elevated temperatures.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
64742-47-8	Hydrotreated light distillate (petroleum)	No data.	TLV: 200 mg/m3	No data.
64742-82-1	Naphtha (petroleum), hydrodesulfurized heavy	No data.	No data.	No data.
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	PEL: 500 ppm	TLV: 100 ppm	No data.
25550-14-5	Benzene, Ethylmethyl-	No data.	No data.	No data.
25551-13-7	Benzene, Trimethyl-	No data.	TLV: 25 ppm	No data.
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	No data.	No data.	No data.
1330-20-7	Xylene (mixed isomers) {Benzene, dimethyl-}	PEL: 100 ppm	TLV: 100 ppm STEL: 150 ppm	No data.
103-65-1	Benzene, Propyl- {N-Propylbenzene}	No data.	No data.	No data.

Respiratory Equipment (Specify Type):

For OSHA controlled work place and other regular users. Use only with adequate ventilation under engineered air control systems designed to prevent exceeding appropriate TLV. For occasional use, where engineered air control is not feasible, use properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors. A dust mask does not provide protection against vapors.

Eye Protection:

Safety glasses, goggles or face shields are recommended to safeguard against potential eye contact, irritation, or injury. Contact lenses should not be worn while working with chemicals.

Protective Gloves:

Wear impermeable gloves. Gloves contaminated with product should be discarded. Promptly remove clothing that becomes soiled with product.

Other Protective Clothing:

Various application methods can dictate use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure. Before reuse, thoroughly clean any clothing or protective equipment that has been contaminated by prior use. Discard any clothing or other protective equipment that cannot be decontaminated, such as gloves or shoes.

Engineering Controls (Ventilation etc.):

Use only with adequate ventilation to prevent build-up of vapors. Open all windows and doors. Use only with a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea, or eye-watering - Stop - ventilation is inadequate. Leave area immediately.

Work/Hygienic/Maintenance Practices:

A source of clean water should be available in the work area for flushing eyes and skin. Do not eat, drink, or smoke in the work area. Wash hands thoroughly after use.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States: ☐ Gas ☒ Liquid ☐ Solid
Appearance and Odor: Water White / Free and Clear
Melting Point: No data.
Boiling Point: 318.00 F - 385.00 F
Autoignition Pt: No data.
Flash Pt: > 100.00 F
Explosive Limits: LEL: 0.5 UEL: 6
Specific Gravity (Water = 1): 0.78
Vapor Pressure (vs. Air or mm Hg): 0.3 MM HG at 68.0 F
Vapor Density (vs. Air = 1): 5 Air = 1
Evaporation Rate: No data.
Solubility in Water: No data.
Solubility Notes: Very slightly soluble in cold water.
Percent Volatile: 100.0 % by weight.
VOC / Volume: 778.0000 G/L

10. STABILITY AND REACTIVITY

Stability: Unstable ☐ Stable ☒
Conditions To Avoid - Instability: No data available.
Incompatibility - Materials To Avoid: Incompatible with strong acids, alkalies, and oxidizers such as liquid chlorine and oxygen.
Hazardous Decomposition Or Byproducts: Decomposition may produce carbon monoxide and carbon dioxide.
Possibility of Hazardous Reactions: Will occur ☐ Will not occur ☒
Conditions To Avoid - Hazardous Reactions: No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information: Refer to section 2 for acute and chronic effects.
CAS# 25551-13-7:
Standard Draize Test, Skin, Species: Rabbit, 500.0 MG, 24 H, Moderate.
Result:
Kidney, Ureter, Bladder: Changes in liver weight.
Endocrine: Changes in thymus weight.
Immunological Including Allergic: Decreased immune response.
- "Sbornik Vysledku Toxikologickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucich P, Marhold, J.V., Institut Pro Vychovu Vedoucich, Pracovníku Chemického, Průmyslu Praha Czechoslovakia, Vol/p/yr: -,24, 1972

Standard Draize Test, Eyes, Species: Rabbit, 500.0 MG, 24 H, Mild.
Result:
Kidney, Ureter, Bladder: Changes in liver weight.
Kidney, Ureter, Bladder: Changes in bladder weight.
Nutritional and Gross Metabolic: Weight loss or decreased weight gain.
- "Sbornik Vysledku Toxikologickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucich P, Marhold, J.V., Institut Pro Vychovu Vedoucich, Pracovníku Chemického,

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Prumyclu Praha Czechoslovakia, Vol/p/yr: -,24, 1972

CAS# 1330-20-7:

Acute toxicity, LC50, Inhalation, Rat, 5000. PPM, 4 H.

Result:

Behavioral: Muscle contraction or spasticity.

Lungs, Thorax, or Respiration: Other changes.

- Raw Material Data Handbook, Vol.1: Organic Solvents, 1974., National Assoc. of
Printing Ink Research Institute, Francis McDonald Sinclair Memorial Labor, Lehigh Univ.,
Bethlehem, PA 18015, Vol/p/yr: 1,123, 1974

Standard Draize Test, Eyes, Species: Rabbit, 5.000 MG, 24 H, Severe.

Result:

Behavioral: General anesthetic.

Behavioral: Somnolence (general depressed activity).

Behavioral: Irritability.

- "Sbornik Vysledku Toxikologickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu
Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho,
Prumyclu Praha Czechoslovakia, Vol/p/yr: -,24, 1972

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
64742-47-8	Hydrotreated light distillate (petroleum)	n.a.	n.a.	A4	n.a.
64742-82-1	Naphtha (petroleum), hydrodesulfurized heavy	n.a.	n.a.	n.a.	n.a.
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	n.a.	n.a.	n.a.	n.a.
25550-14-5	Benzene, Ethylmethyl-	n.a.	n.a.	n.a.	n.a.
25551-13-7	Benzene, Trimethyl-	n.a.	n.a.	n.a.	n.a.
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	n.a.	n.a.	n.a.	n.a.
1330-20-7	Xylene (mixed isomers) {Benzene, dimethyl-}	n.a.	3	A4	n.a.
103-65-1	Benzene, Propyl- {N-Propylbenzene}	n.a.	n.a.	n.a.	n.a.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose in accordance with federal, state, and local regulations.

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14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Paint Related Material, Exempt Combustible Liquid per 49 CFR 173.150(f)

DOT Hazard Class:

UN/NA Number:

Additional Transport Information:

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
64742-47-8	Hydrotreated light distillate (petroleum)	No	No	No
64742-82-1	Naphtha (petroleum), hydrodesulfurized heavy	No	No	No
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	No	No	No
25550-14-5	Benzene, Ethylmethyl-	No	No	No
25551-13-7	Benzene, Trimethyl-	No	No	No
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	No	No	Yes
1330-20-7	Xylene (mixed isomers) {Benzene, dimethyl-}	No	Yes 100 LB	Yes
103-65-1	Benzene, Propyl- {N-Propylbenzene}	No	No	No

This material meets the EPA ☒ Yes ☐ No **Acute (immediate) Health Hazard**

'Hazard Categories' defined ☒ Yes ☐ No **Chronic (delayed) Health Hazard**

for SARA Title III Sections ☒ Yes ☐ No **Fire Hazard**

311/312 as indicated: ☐ Yes ☒ No **Sudden Release of Pressure Hazard**

☐ Yes ☒ No **Reactive Hazard**

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
64742-47-8	Hydrotreated light distillate (petroleum)	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
64742-82-1	Naphtha (petroleum), hydrodesulfurized heavy	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
8052-41-3	Stoddard solvent {Mineral spirits; Aliphatic Petroleum Distillates; White spirits}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
25550-14-5	Benzene, Ethylmethyl-	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 4 Test; CA PROP.65: No
25551-13-7	Benzene, Trimethyl-	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
95-63-6	1,2,4-Trimethylbenzene {Pseudocumene}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No
1330-20-7	Xylene (mixed isomers) {Benzene, dimethyl-}	CAA HAP,ODC: HAP; CWA NPDES: Yes; TSCA: Yes - Inventory; CA PROP.65: No
103-65-1	Benzene, Propyl- {N-Propylbenzene}	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 12(b); CA PROP.65: No

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**Regulatory Information
Statement:**

All components of this material are listed on the TSCA Inventory or are exempt.

16. OTHER INFORMATION

Revision Date: 04/20/2015

Preparer Name: W.M. Barr and Company, Inc. (901)775-0100

Additional Information About No data available.

This Product:

Company Policy or

Disclaimer:

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: Daracel
MSDS ID Number: D-06090

MSDS Date: 04/28/2006

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Daracel
MSDS Number: D-06090
Cancelled MSDS Number: D-05698
MSDS Date: 04/28/2006
Chemical Family Name: Aqueous Solution of Calcium Chloride with Triethanolamine
Product Use:
Chemical Formula: Mixture-NA
CAS # (Chemical Abstracts Service Number): Mixture-NA

Manufactured by:

W.R. Grace & Co.-Conn.
62 Whittemore Avenue
Cambridge, MA 02140

Grace Canada, Inc.
294 Clements Road West
Ajax, Ontario L1S 3C6

In Case of Emergency Call:

In USA: (617) 876-1400 In Canada: (905) 683-8561

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS#	Percent (max)
Calcium Chloride	010043-52-4	25-50
Potassium Chloride	007447-40-7	1-10
Sodium chloride	007647-14-5	1-10
Triethanolamine	000102-71-6	1-10

SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:

Warning!

Causes severe eye irritation.
Causes skin irritation.
May be harmful if ingested.
May cause liver and kidney damage.

HMIS Rating:

Health: 2*
Flammability: 0
Reactivity: 0
Personal Protective Equipment: B (See Section 8)

Potential Health Effects:

Inhalation: Causes respiratory tract irritation. If prolonged exposure to vapor or mist occurs, effects may be more severe resulting in coughing and breathing difficulties.

Effects include: If prolonged exposure to vapor or mist occurs, effects may be more severe resulting in coughing and breathing difficulties.

Eye Contact: Eye contact can cause severe irritation.

Prolonged eye contact can result in tissue damage.

Skin Contact: Skin contact causes irritation.

Prolonged skin contact can result in burns.

May cause sensitization.

Skin Absorption: Not expected to be harmful if absorbed through the skin.

Ingestion: Harmful if ingested.

Effects include: Nausea, vomiting, diarrhea and digestive tract irritation.

The following applies to Triethanolamine and associated materials: Triethanolamine has caused blood effects and liver and kidney damage in laboratory animal studies.

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: Daracel
MSDS ID Number: D-06090

MSDS Date: 04/28/2006

SECTION 4 - FIRST AID MEASURES:

Skin Contact: Wash with soap and water.

If discomfort or irritation persists, consult a physician.

Remove contaminated clothing and wash before reuse.

Eye Contact: Flush eyes with water for at least 15 minutes while holding eyelids open.

Get immediate medical attention.

Ingestion: Do not induce vomiting.

Never give anything by mouth to an unconscious person.

If discomfort or irritation persists, consult a physician.

Inhalation: If symptoms develop, get fresh air. If symptoms persist, consult a physician.

If breathing has stopped, give artificial respiration then oxygen if needed.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable

Flash Point Method: Aqueous/Inorganic

Lower Explosion Limit: Not Available

Upper Explosion Limit: Not Available

Auto-Ignition Temperature: Not Available

NFPA Rating:

Health: 1

Flammability: 0

Reactivity: 0

Extinguishing Media: In case of fire, use water spray, dry chemical, Carbon dioxide or foam.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and complete personal protective equipment when potential for exposure to vapors or products of combustion exist. Water may be used to cool containers to prevent pressure build-up and possible auto-ignition or explosion. Avoid breathing hazardous vapors or products of combustion. Keep upwind. Isolate area and keep unnecessary people away. Prevent run-off from fire control or dilution from entering streams or drinking water supplies.

Do not scatter spilled material with high pressure water stream. Fog nozzles are preferred if water is used.

Unusual Fire and Explosion Hazards: During fire, oxides of nitrogen may be evolved.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Spills/Leaks: Use proper personal protective equipment. Do not flush to sewer or allow to enter waterways. Keep unnecessary people away.

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container. For large spills, dike area and pump waste material into closed containers for disposal or reclamation.

SECTION 7 - HANDLING AND STORAGE

Precautionary Measures: Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

EXPOSURE GUIDELINES (US)

Ingredient	ACGIH TLV			OSHA PEL			Other
	TWA	STEL	Ceiling	TWA	STEL	Ceiling	
Calcium Chloride	-	-	-	-	-	-	-
Potassium Chloride	-	-	-	-	-	-	-
Sodium chloride	-	-	-	-	-	-	-
Triethanolamine	5 mg/m3 TWA	-	-	-	-	-	-

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: Daracel
MSDS ID Number: D-06090

MSDS Date: 04/28/2006

EXPOSURE GUIDELINES (CANADA)

Employers should consult local Provincial regulatory limits for exposure guidelines which may vary locally.

Engineering Controls: Not generally required.

Personal Protective Equipment:

Respiratory Protection: Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mits is required at or above the applicable exposure limits (Consult above Exposure Guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Skin Protection: Rubber or other impervious gloves should be worn to prevent skin contact.

Eye Protection: At minimum, safety glasses with side shields should be worn where exposure to excessive dust or spray is likely.

Work/Hygienic Practices: Use good personal hygiene practices.

Do not add nitrites to this product. Cancer-causing nitrosamines may be formed. Calcium chloride solutions will dry out and damage leather goods such as work boots and will reduce the expected life of such items.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance/Odor:	Blue color with a turbidity or a fine precipitate; medium blue, clear solution
Odor Threshold: (ppm)	Not Determined
pH:	8.5 - 10.0
Vapor Pressure: (Mm Hg)	7-15 mmHG @ 25°C, 77°F
Vapor Density: (Air = 1)	Same as Water
Solubility In Water:	Complete
Specific Gravity: (Water = 1)	1.3 - 1.4 @ 25°C, 77 °F
Evaporation Rate: (Butyl Acetate = 1)	~Equal to Water
Boiling Point:	230-251°F, 110-122°C
Viscosity:	Unknown
Bulk Density: (Pounds/Cubic Foot)(Pcf)	Not Applicable
% Volatiles (gr/L): (70°F) (21°C)	~65 (As Water)

SECTION 10 - STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions To Avoid:	Strong acids and Most metals.
Hazardous Polymerization:	Will not polymerize.
Hazardous Decomposition Products:	None known for this product.

SECTION 11 - TOXICOLOGICAL INFORMATION

<u>Ingredient(No data unless listed.)</u>	<u>CAS Number</u>	<u>LD50 and LC50</u>
Calcium Chloride	010043-52-4	Oral LD50 Rat: 1 gm/kg; Oral LD50 Mouse: 1940 mg/kg
Potassium Chloride	007447-40-7	Oral LD50 Rat: 2600 mg/kg; Oral LD50 Mouse: 1500 mg/kg
Sodium chloride	007647-14-5	Inhalation LC50 Rat: >42 gm/m3/1H; Oral LD50 Rat: 3 gm/kg; Oral LD50 Mouse: 4 gm/kg; Dermal LD50 Rab
Triethanolamine	000102-71-6	Oral LD50 Rat: 4920 uL/kg; Oral LD50 Mouse: 5846 mg/kg; Dermal LD50 Rabbit: >20 mL/kg

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: Daracel
MSDS ID Number: D-06090

MSDS Date: 04/28/2006

Carcinogenicity:

Ingredient	IARC Group 1	IARC Group 2A	IARC Group 2B	NTP Known	NTP Suspect	OSHA
Calcium Chloride	No	No	No	No	No	No
Potassium Chloride	No	No	No	No	No	No
Sodium chloride	No	No	No	No	No	No
Triethanolamine	No	No	No	No	No	No

Mutagenicity: Not applicable.

Teratogenicity: Not applicable.

Reproductive Toxicity: Not applicable.

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate: No data available for product.

Ecotoxicity: No data available for product.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Procedures: Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. According to EPA (40 CFR § 261), waste of this product is not defined as hazardous. Dispose of waste in accordance with all applicable regulations.

SECTION 14 - TRANSPORTATION INFORMATION

Proper Shipping Name: Not Applicable

UN/NA Number: Not Applicable

Domestic Hazard Class: Nonhazardous

Surface Freight Classification: Concrete or Masonry Plasticizer & Water Reducing Compound

Label/Placard Required: Not Applicable

SECTION 15 - REGULATORY INFORMATION

REGULATORY CHEMICAL LISTS:

CERCLA (Comprehensive Response Compensation and Liability Act):

(None present unless listed below)

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	<u>CERCLA RQ</u>
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SARA Title III (Superfund Amendments and Reauthorization Act)

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute) Yes

Health Delayed (chronic) Yes

Flammable No

Reactive No

Pressure No

302 Reportable Ingredients (Identification Threshold 1%):

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	<u>SARA 302 TPQ</u>
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313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
Diethanolamine	000111-42-2	.0666
Glycol ethers	RR-00067-9	.0012

National Volatile Organic Compound Emission Standards For Architectural Coatings:

Volatile Organic Content: (gr/L) 0

WHMIS Classification(s): D2 B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR). This MSDS contains all the information required by the CPR.

State Regulatory Information:

California Proposition 65: WARNING! This product contains substances known to the state of California to cause cancer, birth defects or other reproductive harm.

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: Daracel

MSDS ID Number: D-06090

MSDS Date: 04/28/2006

Massachusetts Hazardous Substance List(Identification threshold 0.001%(1ppm)):

Chemical Name **CAS #** **Wt %**

New Jersey Hazardous Substance List(Identification threshold (0.1%)):

Chemical Name **CAS #** **Wt %**

Pennsylvania Hazardous Substance List(Identification threshold 0.01%):

Chemical Name **CAS #** **Wt %**

CHEMICAL INVENTORY STATUS:

All chemicals in this product are listed or exempt from listing in the following countries:

US	CANADA		EUROPE	AUSTRALIA	JAPAN	KOREA	PHILIPPINES
TSCA	DSL	NDSL	EINECS/ELINCS	AICS	ENCS	ECL	PICCS
Yes	Yes	No	Not Determined	Not Determined	Not Determined	Not Determined	Not Determined

SECTION 16 - OTHER INFORMATION

Non-Hazardous Ingredient Disclosure:

Chemical Name

Water

CAS Number

007732-18-5

Prepared by:

EH&S Department

Approved by:

EH&S Department

Approved Date:

4/28/06

Disclaimer:

"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."

Safety Data Sheet

Page 1/8

Printing date 04/22/2015

Version Number 1.0

Reviewed on 04/22/2015

1 Identification

Product identifier

Trade name: ***Daracel M***

SDS ID Number: 56182

Relevant identified uses of the substance or mixture and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

W.R. Grace & Co. -Conn.
62 Whittemore Avenue
Cambridge, MA 02140 USA

Grace Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts
CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

2 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with additional nonhazardous ingredients.

Hazardous components:

10043-52-4	Calcium chloride	30-50%
102-71-6	Triethanolamine	1.0-2.0%

Additional information: For the wording of the listed risk phrases refer to section 16.

3 Hazard(s) identification

Classification of the substance or mixture

Causes serious eye irritation.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

(Cont. on page 2)

USGHS

Safety Data Sheet

Printing date 04/22/2015

Version Number 1.0

Reviewed on 04/22/2015

Trade name: *Daracel M*

(Cont. from page 1)

Hazard pictograms



GHS07

Warning

Precautionary statements

Wear eye protection / face protection.

Wash thoroughly after handling.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

NFPA ratings (scale 0 - 4)



Health = 1

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 2

Flammability = 1

Reactivity = 0

4 First-aid measures

General information:

Get medical advice/attention if you feel unwell.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact:

Immediately wash contaminated skin with soap or mild detergent and water. If this chemical soaks clothing, immediately remove clothing and wash skin.

After eye contact: Rinse cautiously with water for several minutes.

After swallowing: Rinse mouth.

5 Fire-fighting measures

Special hazards arising from the substance or mixture No further relevant information available.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

(Cont. on page 3)

USGHS

Safety Data Sheet

Printing date 04/22/2015

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Reviewed on 04/22/2015

Trade name: *Daraccel M*

(Cont. from page 2)

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Sweep up spilled product into receptacles.

Dispose contaminated material as waste according to section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling:****Precautions for safe handling**

Prevent formation of aerosols.

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Avoid contact with eyes.

Information about protection against explosions and fires: No special measures required.**Storage:****Information about storage in one common storage facility:** No special measures required.**Further information about storage conditions:** Keep receptacle tightly sealed.**Specific end use(s)** No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see item 7.**Components with limit values that require monitoring at the workplace:**

102-71-6 Triethanolamine

TLV (USA) Long-term value: 5 mg/m³**Additional information:** The lists that were valid during the creation were used as basis.**Personal protective equipment:****General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:

(Cont. on page 4)

USGHS

Safety Data Sheet

Printing date 04/22/2015

Version Number 1.0

Reviewed on 04/22/2015

Trade name: *Daracel M*

(Cont. from page 3)

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Protection of hands:

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product. Rubber or other impervious gloves should be worn to prevent skin contact.

Material of gloves

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Eye protection:

Safety glasses with side shield protection.

Safety glasses with side shields should be worn to prevent contact due to splashing. Under high vapor mist concentrations, tightly sealed goggles should be worn.



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Use personal protective equipment as required.

Take off contaminated clothing and wash before reuse.

9 Physical and chemical properties**General Information****Appearance:****Form:**

Liquid

Color:

According to product specification

Odor:

Characteristic

Odour threshold:

Not determined.

pH-value (~):

10

Change in condition**Melting point/Melting range:**

Undetermined.

Boiling point/Boiling range:

Undetermined.

Flash point:

Not applicable.

Flammability (solid, gaseous):

Not applicable.

Decomposition temperature:

Not determined.

Auto igniting:

Product is not selfigniting.

Danger of explosion:

Product does not present an explosion hazard.

Explosion limits:**Lower:**

Not determined.

Upper:

Not determined.

VOC Content (max):

Not determined.

Vapor pressure:

Not determined.

(Cont. on page 5)

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Printing date 04/22/2015

Version Number 1.0

Reviewed on 04/22/2015

Trade name: *Daracel M*

(Cont. from page 4)

Density: (~)	Not determined.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
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Partition coefficient (n-octanol/water): Not determined.

Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Molecular weight	Not applicable.

Other information	No further relevant information available.
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10 Stability and reactivity

Reactivity Stable under normal conditions.

Chemical stability

Thermal decomposition: No decomposition if used according to specifications.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: Carbon monoxide and carbon dioxide

Additional information: See section 7 for information on handling, storage and conditions to be avoided.

11 Toxicological information

Acute toxicity:

LD/LC50 values relevant for classification:

10043-52-4 Calcium chloride

Dermal	LD50	1000 mg/kg (rat)
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102-71-6 Triethanolamine

Oral	LD50	5300 mg/kg (guinea pig)
------	------	-------------------------

		6400 mg/kg (rat - male)
--	--	-------------------------

Dermal	LD50	>10000 mg/kg (rabbit)
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	LC50, 96h	11800 mg/l (fish)
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Primary irritant effect:

on the skin: No irritating effect expected

on the eye: Causes serious eye irritation.

Additional toxicological information:

102-71-6 Triethanolamine

NOEC/NOEL	16 mg/l (crustaceans) (Chronic NOEC)
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Safety Data Sheet

Printing date 04/22/2015

Version Number 1.0

Reviewed on 04/22/2015

Trade name: *Daracel M*

(Cont. from page 5)

Carcinogenic categories

IARC (International Agency for Research on Cancer) Human Carcinogenicity:
 Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable

102-71-6 Triethanolamine

3

NTP (National Toxicology Program)

K-Known to be carcinogenic, R-May reasonably be anticipated to be carcinogenic

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information**Aquatic toxicity:**

102-71-6 Triethanolamine

EC50, 48h 609.88 mg/l (daphnia magna)

EC50, 72h 512 mg/l (algae)

Persistence and degradability No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Additional ecological information:****General notes:** Not known to be hazardous to water.**13 Disposal considerations****Waste treatment methods** Comply with Federal, State and local regulations.**Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:**Recommendation:** Disposal must be made according to official regulations.**14 Transport information****UN-Number**

DOT, ADR, ADN, IMDG, IATA Not applicable.

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Not applicable.

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class

Not applicable.

(Cont. on page 7)
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Reviewed on 04/22/2015

Trade name: *Daracel M*

(Cont. from page 6)

Packing group

DOT, ADR, IMDG, IATA Not applicable.

Environmental hazards:

Marine pollutant: No

Special precautions for user Not applicable.

Transport/Additional information:

DOT

Remarks: Not Regulated.

UN "Model Regulation": -

15 Regulatory information

SARA (Superfund Amendments and Reauthorization Act)

Section 302/304 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

None of the ingredients is listed.

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	Yes
Health Delayed (chronic)	Yes
Flammable	No
Reactive	No
Pressure	No

North America Chemical Inventory Status

TSCA (Toxic Substances Control Act - United States):

All ingredients are listed or exempt from listing unless otherwise noted below.

CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure

7447-40-7 Potassium chloride

7647-14-5 Sodium chloride

7732-18-5 Water

California Proposition 65

Chemicals known to cause cancer:

Diethanolamine

1,4-dioxane

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

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Trade name: Daracel M

(Cont. from page 7)

Carcinogenicity Categories**EPA (Environmental Protection Agency)**

None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)**Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable**

Triethanolamine

A3

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.

If no g/L value is provided this product is not subject to above standard.

16 Other information

"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."

Department issuing SDS:

W.R. Grace & Co. -Conn.
62 Whittemore Avenue
Cambridge, MA 02140 USA
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414

Date of preparation / last revision 04/22/2015 / -**The first date of preparation 04/22/2015****Number of revision times and the latest revision date 1.0 / 04/22/2015**

USGHS

Safety Data Sheet

Page 1/9

Printing date 02/17/2016

Version Number 1.0

Reviewed on 02/08/2016

1 Identification

Product identifier

Trade name: **DARACEM 55**

SDS ID Number: 60036

Relevant identified uses of the substance or mixture, and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA

GCP Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts
CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

2 Hazard(s) identification

Classification of the substance or mixture

Harmful if swallowed.

Causes serious eye damage.

Label elements:

Hazard pictograms



GHS05 GHS07

Danger

Hazard statements

Harmful if swallowed.

Causes serious eye damage.

Precautionary statements

Wash thoroughly after handling.

Wear eye protection / face protection.

Do not eat, drink or smoke when using this product.

(Cont. on page 2)

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Safety Data Sheet

Page 2/9

Printing date 02/17/2016

Version Number 1.0

Reviewed on 02/08/2016

Trade name: **DARACEM 55**

(Cont. from page 1)

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Immediately call a POISON CENTER/doctor.

NFPA ratings (scale 0 - 4)



Health = 1

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 2

Flammability = 1

Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with additional nonhazardous ingredients.

Hazardous components:		
10124-37-5	Calcium nitrate	10-20%
102-71-6	Triethanolamine	1.0-2.0%

Additional information: For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

Description of first aid measures

General information:

Get medical advice/attention if you feel unwell.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact:

Immediately wash contaminated skin with soap or mild detergent and water. If this chemical soaks clothing, immediately remove clothing and wash skin.

After eye contact:

Rinse opened eye for several minutes under running water.

Rinse cautiously with water for several minutes.

After swallowing:

Wash out mouth with water

Rinse mouth.

(Cont. on page 3)

USGHS

Trade name: DARACEM 55

(Cont. from page 2)

Do not induce vomiting; immediately call for medical help.

Never give anything by mouth to an unconscious person.

Information for doctor:

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures**Extinguishing media****Suitable extinguishing agents:**

This material, if dried to a solid powder-like form, will become an oxidizer, which may provide oxygen to combustible materials.

Special hazards arising from the substance or mixture No further relevant information available.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Sweep up spilled product into receptacles.

Dispose contaminated material as waste according to section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling:****Precautions for safe handling**

Risk of serious damage to eyes.

Open and handle receptacle with care.

Prevent formation of aerosols.

(Cont. on page 4)

USGHS

Safety Data Sheet

Page 4/9

Printing date 02/17/2016

Version Number 1.0

Reviewed on 02/08/2016

Trade name: DARACEM 55

(Cont. from page 3)

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Information about protection against explosions and fires: Protect from heat.

Conditions for safe storage, including any incompatibilities

Storage:

Information about storage in one common storage facility: Protect from heat.

Further information about storage conditions:

Protect from heat and direct sunlight.

Keep receptacle tightly sealed.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Components with limit values that require monitoring at the workplace:

102-71-6 Triethanolamine

TLV (USA) Long-term value: 5 mg/m³

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Avoid contact with the eyes and skin.

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Protection of hands:

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product. Rubber or other impervious gloves should be worn to prevent skin contact.

Material of gloves

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Eye protection:



Safety glasses with side shield protection.

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USGHS

Safety Data Sheet

Printing date 02/17/2016

Version Number 1.0

Reviewed on 02/08/2016

Trade name: **DARACEM 55**

Safety glasses with side shields should be worn to prevent contact due to splashing. Under high vapor mist concentrations, tightly sealed goggles should be worn.

(Cont. from page 4)



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Protective work clothing

Use personal protective equipment as required.

Take off contaminated clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information**Appearance:**

Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

pH-value (~) at 20 °C (68 °F): 8

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.

Flammability (solid, gaseous): Not applicable.

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.
VOC Content (max):	Not determined.

Vapor pressure: Not determined.

Density: (~) Not determined.

Relative density Not determined.

Vapor density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

Molecular weight Not applicable.

(Cont. on page 6)

USGHS

Safety Data Sheet

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Printing date 02/17/2016

Version Number 1.0

Reviewed on 02/08/2016

Trade name: *DARACEM 55*

(Cont. from page 5)

Other information

No further relevant information available.

10 Stability and reactivity

Reactivity Stable under normal conditions.

Chemical stability

Thermal decomposition: No decomposition if used according to specifications.

Possibility of hazardous reactions

While not classified as oxidising, if allowed to dry out and come into contact with combustible material, this product may cause fire.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: Carbon monoxide and carbon dioxide

Additional information: See section 7 for information on handling, storage and conditions to be avoided.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

10124-37-5 Calcium nitrate

Oral	LD50	302 mg/kg (rat)
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102-71-6 Triethanolamine

Oral	LD50	5300 mg/kg (guinea pig)
		6400 mg/kg (rat - male)
	Dermal	LD50

Dermal	LD50	>10000 mg/kg (rabbit)
		LC50, 96h

Primary irritant effect:

on the skin: No irritating effect expected

on the eye: Causes serious eye damage.

inhalation: No irritating effect expected

Ingestion: Harmful if swallowed.

Additional toxicological information:

102-71-6 Triethanolamine

NOEC/NOEL	16 mg/l (crustaceans) (Chronic NOEC)
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Carcinogenic categories

IARC (International Agency for Research on Cancer) Human Carcinogenicity:

Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable

102-71-6	Triethanolamine	3
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Safety Data Sheet

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Reviewed on 02/08/2016

Trade name: *DARACEM 55*

(Cont. from page 6)

NTP (National Toxicology Program)

K—Known to be carcinogenic, **R**—May reasonably be anticipated to be carcinogenic

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity

Aquatic toxicity:

102-71-6 Triethanolamine

EC50, 48h 609.88 mg/l (daphnia magna)

EC50, 72h 512 mg/l (algae)

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes: Not known to be hazardous to water.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods Comply with Federal, State and local regulations.

Recommendation:



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, ADR, ADN, IMDG, IATA Not applicable.

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Not applicable.

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Trade name: **DARACEM 55**

(Cont. from page 7)

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class

Not applicable.

Packing group

DOT, ADR, IMDG, IATA

Not applicable.

Environmental hazards:

Marine pollutant:

No

Special precautions for user

Not applicable.

Transport/Additional information: Not classified as a dangerous good for transport by road, rail or air.

DOT

Remarks:

Not Regulated.

UN "Model Regulation":

Not applicable.

15 Regulatory information**SARA (Superfund Amendments and Reauthorization Act)****Section 302/304 (extremely hazardous substances):**

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

10124-37-5 Calcium nitrate

19.4%

SARA Section 312/Tier I & II Hazard Categories:

Health Delayed (chronic)

Yes

Health Immediate (acute)

Yes

Flammable

No

Reactive

No

Pressure

No

North America Chemical Inventory Status**TSCA (Toxic Substances Control Act - United States):**

All ingredients are listed or exempt from listing unless otherwise noted below.

CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure

8061-52-7 Calcium lignin sulfonate

7732-18-5 Water

California Proposition 65**Chemicals known to cause cancer:**

Diethanolamine

1,4-dioxane

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

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Trade name: DARACEM 55

(Cont. from page 8)

Carcinogenicity Categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)

Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable

Triethanolamine

A3

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.

If no g/L value is provided this product is not subject to above standard.

16 Other information

The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection.

Department issuing SDS:

GCP Applied Technologies

62 Whittemore Avenue

Cambridge, MA 02140 USA

USA: +1-617-876-1400 (24 hours)

+1-800-354-5414

Date of preparation / last revision 02/17/2016 / -

The first date of preparation 09/16/2011

Number of revision times and the latest revision date 1.0 / 02/08/2016

USGHS

Safety Data Sheet

Printing date 04/14/2015

Version Number 1.2

Reviewed on 04/14/2015

1 Identification

Product identifier

Trade name: **DARAVAIR AT 30**

SDS ID Number: 60052

Relevant identified uses of the substance or mixture and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

W.R. Grace & Co. -Conn.
62 Whittemore Avenue
Cambridge, MA 02140 USA

Grace Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts
CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

2 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with additional nonhazardous ingredients.

Hazardous components:

102-71-6	Triethanolamine	2.0-5.0%
61790-45-2	Fatty acids, tall-oil, sodium salt	2.0-5.0%

Additional information: For the wording of the listed risk phrases refer to section 16.

3 Hazard(s) identification

Classification of the substance or mixture

Causes serious eye damage.

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS05

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Reviewed on 04/14/2015

Trade name: **DARAVAIR AT 30**

(Cont. from page 1)

Danger

Hazard-determining components of labeling:

Fatty acids, tall-oil, sodium salt

Precautionary statements

Wear eye protection / face protection.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

NFPA ratings (scale 0 - 4)



Health = 2

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = *2

Flammability = 1

Reactivity = 0

4 First-aid measures

General information:

Get medical advice/attention if you feel unwell.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact:

Immediately wash contaminated skin with soap or mild detergent and water. If this chemical soaks clothing, immediately remove clothing and wash skin.

After eye contact:

Rinse opened eye for several minutes under running water.

Seek immediate medical advice.

After swallowing:

Wash out mouth with water

Do not induce vomiting; immediately call for medical help.

Never give anything by mouth to an unconscious person.

5 Fire-fighting measures

Special hazards arising from the substance or mixture No further relevant information available.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

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Printing date 04/14/2015

Version Number 1.2

Reviewed on 04/14/2015

Trade name: **DARAVAIR AT 30**

(Cont. from page 2)

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Sweep up spilled product into receptacles.

Dispose contaminated material as waste according to section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling:****Precautions for safe handling**

Open and handle receptacle with care.

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Information about protection against explosions and fires: No special measures required.

Storage:

Information about storage in one common storage facility: No special measures required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Components with limit values that require monitoring at the workplace:

102-71-6 Triethanolamine

TLV (USA) | Long-term value: 5 mg/m³

Additional information: The lists that were valid during the creation were used as basis.

Personal protective equipment:**General protective and hygienic measures:**

Avoid contact with the eyes and skin.

The usual precautionary measures for handling chemicals should be followed.

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Reviewed on 04/14/2015

Trade name: **DARAVAIR AT 30**

(Cont. from page 3)

Breathing equipment:

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Protection of hands:

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product. Rubber or other impervious gloves should be worn to prevent skin contact.

Material of gloves

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Eye protection:



Safety glasses with side shield protection.

Safety glasses with side shields should be worn to prevent contact due to splashing. Under high vapor mist concentrations, tightly sealed goggles should be worn.



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Protective work clothing

Use personal protective equipment as required.

Take off contaminated clothing and wash before reuse.

9 Physical and chemical properties

General Information

Appearance:

Form:

Liquid

Color:

According to product specification

Odor:

Characteristic

Odour threshold:

Not determined.

pH-value (~) at 20 °C (68 °F):

10

Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

Flash point:

Not applicable.

Flammability (solid, gaseous):

Not applicable.

Decomposition temperature:

Not determined.

Auto igniting:

Product is not selfigniting.

Danger of explosion:

Product does not present an explosion hazard.

Explosion limits:

Lower:

Not determined.

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Safety Data Sheet

Printing date 04/14/2015

Version Number 1.2

Reviewed on 04/14/2015

Trade name: **DARAVAIR AT 30**

(Cont. from page 4)

Upper: VOC Content (max):	Not determined. Not determined.
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Vapor pressure:	Not determined.
Density: (~) at 20 °C (68 °F)	1 g/cm ³ (8.345 lbs/gal)
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
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Partition coefficient (n-octanol/water):	Not determined.
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Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Molecular weight	Not applicable.

Other information	No further relevant information available.
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10 Stability and reactivity

Thermal decomposition: No decomposition if used according to specifications.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: Carbon monoxide and carbon dioxide

Additional information: See section 7 for information on handling, storage and conditions to be avoided.

11 Toxicological information**Acute toxicity:**

LD/LC50 values relevant for classification:

102-71-6 Triethanolamine

Oral	LD50	5300 mg/kg (guinea pig) 6400 mg/kg (rat - male)
Dermal	LD50	>10000 mg/kg (rabbit)
	LC50, 96h	11800 mg/l (fish)

Primary irritant effect:

on the skin: No irritating effect expected

on the eye: No irritating effect expected

Additional toxicological information:

102-71-6 Triethanolamine

NOEC/NOEL 16 mg/l (crustaceans) (Chronic NOEC)

Carcinogenic categories

IARC (International Agency for Research on Cancer) Human Carcinogenicity:
Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable

102-71-6 Triethanolamine

3

(Cont. on page 6)

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Version Number 1.2

Reviewed on 04/14/2015

Trade name: **DARAVAIR AT 30**

(Cont from page 5)

NTP (National Toxicology Program)

K-Known to be carcinogenic, R-May reasonably be anticipated to be carcinogenic

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Aquatic toxicity:

102-71-6 Triethanolamine

EC50, 48h 609.88 mg/l (daphnia magna)

EC50, 72h 512 mg/l (algae)

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Additional ecological information:

General notes: Not known to be hazardous to water.

13 Disposal considerations

Waste treatment methods Comply with Federal, State and local regulations.

Recommendation:



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, ADR, ADN, IMDG, IATA Not applicable.

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Not applicable.

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA
Class Not applicable.

Packing group

DOT, ADR, IMDG, IATA Not applicable.

Environmental hazards:

Marine pollutant: No

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Safety Data Sheet

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Printing date 04/14/2015

Version Number 1.2

Reviewed on 04/14/2015

Trade name: **DARAVAIR AT 30**

(Cont. from page 6)

Special precautions for user Not applicable.

Transport/Additional information: Not classified as a dangerous good for transport by road, rail or air.

DOT

Remarks: Not Regulated.

15 Regulatory information

SARA (Superfund Amendments and Reauthorization Act)

Section 302/304 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

None of the ingredients is listed.

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	Yes
Health Delayed (chronic)	Yes
Flammable	No
Reactive	No
Pressure	No

North America Chemical Inventory Status

TSCA (Toxic Substances Control Act - United States):

All ingredients are listed or exempt from listing unless otherwise noted below.

CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure

85409-27-4	Rosin, maleated, potassium salt
7732-18-5	Water

California Proposition 65

Chemicals known to cause cancer:

Diethanolamine

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity Categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)

Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable

Triethanolamine

A3

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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Printing date 04/14/2015

Version Number 1.2

Reviewed on 04/14/2015

Trade name: **DARAVAIR AT 30**

Volatile Organic Compounds (VOC) reported per the Emission Standards.
If no g/L value is provided this product is not subject to above standard.

(Cont from page 7)

16 Other information

"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."

Department issuing SDS:

W.R. Grace & Co. -Conn.
62 Whittemore Avenue
Cambridge, MA 02140 USA
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414

Date of preparation / last revision 04/14/2015 / 1.1

The first date of preparation 03/29/2012

Number of revision times and the latest revision date 1.2 / 04/14/2015

USGHS

Safety Data Sheet

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Printing date 02/17/2016

Version Number 1.1

Reviewed on 02/08/2016

1 Identification

Product identifier

Trade name: **DARAVAIR AT 60**

SDS ID Number: 60053

Relevant identified uses of the substance or mixture, and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA

GCP Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts
CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

2 Hazard(s) identification

Classification of the substance or mixture

Harmful if swallowed.

Causes serious eye damage.

Label elements: The product is classified and labeled according to the Globally Harmonized System (GHS)

Hazard pictograms



GHS05



GHS07

Danger

Hazard statements

Harmful if swallowed.

Causes serious eye damage.

Precautionary statements

Wash thoroughly after handling.

Wear eye protection / face protection.

Do not eat, drink or smoke when using this product.

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Version Number 1.1

Reviewed on 02/08/2016

Trade name: DARAVAIR AT 60

(Cont. from page 1)

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Immediately call a POISON CENTER/doctor.

NFPA ratings (scale 0 - 4)



Health = 1

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 2

Flammability = 1

Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with additional nonhazardous ingredients.

Hazardous components:		
102-71-6	Triethanolamine	5.0-10.0%
61790-45-2	Fatty acids, tall-oil, sodium salt	5.0-10.0%

Additional information: For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

Description of first aid measures

General information: Get medical advice/attention if you feel unwell.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact: Generally the product does not irritate the skin.

After eye contact:

Rinse opened eye for several minutes under running water.

Rinse cautiously with water for several minutes.

Seek immediate medical advice.

After swallowing:

Wash out mouth with water

Rinse mouth.

Do not induce vomiting; immediately call for medical help.

(Cont. on page 3)

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Safety Data Sheet

Printing date 02/17/2016

Version Number 1.1

Reviewed on 02/08/2016

Trade name: DARAVAIR AT 60

(Cont. from page 2)

Never give anything by mouth to an unconscious person.

Information for doctor:

Most important symptoms and effects, both acute and delayed Irritating to eyes.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Special hazards arising from the substance or mixture No further relevant information available.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Environmental precautions: Avoid release to the environment.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Dispose contaminated material as waste according to section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling:****Precautions for safe handling**

Open and handle receptacle with care.

Prevent formation of aerosols.

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Avoid contact with eyes.

Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities**Storage:**

Information about storage in one common storage facility: No special measures required.

(Cont. on page 4)

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Printing date 02/17/2016

Version Number 1.1

Reviewed on 02/08/2016

Trade name: **DARAVAIR AT 60**

(Cont. from page 3)

Further information about storage conditions: Keep receptacle tightly sealed.**Specific end use(s)** No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see item 7.**Control parameters****Components with limit values that require monitoring at the workplace:****102-71-6 Triethanolamine**TLV (USA) Long-term value: 5 mg/m³**Additional information:** The lists that were valid during the creation were used as basis.**Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Avoid contact with the eyes and skin.

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Control exposure to ingredients with workplace control parameters if mentioned above. If no ingredients are listed, respiratory protection is generally not required.

If exposure limits are listed and may be exceeded, use approved respiratory protective equipment and filter type appropriate for the listed ingredients. (NIOSH, CEN, etc.).

Protection of hands: Rubber or other impervious gloves should be worn to prevent skin contact.**Material of gloves** Nitrile rubber.**Eye protection:**

Safety glasses with side shield protection.



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Protective work clothing

Use personal protective equipment as required.

(Cont. on page 5)

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Printing date 02/17/2016

Version Number 1.1

Reviewed on 02/08/2016

Trade name: **DARAVAIR AT 60**

(Cont. from page 4)

Take off contaminated clothing.

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:****Form:**

Liquid

Color:

According to product specification

Odor:

Characteristic

Odor threshold:

Not determined.

pH-value (~) at 20 °C (68 °F):

11

Change in condition**Melting point/Melting range:**

Undetermined.

Boiling point/Boiling range:

Undetermined.

Flash point:

Not applicable.

Flammability (solid, gaseous):

Not applicable.

Decomposition temperature:

Not determined.

Auto igniting:

Product is not selfigniting.

Danger of explosion:

Product does not present an explosion hazard.

Explosion limits:**Lower:**

Not determined.

Upper:

Not determined.

VOC Content (max):

Not determined.

Vapor pressure:

Not determined.

Density: (~) at 20 °C (68 °F)1 g/cm³ (8.345 lbs/gal)**Relative density**

Not determined.

Vapor density

Not determined.

Evaporation rate

Not determined.

Solubility in / Miscibility with**Water:**

Not miscible or difficult to mix.

Partition coefficient (n-octanol/water):

Not determined.

Viscosity:**Dynamic:**

Not determined.

Kinematic:

Not determined.

Molecular weight

Not applicable.

Other information

No further relevant information available.

10 Stability and reactivity**Reactivity** Stable under normal conditions.**Chemical stability****Thermal decomposition:** No decomposition if used according to specifications.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.

(Cont. on page 6)

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Safety Data Sheet

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Printing date 02/17/2016

Version Number 1.1

Reviewed on 02/08/2016

Trade name: **DARAVAIR AT 60**

(Cont. from page 5)

Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

102-71-6 Triethanolamine

Oral	LD50	5300 mg/kg (guinea pig) 6400 mg/kg (rat - male)
Dermal	LD50	>10000 mg/kg (rabbit)
	LC50, 96h	11800 mg/l (fish)

Primary irritant effect:

on the skin: No irritating effect expected

on the eye: Causes serious eye damage.

inhalation: No irritating effect expected

Ingestion: Harmful if swallowed.

Additional toxicological information:

102-71-6 Triethanolamine

NOEC/NOEL 16 mg/l (crustaceans) (Chronic NOEC)

Carcinogenic categories

IARC (International Agency for Research on Cancer) Human Carcinogenicity:

Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable

102-71-6	Triethanolamine	3
111-42-2	Diethanolamine	2B

NTP (National Toxicology Program)

K-Known to be carcinogenic, R-May reasonably be anticipated to be carcinogenic

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

Toxicity

Aquatic toxicity:

102-71-6 Triethanolamine

EC50, 72h	512 mg/l (algae)
EC50, 48h	609.88 mg/l (daphnia magna)

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

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USGHS

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Printing date 02/17/2016

Version Number 1.1

Reviewed on 02/08/2016

Trade name: *DARAVAIR AT 60*

(Cont. from page 6)

Additional ecological information:

General notes: Not known to be hazardous to water.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation:



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, ADR, ADN, IMDG, IATA Not applicable.

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Not applicable.

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class Not applicable.

Packing group

DOT, ADR, IMDG, IATA Not applicable.

Environmental hazards:

Marine pollutant: No

Special precautions for user Not applicable.

Transport/Additional information:

DOT

Remarks: Not Regulated.

UN "Model Regulation": Not applicable.

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Version Number 1.1

Reviewed on 02/08/2016

Trade name: **DARAVAIR AT 60**

(Cont. from page 7)

15 Regulatory information

SARA (Superfund Amendments and Reauthorization Act)

Section 302/304 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

None of the ingredients is listed.

SARA Section 312/Tier I & II Hazard Categories:

Health Delayed (chronic)	No
Flammable	No
Reactive	No
Pressure	No
Health Immediate (acute)	Yes

North America Chemical Inventory Status

TSCA (Toxic Substances Control Act - United States):

All ingredients are listed or exempt from listing unless otherwise noted below.

CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure

85409-27-4	Rosin, maleated, potassium salt
25265-71-8	Dipropylene glycol
7732-18-5	Water

California Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity Categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)

Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable

Triethanolamine

A3

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.

If no g/L value is provided this product is not subject to above standard.

16 Other information

The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection.

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Reviewed on 02/08/2016

Trade name: *DARAVAIR AT 60*

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Department issuing SDS:

GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414

Date of preparation / last revision 02/17/2016 / 1.0**The first date of preparation 03/29/2012****Number of revision times and the latest revision date 1.1 / 02/08/2016**

USGHS

1 Identification

Product identifier

Trade name: Daratard 17

SDS ID Number: 1325

Relevant identified uses of the substance or mixture and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

W.R. Grace & Co. -Conn.
62 Whittamore Avenue
Cambridge, MA 02140 USA

Grace Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts
CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

2 Hazard(s) identification

Classification of the substance or mixture

The product is not classified according to the Globally Harmonized System (GHS).

GHS label elements Not applicable.

Hazard pictograms Not applicable.

Not applicable.

NFPA ratings (scale 0 - 4)



Health = 1
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 1
Flammability = 1
Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

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Reviewed on 05/19/2015

Trade name: *Daratard 17*

vPvB: Not applicable.

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3 Composition/information on ingredients

Chemical characterization: Mixtures

Hazardous components: Not applicable.

4 First-aid measures

Description of first aid measures

General information:

Get medical advice/attention if you feel unwell.

After skin contact:

Immediately wash contaminated skin with soap or mild detergent and water. If this chemical soaks clothing, immediately remove clothing and wash skin.

After eye contact:

Rinse opened eye for several minutes under running water.

Rinse cautiously with water for several minutes.

Seek immediate medical advice.

After swallowing:

Wash out mouth with water

Do not induce vomiting; immediately call for medical help.

Never give anything by mouth to an unconscious person.

Information for doctor:

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Special hazards arising from the substance or mixture No further relevant information available.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Sweep up spilled product into receptacles.

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Trade name: *Daratard 17*

(Cont. from page 2)

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling:

Precautions for safe handling

Open and handle receptacle with care.

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities

Storage:

Information about storage in one common storage facility: No special measures required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Avoid contact with the eyes and skin.

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Protection of hands:

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

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Trade name: *Daratard 17*

Rubber or other impervious gloves should be worn to prevent skin contact.

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Material of gloves

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Eye protection:



Safety glasses with side shield protection.

Safety glasses with side shields should be worn to prevent contact due to splashing. Under high vapor mist concentrations, tightly sealed goggles should be worn.



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Protective work clothing

Use personal protective equipment as required.

Take off contaminated clothing and wash before reuse.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odour threshold:	Not determined.

pH-value (~): 7

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	100 °C (212 °F)

Flammability (solid, gaseous): Not applicable.

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.
VOC Content (max):	Not determined.

Vapor pressure: Not determined.

Density: (~) Not determined.

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

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Printing date 05/19/2015

Version Number 1.0

Reviewed on 05/19/2015

Trade name: *Daratard 17*

(Cont. from page 4)

Solubility in / Miscibility with Water:

Not miscible or difficult to mix.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

Molecular weight

Not applicable.

Other information

No further relevant information available.

10 Stability and reactivity

Reactivity Stable under normal conditions.

Chemical stability

Thermal decomposition: No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: Carbon monoxide and carbon dioxide

Additional information: See section 7 for information on handling, storage and conditions to be avoided.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin: No irritating effect expected

on the eye: No irritating effect expected

inhalation: No irritating effect expected

Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer) Human Carcinogenicity:

Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable

None of the ingredients is listed.

NTP (National Toxicology Program)

K-Known to be carcinogenic, R-May reasonably be anticipated to be carcinogenic

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

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Reviewed on 05/19/2015

Trade name: *Daratard 17*

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12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Additional ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods: Comply with Federal, State and local regulations.

Recommendation:



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, ADR, ADN, IMDG, IATA: Not applicable.

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA: Not applicable.

Transport hazard class(es)

DOT, ADR, IMDG, IATA

Class: Not applicable.

ADN

ADN/R Class: Not applicable.

Packing group

DOT, ADR, IMDG, IATA: Not applicable.

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Printing date 05/19/2015

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Reviewed on 05/19/2015

Trade name: *Daratard 17*

(Cont. from page 6)

Environmental hazards:

Marine pollutant: No

Special precautions for user Not applicable.

Transport/Additional information: Not classified as a dangerous good for transport by road, rail or air.

DOT

Remarks: Not Regulated.

ADR

Remarks: Not Regulated.

IMDG

Remarks: Not Regulated.

IATA

Remarks: Not Regulated.

UN "Model Regulation": -

15 Regulatory information

SARA (Superfund Amendments and Reauthorization Act)

Section 302/304 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

None of the ingredients is listed.

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	Yes
Health Delayed (chronic)	No
Flammable	No
Reactive	No
Pressure	No

North America Chemical Inventory Status

TSCA (Toxic Substances Control Act - United States):

All ingredients are listed or exempt from listing unless otherwise noted below.

CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure

8029-43-4	Corn syrup
8061-52-7	Calcium lignin sulfonate
8061-51-6	Sodium Lignosulphonate
7732-18-5	Water

California Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

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Printing date 05/19/2015

Version Number 1.0

Reviewed on 05/19/2015

Trade name: *Daratard 17*

(Cont. from page 7)

Chemicals known to cause developmental toxicity:

67-56-1 | Methanol

Carcinogenicity Categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)

Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable

None of the ingredients is listed.

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.

If no g/L value is provided this product is not subject to above standard.

16 Other information

"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."

Date of preparation / last revision 05/19/2015 / -

The first date of preparation 06/14/2011

Number of revision times and the latest revision date 1.0 / 05/19/2015

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Safety Data Sheet

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Printing date 06/06/2016

Version Number 1.0

Reviewed on 06/06/2016

1 Identification

Product identifier

Trade name: **DARATARD 37**

SDS ID Number: 60048

Relevant identified uses of the substance or mixture, and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA

GCP Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts
CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

2 Hazard(s) identification

Classification of the substance or mixture

The product is not classified according to the Globally Harmonized System (GHS).

Label elements:

Hazard pictograms Not applicable.

Not applicable.

Hazard statements Not applicable.

NFPA ratings (scale 0 - 4)

 Health = 1
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)

HEALTH	1	Health = 1
FIRE	1	Flammability = 1
REACTIVITY	0	Reactivity = 0

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Printing date 06/06/2016

Version Number 1.0

Reviewed on 06/06/2016

Trade name: *DARATARD 37*

(Cont. from page 1)

Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**3 Composition/information on ingredients****Chemical characterization:** Mixtures**Hazardous components:** Not applicable.**4 First-aid measures****Description of first aid measures****General information:**

Get medical advice/attention if you feel unwell.

After skin contact:

Immediately wash contaminated skin with soap or mild detergent and water. If this chemical soaks clothing, immediately remove clothing and wash skin.

After eye contact:

Rinse opened eye for several minutes under running water.

Seek immediate medical advice.

After swallowing:

Wash out mouth with water

Do not induce vomiting; immediately call for medical help.

Never give anything by mouth to an unconscious person.

Information for doctor:**Most important symptoms and effects, both acute and delayed** No further relevant information available.**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures**Special hazards arising from the substance or mixture** No further relevant information available.**Additional information** Collect contaminated fire fighting water separately. It must not enter the sewage system.**6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

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Trade name: DARATARD 37

Sweep up spilled product into receptacles.

(Cont. from page 2)

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling:****Precautions for safe handling**

Open and handle receptacle with care.

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities**Storage:**

Information about storage in one common storage facility: No special measures required.

Further information about storage conditions: Keep receptacle tightly sealed.

Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see item 7.

Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls**Personal protective equipment:****General protective and hygienic measures:**

Avoid contact with the eyes and skin.

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

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Version Number 1.0

Reviewed on 06/06/2016

Trade name: **DARATARD 37**

(Cont. from page 3)

Protection of hands:

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product. Rubber or other impervious gloves should be worn to prevent skin contact.

Material of gloves

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Eye protection:

Safety glasses with side shield protection.

Safety glasses with side shields should be worn to prevent contact due to splashing. Under high vapor mist concentrations, tightly sealed goggles should be worn.



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Protective work clothing

Use personal protective equipment as required.

Take off contaminated clothing.

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

pH-value (~) at 20 °C (68 °F): 7

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	Not applicable.

Flammability (solid, gaseous): Not applicable.

Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.

Explosion limits:

Lower:	Not determined.
Upper:	Not determined.
VOC Content (max):	Not determined.

Vapor pressure:	Not determined.
Density: (~) at 20 °C (68 °F)	1.2 g/cm ³ (10.014 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.

(Cont. on page 5)

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Reviewed on 06/06/2016

Trade name: **DARATARD 37**

(Cont. from page 4)

Evaporation rate	Not determined.
Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Molecular weight	Not applicable.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity Stable under normal conditions.

Chemical stability

Thermal decomposition: No decomposition if used according to specifications.

Possibility of hazardous reactions No dangerous reactions known.

Conditions to avoid No further relevant information available.

Incompatible materials: No further relevant information available.

Hazardous decomposition products: Carbon monoxide and carbon dioxide

Additional information: See section 7 for information on handling, storage and conditions to be avoided.

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin: No irritating effect expected

on the eye: No irritating effect expected

inhalation: No irritating effect expected

Ingestion:

Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer) Human Carcinogenicity:
Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable

None of the ingredients is listed.

NTP (National Toxicology Program)

K-Known to be carcinogenic, R-May reasonably be anticipated to be carcinogenic

None of the ingredients is listed.

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Safety Data Sheet

Printing date 06/06/2016

Version Number 1.0

Reviewed on 06/06/2016

Trade name: **DARATARD 37**

(Cont. from page 5)

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information**Toxicity**

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.**Behavior in environmental systems:**

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes: Not known to be hazardous to water.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.**13 Disposal considerations****Waste treatment methods** Comply with Federal, State and local regulations.**Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:**Recommendation:** Disposal must be made according to official regulations.**14 Transport information****UN-Number**

DOT, ADR, ADN, IMDG, IATA Not applicable.

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Not applicable.

Transport hazard class(es)DOT, ADR, ADN, IMDG, IATA
Class Not applicable.**Packing group**

DOT, ADR, IMDG, IATA Not applicable.

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Version Number 1.0

Reviewed on 06/06/2016

Trade name: *DARATARD 37*

(Cont. from page 6)

Environmental hazards:

Marine pollutant: No

Special precautions for user Not applicable.

Transport/Additional information: Not classified as a dangerous good for transport by road, rail or air.

DOT

Remarks: Not Regulated.

UN "Model Regulation": Not applicable.

15 Regulatory information

SARA (Superfund Amendments and Reauthorization Act)

Section 302/304 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

None of the ingredients is listed.

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	No
Health Delayed (chronic)	No
Flammable	No
Reactive	No
Pressure	No

North America Chemical Inventory Status

TSCA (Toxic Substances Control Act - United States):

All ingredients are listed or exempt from listing unless otherwise noted below.

CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure:

8061-52-7	Calcium lignin sulfonate
8061-51-6	Sodium Lignosulphonate
8029-43-4	Corn syrup
7732-18-5	Water

California Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

67-56-1 | Methanol

Carcinogenicity Categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

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Safety Data Sheet

Printing date 06/06/2016

Version Number 1.0

Reviewed on 06/06/2016

Trade name: DARATARD 37

(Cont. from page 7)

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)
Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable

None of the ingredients is listed.

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.
If no g/L value is provided this product is not subject to above standard.**16 Other information**

The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection.

Department issuing SDS:

GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414

Date of preparation / last revision 06/06/2016 / -**The first date of preparation** 03/29/2012**Number of revision times and the latest revision date** 1.0 / 06/06/2016

USGHS

Safety Data Sheet

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Printing date 02/18/2016

Version Number 1.1

Reviewed on 02/18/2016

1 Identification

Product identifier

Trade name: **DARATARD HC**

SDS ID Number: 60049

Relevant identified uses of the substance or mixture, and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA

GCP Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety

USA: +1-617-876-1400 (24 hours)

+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts

CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

2 Hazard(s) identification

Classification of the substance or mixture

May cause an allergic skin reaction.

Label elements:

Hazard pictograms



GHS07

Warning

Hazard statements

May cause an allergic skin reaction.

Precautionary statements

Wear protective gloves.

Avoid breathing dust/fume/gas/mist/vapors/spray

IF ON SKIN: Wash with plenty of water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Trade name: *DARATARD HC*

NFPA ratings (scale 0 - 4)

(Cont. from page 1)



Health = 1
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = *1
Flammability = 1
Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of the substances listed below with additional nonhazardous ingredients.

Hazardous components:

26172-55-4	5-chloro-2-methyl-2H-isothiazol-3-one	0.0-0.1%
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Additional information: For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

Description of first aid measures

General information:

Get medical advice/attention if you feel unwell.

After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact:

Immediately wash contaminated skin with soap or mild detergent and water. If this chemical soaks clothing, immediately remove clothing and wash skin.

After eye contact:

Rinse opened eye for several minutes under running water.

Rinse cautiously with water for several minutes.

Seek immediate medical advice.

After swallowing:

Wash out mouth with water

Rinse mouth.

Do not induce vomiting; immediately call for medical help.

Never give anything by mouth to an unconscious person.

(Cont. on page 3)

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Trade name: *DARATARD HC*

(Cont. from page 2)

Information for doctor:

Most important symptoms and effects, both acute and delayed May cause sensitization by skin contact.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

Special hazards arising from the substance or mixture No further relevant information available.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Sweep up spilled product into receptacles.

Dispose contaminated material as waste according to section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling:****Precautions for safe handling**

Open and handle receptacle with care.

Prevent formation of aerosols.

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities**Storage:**

Information about storage in one common storage facility: No special measures required.

Further information about storage conditions: Keep receptacle tightly sealed.

(Cont. on page 4)

USGHS

Trade name: *DARATARD HC*

(Cont. from page 3)

Specific end use(s) No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see item 7.**Control parameters****Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.**Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Avoid contact with the eyes and skin.

The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Protection of hands:

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Rubber or other impervious gloves should be worn to prevent skin contact.

Material of gloves

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Eye protection:

Safety glasses with side shield protection.

Safety glasses with side shields should be worn to prevent contact due to splashing. Under high vapor mist concentrations, tightly sealed goggles should be worn.



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Protective work clothing

Use personal protective equipment as required.

Take off contaminated clothing.

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Trade name: **DARATARD HC**

(Cont. from page 4)

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Liquid
Color:	Dark brown
Odor:	Characteristic
Odor threshold:	Not determined.

pH-value (~) at 20 °C (68 °F):

7

Change in condition**Melting point/Melting range:** Undetermined.**Boiling point/Boiling range:** Undetermined.**Flash point:** Not applicable.**Flammability (solid, gaseous):** Not applicable.**Decomposition temperature:** Not determined.**Auto igniting:** Product is not selfigniting.**Danger of explosion:** Product does not present an explosion hazard.**Explosion limits:****Lower:** Not determined.**Upper:** Not determined.**VOC Content (max):** Not determined.**Vapor pressure:** Not determined.**Density: (~)** Not determined.**Relative density** Not determined.**Vapor density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Not miscible or difficult to mix.**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**Molecular weight** Not applicable.**Other information**

No further relevant information available.

10 Stability and reactivity**Reactivity** Stable under normal conditions.**Chemical stability****Thermal decomposition:** No decomposition if used according to specifications.**Conditions to avoid** No further relevant information available.**Incompatible materials:** No further relevant information available.**Hazardous decomposition products:** Carbon monoxide and carbon dioxide**Additional information:** See section 7 for information on handling, storage and conditions to be avoided.USGHS
(Cont. on page 6)

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Trade name: **DARATARD HC**

(Cont. from page 5)

11 Toxicological information**Information on toxicological effects****Acute toxicity:****Primary irritant effect:****on the skin:** No irritating effect expected**on the eye:** No irritating effect expected**inhalation:** No irritating effect expected**Ingestion:****Sensitization:** Sensitization possible through skin contact.**Additional toxicological information:****Carcinogenic categories****IARC (International Agency for Research on Cancer) Human Carcinogenicity:**
Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable

None of the ingredients is listed.

NTP (National Toxicology Program)**K- Known to be carcinogenic, R- May reasonably be anticipated to be carcinogenic**

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:** Not known to be hazardous to water.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.**13 Disposal considerations****Waste treatment methods** Comply with Federal, State and local regulations.

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Trade name: **DARATARD HC**

Recommendation:

(Cont. from page 6)



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, ADR, ADN, IMDG, IATA Not applicable.

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Not applicable.

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA Class Not applicable.

Packing group

DOT, ADR, IMDG, IATA Not applicable.

Environmental hazards:

Marine pollutant: No

Special precautions for user

Not applicable.

Transport/Additional information: Not classified as a dangerous good for transport by road, rail or air.

DOT

Remarks: Not Regulated.

UN "Model Regulation":

Not applicable.

15 Regulatory information

SARA (Superfund Amendments and Reauthorization Act)

Section 302/304 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

None of the ingredients is listed.

SARA Section 312/Tier I & II Hazard Categories:

Health Delayed (chronic)	Yes
Health Immediate (acute)	Yes
Flammable	No
Reactive	No
Pressure	No

North America Chemical Inventory Status

TSCA (Toxic Substances Control Act - United States):

All ingredients are listed or exempt from listing unless otherwise noted below.

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Reviewed on 02/18/2016

Trade name: **DARATARD HC**

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CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure

527-07-1 Sodium gluconate

7732-18-5 Water

California Proposition 65**Chemicals known to cause cancer:**

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity Categories**EPA (Environmental Protection Agency)**

None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)**Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable**

None of the ingredients is listed.

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.

If no g/L value is provided this product is not subject to above standard.

*** 16 Other information**

The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection.

Department issuing SDS:

GCP Applied Technologies

62 Whittemore Avenue

Cambridge, MA 02140 USA

USA: +1-617-876-1400 (24 hours)

+1-800-354-5414

Date of preparation / last revision 02/18/2016 / 1.0**The first date of preparation 03/29/2012****Number of revision times and the latest revision date 1.1 / 02/18/2016**

USGHS

1 Identification of the substance/mixture and of the company/undertaking**Product identifier**Trade name: *Polarset*

MSDS ID Number: D-06833

Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

W.R. Grace & Co. -Conn.
62 Whittemore Avenue
Cambridge, MA 02140 USA

Other Country Contact Information:

For products distributed beyond the country Manufacturer/Supplier identified above
Consult Section 16 for additional emergency contact information.

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)**2 Composition/information on ingredients****Chemical characterization: Mixtures****Description:** Mixture of the substances listed below with nonhazardous additions.**Hazardous components:**

13780-06-8	Calcium nitrite	10-20%
10124-37-5	Calcium nitrate	5.0-10.0%
111-46-6	Diethylene glycol	2.0-5.0%
105-59-9	Aliphatic alcohol	1.0-2.0%

3 Hazards identification**Classification of the substance or mixture**

Contact with acids liberates toxic gas.

Information concerning hazards for human and environment:

Harmful in contact with skin and if swallowed.

Contact with acids liberates toxic gas.

Risk of serious damage to eyes.

Safety phrases:

Keep away from heat.

Keep away from combustible material.

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Reviewed on 03/05/2012

Trade name: Polarset

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Do not breathe gas/fumes/vapor/spray.

Avoid contact with skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Keep only in the original container.

See Section 13 for disposal information.

Inhalation: Causes respiratory tract irritation.**Eye Contact:** Causes serious eye damage.**Skin Contact:** Causes skin irritation.**Skin Absorption:** May be harmful if absorbed through skin.**Ingestion:**

Harmful if swallowed.

Diethylene Glycol has been observed to cause effects on the central nervous system, kidneys, and liver. Symptoms include headache, nausea, and abdominal discomfort, dizziness and slurred speech.

Diethylene Glycol has caused toxicity to the fetus and has caused birth defects in animal studies.

May be fatal if ingested

Harmful if swallowed. Ingestion may result in vomiting. Aspiration (breathing) of vomitus into lungs must be avoided as even small quantities may result in aspiration pneumonitis.

Large amounts of nitrates/nitrites may cause nausea, vomiting, cyanosis (due to methemoglobin formation), abnormally slow respiration, collapse and coma

Additional target organ effects:

May cause liver damage

May cause kidney damage

May cause teratogenic effects

May cause reproductive effects.

May cause central nervous system depression.

NFPA ratings (scale 0 - 4)

Health = 2

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)

Health = *3

Flammability = 1

Reactivity = 0

Other hazards

While not classified as oxidising, if allowed to dry out and come into contact with combustible material, this product may cause fire.

Although not classified as dangerous, this product can produce toxic and very toxic fumes in the presence of acids or in fire situations.

4 First aid measures**After inhalation:**

Take affected persons into fresh air and keep quiet.

Seek immediate medical advice.

(Cont. on page 3)

USA

Trade name: *Polarset*

(Cont. from page 2)

After skin contact: If skin irritation continues, consult a doctor.

After eye contact:

Seek immediate medical advice.

Rinse opened eye for several minutes under running water.

After swallowing: Do not induce vomiting; immediately call for medical help.

5 Firefighting measures

Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

This material, if dried to a solid powder-like form, will become an oxidizer, which may provide oxygen to combustible materials.

Special hazards arising from the substance or mixture

Wear self-contained breathing apparatus and complete personal protective equipment when potential for exposure to vapors or products of combustion exist. Water may be used to cool containers to prevent pressure build-up and possible auto-ignition or explosion. Avoid breathing hazardous vapors or products of combustion. Keep upwind. Isolate area and keep unnecessary people away. Prevent run-off from fire control or dilution from entering streams or drinking water supplies.

Protective equipment: Wear self-contained respiratory protective device.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Avoid contact with eyes.

Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow product to reach sewage system or any water course. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Sweep up spilled product into receptacles.

Dispose contaminated material as waste according to section 13 of the MSDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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Reviewed on 03/05/2012

Trade name: Polarset

(Cont. from page 3)

See Section 13 for disposal information.

7 Handling and storage**Handling:****Precautions for safe handling**

Open and handle receptacle with care.

Prevent formation of aerosols.

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Ensure good interior ventilation.

Do not mix directly with acidic materials. Do not mix directly with other admixtures. Hazardous gas may form.

Store in original containers.

Information about protection against explosions and fires:

Protect from heat.

Empty containers may retain hazardous residue, both liquid and vapor.

Storage:**Information about storage in one common storage facility:** Protect from heat.**Further information about storage conditions:**

Protect from heat and direct sunlight.

Keep receptacle tightly sealed.

Protect from frost.

Store in cool, dry conditions in well sealed receptacles.

Specific end use(s) No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see item 7.**Components with limit values that require monitoring at the workplace:****111-46-6 Diethylene glycol**WEEL 10 mg/m³**Additional information:** The lists that were valid during the creation were used as basis.

(Cont. on page 5)

USA

Trade name: *Polarset*

(Cont. from page 4)

Personal protective equipment:**General protective and hygienic measures:**

Avoid contact with the eyes and skin.

Do not add amines to this product. Cancer-causing nitrosamines may be formed. Direct contact with other admixtures, washwater and any other material causing the pH to fall below specification can result in the formation of NO_x gas creating a hazardous situation. Nitric oxide (NO) is a colorless, odorless gas. Nitrogen dioxide (NO₂) is a reddish-brown gas with a highly pungent, bleach-like odor. Exposure can cause irritation to eyes and respiratory system and effect the central nervous and cardiovascular systems. Severe overexposure can be fatal. This hazard does not exist when mixed with other admixtures in concrete.

Breathing equipment:

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

A chemical cartridge respirator with organic vapor cartridge is required. A dust/mist cartridge or prefilter may be needed in addition to control exposure to mist. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Protection of hands:

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Rubber or other impervious gloves should be worn to prevent skin contact.

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Material of gloves

Gloves should be impermeable and resistant to the product. Selection of material should be considered before use.

Eye protection:

Safety glasses with side shield protection.



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection: Protective work clothing

9 Physical and chemical properties**General Information****Appearance:****Form:**

Liquid

Color:

According to product specification

Odor:

Characteristic

Odour threshold:

Not determined.

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Reviewed on 03/05/2012

Trade name: *Polarset*

(Cont. from page 5)

pH-value:	~9
Change in condition	
Melting point/Melting range:	Undetermined.
Flash point:	Not applicable.
Flammability (solid, gaseous):	Not applicable.
Decomposition temperature:	Not determined.
Auto igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
VOC Content (max):	Not determined.
Vapor pressure:	Not determined.
Density at 20°C (68 °F):	~1.4 g/cm ³ (~11.683 lbs/gal)
Vapour density	Not determined.
Evaporation rate	Not determined.
Segregation coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Other information	No further relevant information available.

10 Stability and reactivity**Thermal decomposition:** No decomposition if used according to specifications.**Possibility of hazardous reactions**

While not classified as oxidising, if allowed to dry out and come into contact with combustible material, this product may cause fire.

Incompatible materials:

Avoid direct contact with other admixtures and any other material which could cause the pH of this product to fall below 8.0. Those conditions can result in the formation of Nitrogen oxide (NO, NO₂) gas, creating a hazardous situation.

Hazardous decomposition products: Carbon monoxide and carbon dioxide**Additional information:** See section 7 for information on handling, storage and conditions to be avoided.

USA

(Cont. on page 7)

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Trade name: *Polarset*

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11 Toxicological information

Acute toxicity:

LD/LC50 values relevant for classification:

13780-06-8 Calcium nitrite

Dermal	LD50	283 mg/kg (rat)
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Primary irritant effect:

on the skin: Harmful in contact with skin.

on the eye: Risk of serious damage to eyes.

Ingestion: Harmful if swallowed.

Additional toxicological information:

Glycols contained in this product have been associated with the following effects: birth defects and liver and kidney damage. Excessive exposure can cause headache, weakness, confusion, dizziness, staggering, slurred speech, loss of coordination, faintness, vomiting, increased heart rate, decreased blood pressure, difficulty breathing and seeing, pulmonary edema, unconsciousness, convulsions, collapse and coma.

12 Ecological information

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behavior in environmental systems:

Bioaccumulative potential No further relevant information available.

Additional ecological information:

General notes: Danger to drinking water if even small quantities leak into the ground.

13 Disposal considerations

Waste treatment methods Comply with Federal, State and local regulations.

Recommendation:



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

USA

(Cont. on page 8)

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Version Number 1.2

Reviewed on 03/05/2012

Trade name: *Polarset*

(Cont. from page 7)

14 Transport information

UN-Number DOT, ADR, ADN, IMDG, IATA	Not applicable.
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Not applicable.
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	Not applicable.
Packing group DOT ADR, IMDG, IATA	Not applicable.
Environmental hazards: Marine pollutant:	No
Special precautions for user Danger code (Kemler):	Not applicable. -
Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code	Not applicable.
Transport/Additional information: DOT Remarks:	Not Regulated.

15 Regulatory information**SARA (Superfund Amendments and Reauthorization Act)****Section 302/304 (extremely hazardous substances):**

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

10124-37-5	Calcium nitrate	8.9%
	Proprietary Nitrate Compounds	4.0%

SARA Section 312/Tier I & II Hazard Categories:

Health Immediate (acute)	Yes
Health Delayed (chronic)	Yes
Flammable	No
Reactive	No
Pressure	No

North America Chemical Inventory Status**TSCA (Toxic Substances Control Act - United States):**

All ingredients are listed or exempt from listing unless otherwise noted below.

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Trade name: *Polarset*

(Cont. from page 8)

CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

California Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

WHMIS Classification(s):

D2B - Toxic material causing other toxic effects



Carcinogenicity Categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

IARC (International Agency for Research on Cancer) Human Carcinogenicity:

Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable

None of the ingredients is listed.

NTP (National Toxicology Program)

K ☐ Known to be carcinogenic, R ☐ May reasonably be anticipated to be carcinogenic

None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)

Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable

None of the ingredients is listed.

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

OSHA-Cancer (Occupational Safety & Health Administration)

None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards for Architectural Coatings:

If no g/L value is provided this product is not subject to above standard.

International Chemical Inventory Status

European EINECS

All ingredients are listed.

Philippines Inventory of Chemicals and Chemical Substances PICCS

Inventory listing could not be confirmed for one or more substances.

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Trade name: Polarset

(Cont. from page 9)

Inventory of Existing Chemical Substances manufactured or imported in China IECSC

Inventory listing could not be confirmed for one or more substances.

Australian Inventory of Chemical Substances AICS

Inventory listing could not be confirmed for one or more substances.

Japan Existing and New Chemical Substance List ENCS

Inventory listing could not be confirmed for one or more substances.

Korean Existing Chemical Inventory

Inventory listing could not be confirmed for one or more substances.

Non-hazardous Ingredients

	RR Numbers
527-07-1	Sodium gluconate
37293-74-6	Calcium naphthalene sulfonate
7789-41-5	calcium bromide
7732-18-5	Water

16 Other information

"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."

USA

Safety Data Sheet

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Printing date 02/17/2016

Version Number 1.1

Reviewed on 02/08/2016

1 Identification

Product identifier

Trade name: **DARASET 400**

SDS ID Number: 60044

Relevant identified uses of the substance or mixture, and uses advised against
Specialty construction product. Not intended for other uses

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA

GCP Canada, Inc.
294 Clements Road W.
Ajax, Ontario L1S 3C6 Canada

Information department:

Environmental Health & Safety
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414 (8AM - 5PM) Not functional within Massachusetts
CAN: 1-905-683-8561 (24 hours)

Transport Emergency: Chemtrec +1-800-424-9300 (24 hours)

2 Hazard(s) identification

Classification of the substance or mixture

Harmful if swallowed.

Causes serious eye damage.

Label elements:

Hazard pictograms



GHS05



GHS07

Danger

Hazard statements

Harmful if swallowed.

Causes serious eye damage.

Precautionary statements

Wash thoroughly after handling.

Wear eye protection / face protection.

Do not eat, drink or smoke when using this product.

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If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

Immediately call a POISON CENTER/doctor.

NFPA ratings (scale 0 - 4)



Health = 2

Fire = 1

Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 2

Flammability = 1

Reactivity = 0

Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients**Chemical characterization: Mixtures**

Description: Mixture of the substances listed below with additional nonhazardous ingredients.

Hazardous components:

10124-37-5	Calcium nitrate	30-50%
13780-06-8	Calcium nitrite	2.0-5.0%
540-72-7	Sodium thiocyanate	2.0-5.0%

Additional information: For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures**Description of first aid measures**

General information: Get medical advice/attention if you feel unwell.

After inhalation: Take affected persons into fresh air and keep quiet.

After skin contact: If skin irritation continues, consult a doctor.

After eye contact:

Rinse opened eye for several minutes under running water.

Rinse cautiously with water for several minutes.

Seek immediate medical advice.

After swallowing:

Wash out mouth with water

Rinse mouth.

Never give anything by mouth to an unconscious person.

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Trade name: DARASET 400

(Cont. from page 2)

Do not induce vomiting; immediately call for medical help.

Information for doctor:

Most important symptoms and effects, both acute and delayed Harmful if swallowed.

Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures**Extinguishing media****Suitable extinguishing agents:**

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

This material, if dried to a solid powder-like form, will become an oxidizer, which may provide oxygen to combustible materials.

Special hazards arising from the substance or mixture No further relevant information available.

Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Avoid contact with eyes.

Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

Methods and material for containment and cleaning up:

Contain and/or absorb spill with inert material (i.e. sand, vermiculite) then place in a suitable container.

Sweep up spilled product into receptacles.

Dispose contaminated material as waste according to section 13 of the SDS.

Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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Trade name: **DARASET 400**

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7 Handling and storage**Handling:****Precautions for safe handling**

Risk of serious damage to eyes.

Open and handle receptacle with care.

Prevent formation of aerosols.

Avoid contact with eyes, skin and clothing.

Do not take internally.

Practice good personal hygiene to avoid ingestion.

Use only with adequate ventilation.

Wash clothing before reuse.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

Ensure good interior ventilation.

Do not mix directly with acidic materials. Do not mix directly with other admixtures. Hazardous gas may form.

Store in original containers.

Information about protection against explosions and fires: Protect from heat.**Conditions for safe storage, including any incompatibilities****Storage:****Information about storage in one common storage facility:** Protect from heat.**Further information about storage conditions:**

Protect from heat and direct sunlight.

Keep receptacle tightly sealed.

Protect from frost.

Store in cool, dry conditions in well sealed original receptacles.

Specific end use(s) No further relevant information available.**8 Exposure controls/personal protection****Additional information about design of technical systems:** No further data; see item 7.**Control parameters****Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.**Exposure controls****Personal protective equipment:****General protective and hygienic measures:**

Avoid contact with the eyes and skin.

The usual precautionary measures for handling chemicals should be followed.

Do not add amines to this product. Cancer-causing nitrosamines may be formed. Direct contact with other admixtures, washwater and any other material causing the pH to fall below specification can result in the formation of NO_x gas creating a hazardous situation. Nitric oxide (NO) is a colorless, odorless gas. Nitrogen dioxide (NO₂) is a reddish-brown gas with a highly pungent, bleach-like odor. Exposure can cause irritation to eyes and respiratory

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system and effect the central nervous and cardiovascular systems. Severe overexposure can be fatal. This hazard does not exist when mixed with other admixtures in concrete.

Breathing equipment:

Respiratory protection is not normally required. However, a chemical cartridge respirator with organic vapor cartridge and a prefilter for dusts/mists is required at or above the applicable exposure limits (consult exposure guidelines). If no limits exist, use an approved respirator whenever a vapor or mist is generated or if respiratory irritation occurs. Supplied air respirator (SCBA) is required at exposure levels above the capabilities of a chemical cartridge respirator.

Protection of hands:

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Material of gloves

Gloves should be worn to prevent skin contact and should be impermeable and resistant to the product.

Eye protection:

Safety glasses with side shield protection.

Safety glasses with side shields should be worn to prevent contact due to splashing. Under high vapor mist concentrations, tightly sealed goggles should be worn.



A face shield should also be worn if there is potential exposure to splash or spray.

Body protection:

Protective work clothing

Use personal protective equipment as required.

Take off contaminated clothing.

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Liquid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

pH-value (~) at 20 °C (68 °F): 9

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	100 °C (212 °F)

Flammability (solid, gaseous): Not applicable.

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

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Trade name: **DARASET 400**

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Explosion limits:

Lower:	Not determined.
Upper:	Not determined.
VOC Content (max):	Not determined.

Vapor pressure:	Not determined.
Density: (~) at 20 °C (68 °F)	1.4 g/cm ³ (11.683 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
--	-----------------------------------

Partition coefficient (n-octanol/water): Not determined.**Viscosity:**

Dynamic:	Not determined.
Kinematic:	Not determined.
Molecular weight	Not applicable.

Other information No further relevant information available.**10 Stability and reactivity****Reactivity** Stable under normal conditions.**Chemical stability****Thermal decomposition:** No decomposition if used according to specifications.**Possibility of hazardous reactions**

While not classified as oxidising, if allowed to dry out and come into contact with combustible material, this product may cause fire.

Contact with acids liberates very toxic gas.

Conditions to avoid No further relevant information available.**Incompatible materials:**Avoid direct contact with other admixtures and any other material which could cause the pH of this product to fall below 8.0. Those conditions can result in the formation of Nitrogen oxide (NO, NO₂) gas, creating a hazardous situation.**Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Nitrogen oxides

Additional information: See section 7 for information on handling, storage and conditions to be avoided.

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(Cont. on page 7)

Trade name: **DARASET 400**

(Cont. from page 6)

11 Toxicological information**Information on toxicological effects****Acute toxicity:****LD/LC50 values relevant for classification:****10124-37-5 Calcium nitrate**

Oral LD50 302 mg/kg (rat)

13780-06-8 Calcium nitrite

Oral LD50 283 mg/kg (rat)

Primary irritant effect:**on the skin:** No irritating effect expected**on the eye:** Causes serious eye damage.**inhalation:** No irritating effect expected**Ingestion:**

May be fatal if swallowed and enters airways.

Harmful if swallowed.

Additional toxicological information:**Carcinogenic categories****IARC (International Agency for Research on Cancer) Human Carcinogenicity:****Group 1- Positive, Group 2A- Probable, Group 2B- Possible, Group 3- Not Classifiable**

102-71-6 Triethanolamine

3

NTP (National Toxicology Program)**K-Known to be carcinogenic, R-May reasonably be anticipated to be carcinogenic**

None of the ingredients is listed.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:** Not known to be hazardous to water.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**Other adverse effects** No further relevant information available.

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Trade name: **DARASET 400**

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13 Disposal considerations**Waste treatment methods** Comply with Federal, State and local regulations.**Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:**Recommendation:** Disposal must be made according to official regulations.**14 Transport information****UN-Number**

DOT, ADR, ADN, IMDG, IATA Not applicable.

UN proper shipping name

DOT, ADR, ADN, IMDG, IATA Not applicable.

Transport hazard class(es)DOT, ADR, ADN, IMDG, IATA
Class Not applicable.**Packing group**

DOT, ADR, IMDG, IATA Not applicable.

Environmental hazards:**Marine pollutant:** No**Special precautions for user**

Not applicable.

Transport/Additional information: Not classified as a dangerous good for transport by road, rail or air.**DOT****Remarks:** Not Regulated.**UN "Model Regulation":**

Not applicable.

15 Regulatory information**SARA (Superfund Amendments and Reauthorization Act)****Section 302/304 (extremely hazardous substances):**

None of the ingredients is listed.

Section 313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):

10124-37-5 Calcium nitrate

40.6%

SARA Section 312/Tier I & II Hazard Categories:

Health Delayed (chronic) Yes

Health Immediate (acute) Yes

Flammable No

Reactive No

Pressure No

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Trade name: DARASET 400

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North America Chemical Inventory Status

TSCA (Toxic Substances Control Act - United States):

All ingredients are listed or exempt from listing unless otherwise noted below.

CEPA (Canadian DSL):

All ingredients are listed or exempt from listing unless otherwise noted below.

Right to Know Ingredient Disclosure

7732-18-5 Water

California Proposition 65

Chemicals known to cause cancer:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

Carcinogenicity Categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

TLV-ACGIH (THE American Conference of Governmental Industrial Hygienists)

Human Carcinogen - A1 Confirmed, A2 Suspected, A3 Unknown Relevance, A4 Not Classifiable

None of the ingredients is listed.

NIOSH-Cancer (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

Volatile Organic Compounds (VOC) reported per the Emission Standards.

If no g/L value is provided this product is not subject to above standard.

16 Other information

The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection.

Department issuing SDS:

GCP Applied Technologies
62 Whittemore Avenue
Cambridge, MA 02140 USA
USA: +1-617-876-1400 (24 hours)
+1-800-354-5414

Date of preparation / last revision 02/17/2016 / 1.0

The first date of preparation 12/13/2011

Number of revision times and the latest revision date 1.1 / 02/08/2016

USGHS

W. R. MEADOWS.**SEALTIGHT.****SAFETY DATA SHEET**

Page 1 of 2

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product: 1100 **Part Number:** 3011000
Manufacturer: W. R. Meadows®, Inc. **Address:** 300 Industrial Drive
 Hampshire, Illinois 60140
Telephone: (847) 214-2100 **In case of emergency, dial (800) 424-9300 (CHEMTREC)**
Revision Date: 9/9/2014
Product Use: Concrete Curing Compound

SECTION 2: HAZARDS IDENTIFICATION/EXPOSURE LIMITS

HMIS
Health | 1 | **HAZARD STATEMENTS**
 May cause skin irritation.
Flammability | 0 | May cause eye irritation.
Reactivity | 0 | May cause respiratory irritation.
Personal Protection | | **PRECAUTIONARY STATEMENTS**
 Avoid direct contact.
 Avoid of inhalation of mists/vapors.

**SECTION 3: HAZARDS COMPONENTS**

Chemical Name:	CAS Number	% by Weight	SARA 313	Vapor Pressure (mm Hg@20°C)	LEL (@25°C)
1. Light Aromatic Naphtha	64742-95-6	5-10	No	2.1	1

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1966 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313." *N/A: Not Applicable*

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Immediately flush eyes with water for fifteen minutes. If symptoms persist, seek medical attention.
SKIN CONTACT: Remove contaminated shoes/clothing. Wipe excess from skin and wash with soap if available. Seek medical attention if irritation persists. Do not use clothing until thoroughly decontaminated.
INHALATION: Remove victim to fresh air and treat symptomatically. Seek medical attention if symptoms persist.
INGESTION: Do not induce vomiting. If vomiting spontaneously occurs, keep the victim's head below the hips to prevent lung aspiration. Seek immediate medical attention.

SECTION 5: FIRE AND EXPLOSIVES HAZARDS

FLASHPOINT: >210 degrees F
EXTINGUISHING MEDIA: Water fog, foam, dry chemical, or carbon dioxide.
CHEMICAL/COMBUSTION HAZARDS: Carbon dioxide, carbon monoxide, and incomplete combustion products.
PRECAUTIONS/PERSONAL PROTECTIVE EQUIPMENT: Avoid smoke inhalation. Personal protective equipment should include helmet, face shield, bunker coat, gloves, rubber boots, and a positive pressure NIOSH-approved self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Evacuate unauthorized personnel from spill area. Wear appropriate personal protective equipment. Shut off source of spill if safe to do so. Dike and contain. Recover free product and soak up residue with an absorbent, such as clay or other suitable material. Place in non-leaking containers for proper disposal. Flush area to remove trace residues. Dispose of flush solutions as above.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES: Avoid direct contact.
SAFE STORAGE: Keep containers closed when not in use. Prevent product from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name:	OSHA					ACGIH		
	PEL	PEL/CEILING	PEL/STEL	SKIN	TWA	TLV/CEILING	TLV/STEL	SKIN
1. Light Aromatic Naphtha	N/E	N/E	N/E	N/E	N/E	N/E	N/E	N/E

N/E: Not Established

ENGINEERING CONTROLS: None required under normal use conditions.

PERSONAL PROTECTIVE EQUIPMENT: Safety glasses, chemical resistant gloves.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 212 degrees F	VAPOR DENSITY: > 1 (Air=1)	% VOLATILE BY VOLUME: 85
EVAPORATION RATE: <1 (Ether =1)	pH LEVEL: 8.80	% VOLATILE BY WEIGHT: 84
WEIGHT PER GALLON: 8.33	PRODUCT APPEARANCE: Tan Liquid	VOC CONTENT: 113 g/L

SECTION 10: STABILITY/REACTIVITY

STABILITY: Stable. **HAZARDOUS POLYMERIZATION:** Will not occur.
CONDITIONS AND MATERIALS TO AVOID: Strong oxidizing agents.

SAFETY DATA SHEET

Date of Preparation: 9/9/14

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3011000

Section 10 continued

HAZARDOUS DECOMPOSITION PRODUCTS: None recognized.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: Direct contact may cause mild to moderate irritation. Product vapors/mists may also cause irritation.

SKIN CONTACT: Direct contact may result in mild to moderate irritation.

INHALATION: Not expected to be an exposure pathway under normal use conditions.

INGESTION: Not expected to be an exposure pathway under normal use conditions.

SIGNS AND SYMPTOMS: Symptoms of eye irritation include pain, tearing, redness, and swelling. Symptoms of skin irritation include reddening, swelling, and rash. Symptoms of respiratory irritation include runny nose, coughing, chest discomfort, shortness of breath, and reduced lung function. Symptoms of gastrointestinal irritation include sore throat, abdominal pain, nausea, vomiting, and diarrhea.

AGGRAVATED MEDICAL CONDITIONS: None recognized.

OTHER HEALTH EFFECTS: None recognized.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: N/E

DEGRADABILITY: N/E

BIOACCUMULATIVE POTENTIAL: N/E

SOIL MOBILITY: N/E

OTHER ADVERSE EFFECTS: N/E

SECTION 13: WASTE DISPOSAL INFORMATION

WASTE DISPOSAL INFORMATION: Classified as a non-hazardous waste.

SECTION 14: TRANSPORTATION INFORMATION

HAZARDOUS/NON-HAZARDOUS MATERIAL: Non-hazardous.

UN NUMBER: None.

HAZARD CLASS: None.

PACKING GROUP: None.

UN PROPER SHIPPING NAME: Not regulated.

ENVIRONMENTAL HAZARDS: Not applicable.

BULK TRANSPORTATION INFORMATION: Not regulated when shipped in bulk configuration.

SPECIAL PRECAUTIONS: Protect product from freezing.

SECTION 15: REGULATORY INFORMATION

OTHER REGULATORY CONSIDERATIONS: None.

SECTION 16: OTHER INFORMATION

PREPARATION DATE: 9/9/2014

PREPARED BY: Dave Carey

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of this product described herein.

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product: MEL-ROL® Waterproofing Membrane Part Number: 5110060
 Manufacturer: W. R. Meadows®, Inc. Address: 300 Industrial Drive
 Hampshire, Illinois 60140
 Telephone: (847) 214-2100 In case of emergency, dial (800) 424-9300 (CHEMTREC)
 Revision Date: 9/9/2014
 Product Use: Waterproofing Membrane

SECTION 2: HAZARDS IDENTIFICATION/EXPOSURE LIMITS

HMIS
 | Health | | 0 | Product is classified as non-hazardous per OSHA 1910.1200. Mel-Rol is
 | Flammability | | 1 | defined by OSHA as an "article." A manufactured item that is formed to a specific shape or
 | Reactivity | | 0 | design during manufacture that does not release or result in exposure to a hazardous
 | Personal Protection | | | chemical under normal use conditions.

SECTION 3: HAZARDS COMPONENTS

Chemical Name:	CAS Number	% by Weight	SARA 313	Vapor Pressure (mm Hg @ 20°C)	LEL (@ 24°C)
1. Petroleum Asphalt	8052-42-4	55-60	No	N/A	N/A

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1966 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313." N/A = Not Applicable

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Not expected to be an exposure route.
 SKIN CONTACT: Wash affected areas with soap and water if available.
 INHALATION: Not expected to be an exposure route.
 INGESTION: Not expected to be an exposure source.

SECTION 5: FIRE AND EXPLOSIVES HAZARDS

FLASHPOINT: Not applicable; product is a solid.
 EXTINGUISHING MEDIA: Water fog, foam, dry chemical.
 CHEMICAL/COMBUSTION HAZARDS: Oxides and compounds of nitrogen/sulfur.
 PRECAUTIONS/PERSONAL PROTECTIVE EQUIPMENT: Avoid smoke inhalation. Use appropriate respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Not applicable. Product is a solid.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES: Avoid direct contact.
 SAFE STORAGE: Prevent job-site damage.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name:	OSHA				ACGIH			
	PEL	PEL/CEILING	PEL/STEL	SKIN	TLV	TLV/CEILING	TLV/STEL	SKIN
1. Petroleum Asphalt	5 mg/m ³ *	N/E	N/E	No	0.5 mg/m ³ *	N/E	N/E	N/E

ENGINEERING CONTROLS: None required under normal use conditions.
 PERSONAL PROTECTIVE EQUIPMENT: Safety glasses, chemical-resistant gloves. N/E = Not Established *: Asphalt Fumes

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A	VAPOR DENSITY: N/A	% VOLATILE BY VOLUME: N/A
EVAPORATION RATE: N/A	pH LEVEL: N/A	% VOLATILE BY WEIGHT: N/A
WEIGHT PER GALLON: N/A	PRODUCT APPEARANCE: Black Solid	VOC CONTENT: N/A

SECTION 10: STABILITY/REACTIVITY

STABILITY: Stable. HAZARDOUS POLYMERIZATION: Will not occur.
 CONDITIONS AND MATERIALS TO AVOID: None recognized.
 HAZARDOUS DECOMPOSITION PRODUCTS: None recognized.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: Direct contact may cause mild irritation.
 SKIN CONTACT: Direct contact may cause slight skin irritation.
 INHALATION: Not anticipated to be an exposure route.
 INGESTION: Not anticipated to be an exposure route.
 SIGNS AND SYMPTOMS: Symptoms of eye irritation include tearing, reddening, and swelling. Symptoms of skin irritation include redness and swelling. Gastrointestinal irritation symptoms include nausea, vomiting, and abdominal discomfort.
 AGGRAVATED MEDICAL CONDITIONS: None recognized.
 OTHER HEALTH EFFECTS: None recognized.

SAFETY DATA SHEET

Date of Preparation: 9/9/14	Page 2 of 2	5112060
SECTION 12: ECOLOGICAL INFORMATION		
ECOTOXICITY: N/E	DEGRADABILITY: N/E	BIOACCUMULATIVE POTENTIAL: N/E
SOIL MOBILITY: N/E	OTHER ADVERSE EFFECTS: None Recognized	
SECTION 13: WASTE DISPOSAL INFORMATION		
WASTE DISPOSAL INFORMATION: Product is classified as a non-hazardous waste.		
SECTION 14: TRANSPORTATION INFORMATION		
HAZARDOUS/NON-HAZARDOUS MATERIAL: Not regulated by DOT.		
UN NUMBER: None	HAZARD CLASS: N/A	PACKING GROUP: N/A
UN PROPER SHIPPING NAME: N/A		
ENVIRONMENTAL HAZARDS: None recognized.		
BULK TRANSPORTATION INFORMATION: None.		
SPECIAL PRECAUTIONS: None.		
SECTION 15: REGULATORY INFORMATION		
OTHER REGULATORY CONSIDERATIONS: None recognized.		
SECTION 16: OTHER INFORMATION		
PREPARATION DATE: 9/9/2014		
PREPARED BY: Dave Carey		

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of this product described herein.

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product:	MEL-PRIME™	Part Number:	5160000
Manufacturer:	W. R. MEADOWS, INC.	Address:	300 Industrial Drive Hampshire, Illinois 60140
Telephone:	(847) 214-2100	In case of emergency, dial (800) 424-9300 (CHEMTREC)	
Revision Date:	10/11/2016		
Product Use:	Adhesive For Concrete		

SECTION 2: HAZARDS IDENTIFICATION/EXPOSURE LIMITS

HMIS	
[Health]	[2]
[Flammability]	[3]
[Reactivity]	[0]
[Personal Protection]	[1]

HAZARD STATEMENTS

Danger!

Flammable Liquid and Vapor.

Harmful if Inhaled.

Causes Skin/Eye Irritation.

Prolonged/Repeated Exposure May Cause Organ Damage.

May be Fatal if Ingested and Enters Airways

PRECAUTIONARY STATEMENTS

Use Only in Well-Ventilated area.

Avoid Breathing Vapors and Direct Contact.

Store in Well-Ventilated Location.

Wear Appropriate Personal Protective Equipment



SECTION 3: HAZARDS COMPONENTS

<u>Chemical Name:</u>	<u>CAS Number</u>	<u>% by Weight</u>	<u>SARA</u>	<u>Vapor Pressure</u> (mm Hg @ 20°C)	<u>LEL</u> (@ 25°C)
1. Toluene	108-88-3	45-50	Yes	26 mm Hg @ 25°C	1.1
2. Petroleum Oil Base Stock	64742-65-0	5-10	No	N/E	N/E

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1966 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313." *N/E: Not Established*

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: If irritation or redness develops move victim from exposure source and into fresh air. Flush eyes with water for fifteen (15) minutes. If symptoms persist, seek medical attention.

SKIN CONTACT: Wash affected areas with mild soap and water. Remove contaminated shoes/clothing. If symptoms persist, seek medical attention.

INHALATION: If respiratory symptoms develop move victim from exposure source and into fresh air. If symptoms persist, seek medical attention.

If victim is not breathing, immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel.

INGESTION: Dilute with liquid unless the victim is unconscious or very drowsy. Do not induce vomiting. If vomiting spontaneously occurs, prevent lung aspiration. Seek immediate medical attention.

SECTION 5: FIRE AND EXPLOSIVES HAZARDS

FLASHPOINT: 40° F

EXTINGUISHING MEDIA: Water fog, foam, dry chemical, or carbon dioxide.

CHEMICAL/COMBUSTION HAZARDS: Carbon monoxide, carbon dioxide, and incomplete combustion products. Nitrogen/Sulfur compounds.

PRECAUTIONS/PERSONAL PROTECTIVE EQUIPMENT: Avoid smoke inhalation. Personal protective equipment should include helmet, face shield, bunker coat, gloves, rubber boots, and a positive pressure NIOSH-approved self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Avoid direct contact. Dike and contain spilled material. Remove source of spill if safe to do so. Evacuate all non-essential personnel from immediate area. Remove/extinguish ignition sources. A vapor-suppressing foam may be used to reduce vapor generation. Absorb with non-combustible absorbent and place in sealed containers for disposal. Control run-off and prevent from entering waterways, sewers, etc... Use non-sparking tools to collect spilled material as well as contaminated absorbent.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES: Avoid direct contact. Use adequate grounding when decanting.

SAFE STORAGE: Keep containers closed when not in use. Keep away from ignition sources.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Chemical Name:</u>	<u>OSHA</u>				<u>ACGIH</u>			
	<u>PEL</u>	<u>PEL/CEILING</u>	<u>PEL/STEL</u>	<u>SKIN</u>	<u>TWA</u>	<u>TLV/CEILING</u>	<u>TLV/STEL</u>	<u>SKIN</u>
1. Toluene	100 ppm	300 ppm	150 ppm	Yes	20 ppm	N/E	N/E	Yes
2. Petroleum Oil Base Stock	5 mg/m ³ *	N/E	N/E	N/E	5 mg/m ³ *	N/E	10 mg/m ³ *	N/E

N/E: Not Established **: Mineral Oil Mist in Air.*

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SECTION 8 continued**ENGINEERING CONTROLS:** Use with adequate ventilation. Use explosion-proof equipment.**PERSONAL PROTECTIVE EQUIPMENT:** Safety glasses, chemical-resistant gloves.**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****BOILING POINT:** 240° F**VAPOR DENSITY:** >1 (Air=1)**% VOLATILE BY VOLUME:** N/E**EVAPORATION RATE:** <1 (Ether=1)**pH LEVEL:** N/A**% VOLATILE BY WEIGHT:** 52**WEIGHT PER GALLON:** 7.8**PRODUCT APPEARANCE:** Red/Brown Liquid**VOC CONTENT:** 439 g/L**SECTION 10: STABILITY/REACTIVITY****STABILITY:** Stable**HAZARDOUS POLYMERIZATION:** Will not occur**CONDITIONS AND MATERIALS TO AVOID:** Static discharge, heat, sparks, open flame, and strong oxidizing agents**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide/dioxide, incomplete combustion products**SECTION 11: TOXICOLOGICAL INFORMATION****EYE CONTACT:** Direct contact may cause mild to moderate irritation. Product vapors may also cause irritation.**SKIN CONTACT:** Direct contact may cause mild skin irritation. Prolonged/repeated contact may result in irritation/dermatitis. Absorption may produce systemic toxicity affecting the heart, lungs, liver, and kidneys. Reproductive and hearing impacts are also possible.**INHALATION:** Exposure may produce irritation to the nose, throat, respiratory tract, and other mucous membranes. Exposure to excessive vapor concentrations may cause signs of transient central nervous system depression (headache, drowsiness, loss of coordination, and fatigue). Repeated/prolonged occupational overexposures may result in permanent damage and can be potentially fatal.**INGESTION:** This product is anticipated to be slightly toxic. If ingested and lung aspiration occurs, serious lung damage may result. Ingestion of excessive quantities may result in symptoms of central nervous system depression.**SIGNS AND SYMPTOMS:** Symptoms of eye irritation include tearing, reddening, and swelling. Symptoms of skin irritation include reddening, swelling, rash, and redness. Symptoms of gastrointestinal irritation include abdominal pain, vomiting and diarrhea. Symptoms of respiratory irritation include runny nose, sore throat, coughing, chest discomfort, shortness of breath, reduced lung function, and symptoms of central nervous system depression.**AGGRAVATED MEDICAL CONDITIONS:** Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to this product.**OTHER HEALTH EFFECTS:** ACGIH classifies Toluene as *not classifiable as a human carcinogen*; A4**SECTION 12: ECOLOGICAL INFORMATION****ECOTOXICITY:** N/E**DEGRADABILITY:** N/E**BIOACCUMULATIVE POTENTIAL:** N/E**SOIL MOBILITY:** N/E**OTHER ADVERSE EFFECTS:** None Recognized**SECTION 13: WASTE DISPOSAL INFORMATION****WASTE DISPOSAL INFORMATION:** Product is considered a hazardous waste for disposal purposes. Utilize an appropriate disposal facility.**SECTION 14: TRANSPORTATION INFORMATION****HAZARDOUS/NON-HAZARDOUS MATERIAL:** Hazardous**UN NUMBER:** 1294**HAZARD CLASS:** 3**PACKING GROUP:** II**UN PROPER SHIPPING NAME:** Toluene Solution**ENVIRONMENTAL HAZARDS:** Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.**BULK TRANSPORTATION INFORMATION:** Not applicable. Product not shipped in bulk configuration.**SPECIAL PRECAUTIONS:** Keep containers closed. Avoid ignition sources.**SECTION 15: REGULATORY INFORMATION****OTHER REGULATORY CONSIDERATIONS:** None recognized.**SECTION 16: OTHER INFORMATION****PREPARATION DATE:** 10/11/2016**PREPARED BY:** Dave Carey

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of this product described herein.

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SARA Section 302 Components

None of the chemicals in this product have a TPQ. No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

This chemical is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm..

European/International Regulations

European Labeling in Accordance with EC Directives

European Economic Community

Classification per Directive 67/548/EEC or 1999/45/EC

Not Classified

Risk Phrases: None allocated

Safety Phrases: S2-Keep out of reach of children

S24/25 Avoid contact with skin and eyes

WGK, Germany (Water danger/protection): No data available

Canada - DSL/NDSL

This product is listed on Canada's DSL List.

Canada - WHMIS

WHMIS: Not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations. Canadian Ingredient Disclosure List: N/A

SECTION XVI. OTHER INFORMATION

OTHER INFORMATION

HMIS Rating

Health hazard: 0
Flammability: 0
Physical Hazard: 0

NFPA Rating

Health hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

Further information

Copyright 2015 Environmental Manufacturing Solutions, LTD. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions and directed uses. Environmental Manufacturing Solutions, LTD. and its Affiliates shall not be held liable for any damage resulting from handling, mishandling or from contact with the above product.

End of Safety Data Sheet



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SAFETY DATA SHEET

1. Identification

Material name: THIN PATCH

Material: TR5109650

Recommended use and restriction on use

Recommended use: Cement, Portland, chemicals

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY

19218 REDWOOD ROAD

CLEVELAND OH 44110

US

Contact person:

EH&S Department

Telephone:

216-531-9222

Emergency telephone number:

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1B
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Single Exposure	Category 3

Unknown toxicity - Health

Acute toxicity, oral	91.95 %
Acute toxicity, dermal	98.27 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	93.69 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



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Signal Word: Danger

Hazard Statement: Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause cancer.
May cause respiratory irritation.

Precautionary Statement:

Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.

Storage: Store locked up. Store in well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	40 - 70%
Portland cement	65997-15-1	30 - 60%
Calcium salt	7778-18-9	5 - 10%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures



Ingestion:	Call a POISON CENTER/doctor!.../if you feel unwell. Rinse mouth.
Inhalation:	Move to fresh air.
Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms:	Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing. Respiratory tract irritation.
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Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed.
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5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
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Methods and material for containment and cleaning up:

Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures:

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions:

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:

Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Wash hands thoroughly after handling. Avoid contact with skin. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.

Conditions for safe storage, including any incompatibilities:

Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Crystalline Silica (Quartz)/ Silica Sand - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Portland cement - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
Portland cement - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Portland cement - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Portland cement	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)



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Calcium salt - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Calcium salt - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium salt - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)



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Chemical name	type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWAEV	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Portland cement - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Portland cement	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Portland cement - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium salt - Inhalable	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium salt - Inhalable fraction.	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium salt - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium salt - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)



Appropriate Engineering Controls Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment

General information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Wash contaminated clothing before reuse. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state: solid

Form: Powder

Color: Gray

Odor: Odorless

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: No data available.

Flash Point: No data available.

Evaporation rate: No data available.

Flammability (solid, gas): No

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.

Flammability limit - lower (%): No data available.

Explosive limit - upper (%): No data available.

Explosive limit - lower (%): No data available.

Vapor pressure: No data available.



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Vapor density:	No data available.
Relative density:	2.6
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes skin irritation.
Eye contact:	Causes serious eye damage.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product:	No data available.
Dermal Product:	No data available.
Inhalation Product:	No data available.

Specified substance(s):



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Calcium salt LC 50 (Rat, 4 h): > 3.26 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Calcium salt in vivo (Rabbit, 72 hrs): Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Crystalline Silica (Quartz)/ Silica Sand Overall evaluation: Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Crystalline Silica (Quartz)/ Silica Sand Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure



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Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Calcium salt LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): > 1,970 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Calcium salt
LC 50 (Water flea (*Daphnia magna*), 24 h): > 1,970 mg/l Mortality
LC 50 (Water flea (*Ceriodaphnia dubia*), 24 h): > 1,940 mg/l Mortality
LC 50 (Water flea (*Ceriodaphnia dubia*), 48 h): > 1,970 mg/l Mortality
LC 50 (Water flea (*Ceriodaphnia dubia*), 48 h): > 1,910 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio



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Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.



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Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Crystalline Silica (Quartz)/ Silica Sand	500 lbs
Portland cement	500 lbs
Calcium salt	500 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
Crystalline Silica (Quartz)/ Silica Sand
Portland cement
Calcium salt

US. Massachusetts RTK - Substance List

<u>Chemical Identity</u>
Crystalline Silica (Quartz)/ Silica Sand
Portland cement
Calcium salt

US. Pennsylvania RTK - Hazardous Substances

<u>Chemical Identity</u>
Crystalline Silica (Quartz)/ Silica Sand
Portland cement
Calcium salt

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.



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Other Regulations:

Regulatory VOC (less water and exempt solvent):	0 g/l
VOC Method 310:	0.00 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision

Revision Date: 07/29/2015



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Version #: 1.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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SAFETY DATA SHEET

1. Identification

Product identifier: DURALPREP AC PART A
Product Code: TD2353899

Recommended use and restriction on use

Recommended use: Sealant
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:	EH&S Department
Telephone:	216-531-9222
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) Identification

Hazard Classification

Health Hazards

Serious Eye Damage/Eye Irritation	Category 2B
Skin sensitizer	Category 1

Unknown toxicity - Health

Acute toxicity, oral	59.86 %
Acute toxicity, dermal	59.86 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	98.58 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	96.2 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Warning



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Hazard Statement: Causes eye irritation.
May cause an allergic skin reaction.

Precautionary Statement

Prevention: Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Specific treatment (see this label). Wash contaminated clothing before reuse.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on Ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Bisphenol A Polyglycidyl Ether Resin	25068-38-6	30 - 60%
Benzyl alcohol	100-51-6	1 - 5%

* All concentrations are percent by weight unless Ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed



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Symptoms: May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.



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**Conditions for safe storage,
including any
incompatibilities:**

Store away from incompatible materials. Store in original tightly closed container.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory and eye protection may be needed in special circumstances, such as poorly ventilated spaces, heating, evaporation of liquids from large surfaces, spraying of mists, mechanical generation of dusts, drying of solids, etc.

Eye/face protection:

Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection:

Use suitable protective gloves if risk of skin contact.

Other:

Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures:

Observe good industrial hygiene practices. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:

liquid

Form:

liquid

Color:

Amber

Odor:

Mild

Odor threshold:

No data available.

pH:

No data available.

Melting point/freezing point:

No data available.

Initial boiling point and boiling range:

No data available.

Flash Point:

> 93 °C > 200 °F (Setaflash Closed Cup)

Evaporation rate:

Slower than Ether



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Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	0.99
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	May be harmful in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.



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Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 44,303.82 mg/kg

Dermal
Product: ATEmix: 3,370.98 mg/kg

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):
Bisphenol A in vivo (Rabbit, 24 hrs): Slightly irritating
Polyglycidyl Ether
Resin*

Benzyl alcohol in vivo (Rabbit, 1 - 72 hrs): Irritating

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified



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Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
Benzyl alcohol LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 460 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.



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Version: 1.0
Revision Date: 07/30/2015

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Benzyl alcohol Log Kow: 1.10

Mobility in Soil:

No data available.

Other Adverse Effects:

No data available.

13. Disposal considerations

Disposal instructions:

Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging:

No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations



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Revision Date: 07/30/2015

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
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Bisphenol A Polyglycidyl	500 lbs
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Ether Resin	
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Benzyl alcohol	500 lbs
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SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

Chemical Identity

Benzyl alcohol

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Benzyl alcohol

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

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When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:
15 g/l

Inventory Status:

Australia AICS:

All components in this product are listed on or exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP:

One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List:

One or more components in this product are not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances:

All components in this product are listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI):

All components in this product are listed on or exempt from the Inventory.

Canada NDSL Inventory:

One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS:

All components in this product are listed on or exempt from the Inventory.

US TSCA Inventory:

All components in this product are listed on or exempt from the Inventory.

New Zealand Inventory of Chemicals:

All components in this product are listed on or exempt from the Inventory.

Japan ISHL Listing:

One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing:

One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
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Further Information:

No data available.

Disclaimer:

For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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Revision Date: 07/30/2015

SAFETY DATA SHEET

1. Identification

Product Identifier: DURALPREP AC PART B
Product Code: TD2353899

Recommended use and restriction on use

Recommended use: Sealant
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

216-531-9222

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1

Acute toxicity, oral	45.07 %
Acute toxicity, dermal	45.07 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Acute hazards to the aquatic environment	100 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:





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Version: 1.0
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Signal Word: Danger

Hazard Statement: Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.

Precautionary Statement

Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
**	**	3 - 7%
Tetraethylene pentamine	112-57-2	1 - 5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Trade secret information: ** A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.



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Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.



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7. Handling and storage

Precautions for safe handling: Do not get in eyes. Wash hands thoroughly after handling. Avoid contact with skin. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. Store in original tightly closed container.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General Information: Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Do not get in eyes. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties



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Version: 1.0
Revision Date: 07/30/2015

Appearance

Physical state:	liquid
Form:	liquid
Color:	Amber
Odor:	Mild
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	> 93 °C > 200 °F (Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	0.99
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

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Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Causes serious eye damage.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 27,182.02 mg/kg

Dermal
Product: ATEmix: 10,076.46 mg/kg

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):
Polyamine in vivo (Rabbit, 24 hrs): Corrosive
Tetraethylene pentamine Strongly Irritating

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified



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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological Information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.



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Version: 1.0
Revision Date: 07/30/2015

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):
Tetraethylene pentamine Log Kow: 1.503

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information



EUCLID CHEMICAL

Version: 1.0
Revision Date: 07/30/2015

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Polyamine	500 lbs
Tetraethylene pentamine	500 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Tetraethylene pentamine

US. Massachusetts RTK - Substance List

Chemical Identity

Tetraethylene pentamine

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Tetraethylene pentamine



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Version: 1.0
Revision Date: 07/30/2015

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:
15 g/l

Inventory Status:

Australia AICS:

One or more components in this product are not listed on or exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP:

One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List:

One or more components in this product are not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances:

One or more components in this product are not listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI):

One or more components in this product are not listed on or exempt from the Inventory.

Canada NDSL Inventory:

One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS:

One or more components in this product are not listed on or exempt from the Inventory.

US TSCA Inventory:

All components in this product are listed on or exempt from the Inventory.

New Zealand Inventory of Chemicals:

One or more components in this product are not listed on or exempt from the Inventory.

Japan ISHL Listing:

One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing:

One or more components in this product are not listed on or exempt from the Inventory.



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Version: 1.0
Revision Date: 07/30/2015

16. Other information, including date of preparation or last revision

Revision Date: 07/30/2015

Version #: 1.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



EUCLID CHEMICAL

Version: 1.0
Revision Date: 07/30/2015

SAFETY DATA SHEET

1. Identification

Product Identifier: DURALPREP AC PART C
Product Code: TD2353899

Recommended use and restriction on use

Recommended use: Cement, Portland, chemicals
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

216-531-9222

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1B
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Single Exposure	Category 3

Acute toxicity, oral	93.37 %
Acute toxicity, dermal	94.88 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Acute hazards to the aquatic environment	98.85 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



EUCLID CHEMICAL

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Signal Word: Danger

Hazard Statement: Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause cancer.
May cause respiratory irritation.

Precautionary Statement

Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.

Storage: Store locked up. Store in well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Portland cement	65997-15-1	60 - 100%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	30 - 60%
Fumed silica	69012-64-2	3 - 7%
Calcium salt	7778-18-9	1 - 5%



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Carbon	7440-44-0	0.1 - 1%
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* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion:	Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.
Inhalation:	Move to fresh air.
Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms:	Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing. Respiratory tract irritation.
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Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed.
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5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.
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Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
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Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
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Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.
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Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
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Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
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6. Accidental release measures



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**Personal precautions,
protective equipment and
emergency procedures:**

See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

**Methods and material for
containment and cleaning
up:**

Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures:

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions:

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:

Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Wash hands thoroughly after handling. Avoid contact with skin. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.

**Conditions for safe storage,
including any
incompatibilities:**

Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Portland cement - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
Portland cement - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Portland cement - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Portland cement	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)



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	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Crystalline Silica (Quartz)/ Silica Sand - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Fumed silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Calcium salt - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Calcium salt - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium salt - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Carbon - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Carbon - Respirable particles.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Carbon - Inhalable particles.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Carbon - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Carbon - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Carbon - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Carbon	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Carbon - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Carbon - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Carbon - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Carbon - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)



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Chemical name	type	Exposure Limit Values	Source
Portland cement - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Portland cement - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Portland cement	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Portland cement - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWAEV	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Fumed silica - Total fume.	TWA	4 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Fumed silica - Respirable fume.	TWA	1.5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Fumed silica - Respirable.	TWAEV	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Fumed silica - Respirable dust and/or fume.	TWA	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium salt - Inhalable	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for



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			Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium salt - Inhalable fraction.	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium salt - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium salt - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Appropriate Engineering Controls

Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment**General Information:**

Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection:

Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection**Hand Protection:**

Use suitable protective gloves if risk of skin contact.

Other:

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures:

Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Wash contaminated clothing before reuse. Avoid contact with skin.

9. Physical and chemical properties**Appearance****Physical state:**

solid

Form:

Powder

Color:

Gray

Odor:

Odorless

Odor threshold:

No data available.

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pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	3.5
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes skin irritation.
Eye contact:	Causes serious eye damage.



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Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: No data available.

Dermal

Product: No data available.

Inhalation

Product: No data available.

Specified substance(s):

Fumed silica LC 50 (Rat, 4 h): > 2.08 mg/l

Calcium salt LC 50 (Rat, 4 h): > 3.26 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Calcium salt in vivo (Rabbit, 72 hrs): Not irritating

Carbon Irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.



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IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
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US. National Toxicology Program (NTP) Report on Carcinogens:

Crystalline Silica (Quartz)/ Silica Sand	Known To Be Human Carcinogen.
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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro Product:	No data available.
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In vivo Product:	No data available.
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Reproductive toxicity Product:	No data available.
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Specific Target Organ Toxicity - Single Exposure Product:	No data available.
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Specific Target Organ Toxicity - Repeated Exposure Product:	No data available.
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Aspiration Hazard Product:	No data available.
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Other effects:	No data available.
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12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish Product:	No data available.
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Specified substance(s): Calcium salt	LC 50 (Fathead minnow (<i>Pimephales promelas</i>), 96 h): > 1,970 mg/l Mortality
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Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Calcium salt
LC 50 (Water flea (Daphnia magna), 24 h): > 1,970 mg/l Mortality
LC 50 (Water flea (Ceriodaphnia dubia), 24 h): > 1,940 mg/l Mortality
LC 50 (Water flea (Ceriodaphnia dubia), 48 h): > 1,970 mg/l Mortality
LC 50 (Water flea (Ceriodaphnia dubia), 48 h): > 1,910 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.



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14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory Information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Portland cement	500 lbs
Crystalline Silica (Quartz)/	500 lbs
Silica Sand	
Fumed silica	500 lbs
Calcium salt	500 lbs
Carbon	500 lbs

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.



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Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity

Portland cement
Crystalline Silica (Quartz)/ Silica Sand
Fumed silica
Calcium salt

US. Massachusetts RTK - Substance List

Chemical Identity

Portland cement
Crystalline Silica (Quartz)/ Silica Sand
Fumed silica
Calcium salt

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Portland cement
Crystalline Silica (Quartz)/ Silica Sand
Fumed silica
Calcium salt

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

Regulatory VOC (less water and exempt solvent):	0 g/l
VOC Method 310:	0.00 %

Inventory Status:

Australia AICS:

One or more components in this product are not listed on or exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP:

One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List:

One or more components in this product are



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not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances:

One or more components in this product are not listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI):

One or more components in this product are not listed on or exempt from the Inventory.

Canada NDSL Inventory:

One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS:

One or more components in this product are not listed on or exempt from the Inventory.

US TSCA Inventory:

All components in this product are listed on or exempt from the Inventory.

New Zealand Inventory of Chemicals:

One or more components in this product are not listed on or exempt from the Inventory.

Japan ISHL Listing:

One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing:

One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision

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Version #: 1.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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SAFETY DATA SHEET

1. Identification

Product identifier: DURAL 100 TYPE III - PART A
Product Code: TD63323

Recommended use and restriction on use

Recommended use: Sealant
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

216-531-9222

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Inhalation - dust and mist)	Category 4
Serious Eye Damage/Eye Irritation	Category 2B
Skin sensitizer	Category 1
Carcinogenicity	Category 1A

Unknown toxicity - Health

Acute toxicity, oral	10.84 %
Acute toxicity, dermal	13.14 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	86.49 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	84.63 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



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Signal Word: Danger

Hazard Statement: Harmful if inhaled.
Causes eye irritation.
May cause an allergic skin reaction.
May cause cancer.

Precautionary Statement

Prevention: Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see this label). Wash contaminated clothing before reuse.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Bisphenol A Polyglycidyl Ether Resin	25068-38-6	60 - 100%
Calcium carbonate	471-34-1	10 - 30%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	10 - 30%
Titanium dioxide	13463-67-7	1 - 5%
Magnesite	546-93-0	0.1 - 1%



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Aluminum oxide	1344-28-1	0.1 - 1%
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* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion:	Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.
Inhalation:	Move to fresh air.
Skin Contact:	If skin irritation occurs: Get medical advice/attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye contact:	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures



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**Personal precautions,
protective equipment and
emergency procedures:**

See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

**Methods and material for
containment and cleaning
up:**

Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures:

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions:

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:

Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage,
including any
incompatibilities:**

Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Calcium carbonate - Total dust.	PEL	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium carbonate - Respirable fraction.	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m ³	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Crystalline Silica (Quartz)/ Silica Sand - Total dust.	TWA	0.3 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Titanium dioxide	TWA	10 mg/m ³	US. ACGIH Threshold Limit Values



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			(2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesite - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Aluminum oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)



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Chemical name	type	Exposure Limit Values	Source
Calcium carbonate - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium carbonate - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWAEV	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

**Individual protection measures, such as personal protective equipment**

General information:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory and eye protection may be needed in special circumstances, such as poorly ventilated spaces, heating, evaporation of liquids from large surfaces, spraying of mists, mechanical generation of dusts, drying of solids, etc.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties**Appearance**

Physical state:	liquid
Form:	liquid
Color:	White
Odor:	Mild
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	> 93 °C > 200 °F
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.295
Solubility(ies)	



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Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	May be harmful in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product:	No data available.
Dermal Product:	ATEmix: 3,206.56 mg/kg
Inhalation Product:	ATEmix: 3 mg/l

Repeated dose toxicity Product:	No data available.
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**Skin Corrosion/Irritation****Product:** No data available.**Serious Eye Damage/Eye Irritation****Product:** No data available.**Specified substance(s):**

Bisphenol A	in vivo (Rabbit, 24 hrs): Slightly irritating
Polyglycidyl Ether Resin	
Calcium carbonate	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Titanium dioxide	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Magnesite	In vitro (Reconstituted Corneal Epithelium model, 10 min): Not irritating
Aluminum oxide	in vivo (Rabbit, 24 hrs): Not irritating

Respiratory or Skin Sensitization**Product:** No data available.**Carcinogenicity****Product:** No data available.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Crystalline Silica (Quartz)/ Sand	Known To Be Human Carcinogen.
Silica	

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified



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Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Calcium carbonate LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): > 56,000 mg/l Mortality

Titanium dioxide LC 50 (Mummichog (*Fundulus heteroclitus*), 96 h): > 1,000 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Titanium dioxide EC 50 (Water flea (*Daphnia magna*), 48 h): > 1,000 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Titanium dioxide LC 0 (*Coregonus autumnalis migratorius* G., 30 d): 3 mg/l experimental result



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Aluminum oxide NOAEL (Pimephales promelas, 28 d): 4.7 mg/l experimental result

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated



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IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards

Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Bisphenol A Polyglycidyl	500 lbs
Ether Resin	
Calcium carbonate	500 lbs
Crystalline Silica (Quartz)/	500 lbs
Silica Sand	
Titanium dioxide	500 lbs
Magnesite	500 lbs
Aluminum oxide	500 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

**US. New Jersey Worker and Community Right-to-Know Act****Chemical Identity**Calcium carbonate
Crystalline Silica (Quartz)/ Silica Sand
Titanium dioxide**US. Massachusetts RTK - Substance List****Chemical Identity**Calcium carbonate
Crystalline Silica (Quartz)/ Silica Sand
Titanium dioxide**US. Pennsylvania RTK - Hazardous Substances****Chemical Identity**Calcium carbonate
Crystalline Silica (Quartz)/ Silica Sand
Titanium dioxide**US. Rhode Island RTK**

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

Regulatory VOC (less water and exempt solvent):	0 g/l
VOC Method 310:	0.00 %

Inventory Status:

Australia AICS:	All components in this product are listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	All components in this product are listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	All components in this product are listed on or exempt from the Inventory.



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US TSCA Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other Information, including date of preparation or last revision
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Revision Date:	07/30/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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Version: 1.0
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SAFETY DATA SHEET

1. Identification

Product identifier: DURALPREP AC PART B
Product Code: TD2353899

Recommended use and restriction on use

Recommended use: Sealant
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

216-531-9222

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1

Acute toxicity, oral	45.07 %
Acute toxicity, dermal	45.07 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Acute hazards to the aquatic environment	100 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:





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Signal Word: Danger

Hazard Statement: Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.

Precautionary Statement

Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/Information on Ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
**	**	3 - 7%
Tetraethylene pentamine	112-57-2	1 - 5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Trade secret information: ** A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.



Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

**7. Handling and storage**

Precautions for safe handling:	Do not get in eyes. Wash hands thoroughly after handling. Avoid contact with skin. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities:	Store away from incompatible materials. Store in original tightly closed container.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

None of the components have assigned exposure limits.

Appropriate Engineering Controls	Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.
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Individual protection measures, such as personal protective equipment

General information:	Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Eye/face protection:	Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Do not get in eyes. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

**Appearance**

Physical state:	liquid
Form:	liquid
Color:	Amber
Odor:	Mild
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	> 93 °C > 200 °F (Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	0.99
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information**Information on likely routes of exposure**



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Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Causes serious eye damage.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 27,182.02 mg/kg

Dermal
Product: ATEmix: 10,076.46 mg/kg

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):
Polyamine in vivo (Rabbit, 24 hrs): Corrosive
Tetraethylene pentamine Strongly Irritating

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified



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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.



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Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Tetraethylene pentamine Log Kow: 1.503

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

**US Federal Regulations****TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate (Acute) Health Hazards

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Polyamine	500 lbs
Tetraethylene pentamine	500 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know ActChemical Identity

Tetraethylene pentamine

US. Massachusetts RTK - Substance ListChemical Identity

Tetraethylene pentamine

US. Pennsylvania RTK - Hazardous SubstancesChemical Identity

Tetraethylene pentamine



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US, Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

**When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:
15 g/l**

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.



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Revision Date: 07/30/2015

16. Other information, including date of preparation or last revision

Revision Date: 07/30/2015

Version #: 1.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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Version: 3.0
Revision Date: 08/30/2016

SAFETY DATA SHEET

1. Identification

Material name: EUCOBAR - 55 GAL DRUM
Material: 028 55

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Euclid Admixture Canada Inc.
2835 Grand-Allee
Saint Hubert QC J4T 2R4
CA

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

(450)465-2233

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements

Hazard Symbol: No symbol
Signal Word: No signal word.
Hazard Statement: not applicable
Precautionary Statements: not applicable

Other hazards which do not result in GHS classification: None.

3. Composition/Information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Stearic acid	57-11-4	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.



Inhalation: Move to fresh air.

Skin Contact: Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Eye contact: Rinse immediately with plenty of water.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.



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7. Handling and storage

Precautions for safe handling: Wash hands thoroughly after handling. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. Store in original tightly closed container.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Stearic acid	TWA	10 mg/m ³	US. ACGIH Threshold Limit Values (2011)

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: No data available.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state: liquid

Form: liquid

Color: Pink

Odor: Mild

Odor threshold: No data available.



pH:	7 - 9
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	> 121 °C > 250 °F
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1
Solubility(ies)	
Solubility in water:	Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	Strong acids. Strong bases.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be harmful if swallowed.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Moderately irritating to skin with prolonged exposure.



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Eye contact: Eye contact is possible and should be avoided.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 2,491.73 mg/kg

Dermal

Product: No data available.

Inhalation

Product: No data available.

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

Stearic acid in vivo (Rabbit): Experimental result, Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Stearic acid in vivo (Rabbit, 27 - 72 hrs): Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified



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Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.



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Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):
Stearic acid Log Kow: 8.23

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Morpholine, 4-methyl-	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not listed.

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Xanthylum	
Morpholine, 4-methyl-	100 lbs.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Stearic acid	500 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.



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Other Regulations:

Regulatory VOC (less water and exempt solvent):	11 g/l
VOC Method 310:	0.02 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision

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Version #: 3.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

EUCOBAR

EVAPORATION RETARDANT

MISCELLANEOUS

DESCRIPTION

EUCOBAR is designed to be used as an evaporation retardant on concrete surfaces of all types. When sprayed over fresh concrete, **EUCOBAR** forms a monomolecular film that prevents rapid moisture loss from the concrete surface. It is easy to use requiring only the addition of water before spray application. **EUCOBAR** is especially effective when concreting operations must be performed in direct sun, wind, high temperatures, or low relative humidity.

PRIMARY APPLICATIONS

- Floors
- Pavements
- Concrete toppings
- Vertical/overhead repairs
- Dry shake floors including all SURFLEX and EUCO-PLATE formulations
- Specialty iron toppings
- Parking decks and ramps

FEATURES/BENEFITS

- Holds in surface moisture on concrete floors, slabs, and repairs
- Helps prevent plastic shrinkage cracking
- Easy and economical to use
- Helps eliminate crusting caused by loss of surface moisture
- Water based for total compatibility with fresh concrete
- Excellent for both interior and exterior concrete projects
- Will not effect adhesion of curing compound or other treatments

TECHNICAL INFORMATION

EUCOBAR is a water based polymer concentrate that is readily dilutable in water.

Evaporation rate is a function of relative humidity, concrete temperature, air temperature and wind velocity. Plastic shrinkage cracking is a strong possibility when the rate of evaporation exceeds 0.2 lb/ft²/hr (1.0 kg/m²/hr). The chart on the back of this page (Fig. 2.1.5 of ACI 305, Hot Weather Concreting) is useful in determining the evaporation rate under a given set of jobsite conditions. Use **EUCOBAR** when the above limit is exceeded.

Appearance: **EUCOBAR** is a free flowing pink liquid designed to be mixed with water. The use of **EUCOBAR** will not affect the color of concrete.

PACKAGING

EUCOBAR is packaged in 55 gal (208 L) drums, 5 gal (18.9 L) pails and 6/1 gal (3.8 L) units per case.

SHELF LIFE

2 years in original, unopened package

COVERAGE

Dilution Rate: 9:1 (Water:**EUCOBAR**)

EUCOBAR (after dilution) will cover approximately 200 to 400 ft²/gal (5 to 10 m²/L). Coverage will vary depending on concrete texture and wind conditions. For estimating purposes, 1 gal (3.8 L) of **EUCOBAR** concentrate will treat 2000 to 4000 ft² (186 to 372 m²) of concrete surface area, but is highly dependent upon ambient conditions.



The Euclid Chemical Company

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Phone: [216] 531-9222 • Toll-free: [800] 321-7628 • Fax: [216] 531-9596
www.euclidchemical.com

An **RPM** Company



DIRECTIONS FOR USE

Surface Preparation: EUCOBAR is applied directly to the surface of fresh concrete. No surface preparation is necessary.

Mixing: EUCOBAR is supplied as a concentrate and must be diluted with water at a 9:1 (water:EUCOBAR) ratio. Determine capacity of sprayer and divide by 10. Add this amount of EUCOBAR to the sprayer canister followed by 9 times that amount of water. For example, if 1 quart (0.95 L) of EUCOBAR is added, dilute with 9 quarts (8.5 L) of water. Mix or shake until thoroughly blended.

Placement: Apply using a tank type, hand pump sprayer capable of spraying in a fine mist. Use a slotted tip for the best spray. Spray EUCOBAR over the fresh concrete surface as soon as possible after floating. A pink, translucent sheen will appear as the surface is treated. On extreme drying conditions, additional applications may be given as needed. When used on floors with dry shake hardener applications, EUCOBAR may be used on the fresh concrete as well as between each shake application.

Curing & Sealing: Proper curing procedures are important to ensure the durability and quality of concrete. To prevent surface cracking, cure flatwork with a high solids cure and seal, such as SUPER AQUA-CURE VOX or REZ-SEAL.

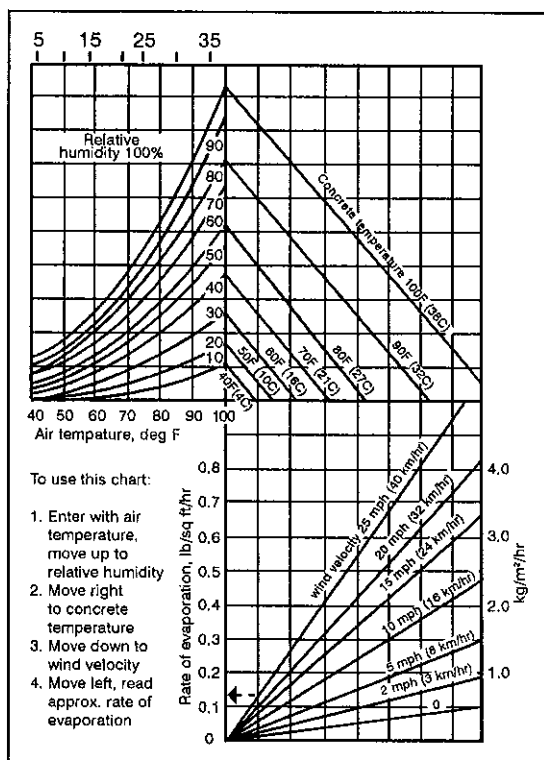


Fig. 2.1.5, ACI 305, Hot Weather Concreting

CLEAN UP

Clean spray equipment with soap and water.

PRECAUTIONS/LIMITATIONS

- Use with proper dilution rate.
- Do not use as a curing compound.
- Apply only as a fine spray.
- Do not allow to freeze.
- In all cases, consult the Material Safety Data Sheet before use.



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SAFETY DATA SHEET

1. Identification

Material name: SUPER DIAMOND CLEAR TB- 55 GL (CANADA)
Material: 359T 55

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

216-531-9222

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 2

Health Hazards

Skin Corrosion/Irritation Category 2

Carcinogenicity Category 1B

Unknown toxicity - Health

Acute toxicity, oral 1.75 %

Acute toxicity, dermal 2.02 %

Acute toxicity, inhalation, vapor 100 %

Acute toxicity, inhalation, dust or mist 100 %

Environmental Hazards

Acute hazards to the aquatic environment Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment 34.04 %

Chronic hazards to the aquatic environment 100 %

Label Elements

Hazard Symbol:



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Signal Word: Danger

Hazard Statement: Highly flammable liquid and vapor.
Causes skin irritation.
May cause cancer.
Harmful to aquatic life.

Precautionary Statement:
Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Specific treatment (see this label). Take off contaminated clothing. In case of fire: Use ... to extinguish.

Storage: Store in well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Tert-Butyl Acetate	540-88-5	40 - 70%
Aromatic petroleum distillates	64742-95-6	7 - 13%
1,2,4-Trimethylbenzene	95-63-6	3 - 7%
Xylene	1330-20-7	0.1 - 1%
Tert-Butyl Alcohol	75-65-0	0.1 - 1%



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Cumene	98-82-8	0.1 - 1%
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* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Take off immediately all contaminated clothing. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental release measures**

Personal precautions, protective equipment and emergency procedures:	Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges. Avoid contact with skin. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities:	Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Chemical Identity	type	Exposure Limit Values	Source
Tert-Butyl Acetate	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	200 ppm 950 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
1,2,4-Trimethylbenzene	TWA	25 ppm	US. ACGIH Threshold Limit Values (2011)
Xylene	STEL	150 ppm 655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm 435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm 655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)



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	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm	655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm	655 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	100 ppm	435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	100 ppm	435 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	150 ppm	655 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL		350 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	ST ESL		80 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	AN ESL		42 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	AN ESL		180 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	STEL	150 ppm	655 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	Ceiling	300 ppm		US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA PEL	100 ppm	435 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA	100 ppm		US. ACGIH Threshold Limit Values (2011)
	STEL	150 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Tert-Butyl Alcohol	TWA	100 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm	300 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Cumene	TWA	50 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	50 ppm	245 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)



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Chemical name	type	Exposure Limit Values	Source
Tert-Butyl Acetate	TWA	200 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Tert-Butyl Acetate	TWAEV	200 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Tert-Butyl Acetate	TWA	200 ppm 950 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
1,2,4-Trimethylbenzene	TWA	25 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
1,2,4-Trimethylbenzene	TWAEV	25 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
1,2,4-Trimethylbenzene	TWA	25 ppm 123 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Diisodecyl phthalate	TWAEV	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Cumene	STEL	75 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	25 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Cumene	TWAEV	50 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Cumene	TWA	50 ppm 246 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Xylene (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEI (03 2013)



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Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information:	Use explosion-proof ventilation equipment. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide easy access to water supply and eye wash facilities.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Wash contaminated clothing before reuse. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	98 °C 208 °F
Flash Point:	11 °C 52 °F (Setaflash Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.



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Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	0.9095
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Strong acids. Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates). Strong bases.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	May be harmful in contact with skin. Causes skin irritation.
Eye contact:	Eye contact is possible and should be avoided.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	ATEmix: 6,966.47 mg/kg
Dermal	



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Product: ATEmix: 2,880.53 mg/kg

Inhalation Product: No data available.

Specified substance(s):
Tert-Butyl Acetate LC 50 (Rat, 4 h): 13.3 mg/l

1,2,4-Trimethylbenzene LC 50 (Rat, 4 h): 10,200 mg/m3

Xylene LC 50 (Rat, 4 h): 5922 ppm

Cumene LC 50 (Rat, 4 h): 8000 ppm

Repeated dose toxicity Product: No data available.

Skin Corrosion/Irritation Product: No data available.

Specified substance(s):
Tert-Butyl Acetate in vivo (Rabbit): Experimental result, Key study

Aromatic petroleum distillates in vivo (Rabbit): Experimental result, Key study

1,2,4-Trimethylbenzene in vivo (Rabbit): Read-across from supporting substance (structural analogue or surrogate), Key study

Xylene in vivo (Rabbit): Experimental result, Weight of Evidence study

Cumene in vivo (Rabbit): Experimental result, Key study

Serious Eye Damage/Eye Irritation Product: No data available.

**Specified substance(s):**

Tert-Butyl Acetate	in vivo (Rabbit, 24 hrs): Not irritating
Aromatic petroleum distillates	in vivo (Rabbit, 24 - 72 hrs): Not irritating
1,2,4-Trimethylbenzene	in vivo (Rabbit, 30 min): Not irritating
Xylene	in vivo (Rabbit, 24 hrs): Moderately irritating
Tert-Butyl Alcohol	Irritating
Cumene	in vivo (Rabbit, 24 hrs): Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: May cause cancer. Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Cumene Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Cumene Reasonably Anticipated to be a Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity**In vitro**

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.



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Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Tert-Butyl Acetate	LC 50 (Fathead minnow (<i>Pimephales promelas</i>), 96 h): 296 - 362 mg/l Mortality
1,2,4-Trimethylbenzene	LC 50 (Fathead minnow (<i>Pimephales promelas</i>), 96 h): 7.19 - 8.28 mg/l Mortality
Xylene	LC 50 (<i>Bryconamericus iheringii</i> , 96 h): 9.94 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (<i>Oncorhynchus mykiss</i> , 96 h): 8.05 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (<i>Bryconamericus iheringii</i> , 96 h): 6.9 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (<i>Oncorhynchus mykiss</i> , 96 h): 7.6 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (<i>Oncorhynchus mykiss</i> , 96 h): 2.6 mg/l Read-across from supporting substance (structural analogue or surrogate), Key study
Tert-Butyl Alcohol	LC 50 (Fathead minnow (<i>Pimephales promelas</i>), 96 h): 6,130 - 6,700 mg/l Mortality
Cumene	LC 50 (Fathead minnow (<i>Pimephales promelas</i>), 96 h): 6.04 - 6.61 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Tert-Butyl Acetate	LC 50 (Water flea (<i>Daphnia magna</i>), 24 h): 4,730 mg/l Mortality
1,2,4-Trimethylbenzene	LC 50 (Scud (<i>Elasmopus pectinicus</i>), 24 h): 4.89 - 5.62 mg/l Mortality
Xylene	EC 50 (<i>Daphnia magna</i> , 48 h): 3.82 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study EC 50 (<i>Ceriodaphnia dubia</i> , 48 h): > 3.4 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study IC 50 (<i>Daphnia magna</i> , 24 h): 4.7 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study IC 50 (<i>Daphnia magna</i> , 24 h): 3.6 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study



	IC 50 (Daphnia magna, 24 h): 2.2 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
Tert-Butyl Alcohol	EC 50 (Water flea (Daphnia magna), 24 h): 4,607 - 6,577 mg/l Intoxication
Cumene	LC 50 (Water flea (Daphnia magna), 24 h): 95 mg/l Mortality

Chronic hazards to the aquatic environment:**Fish**

Product: No data available.

Specified substance(s):

Aromatic petroleum distillates EC 50 (Daphnia magna, 21 d): 10 mg/l Other, Key study

Xylene NOAEL (Oncorhynchus mykiss, 56 d): > 1.3 mg/l Experimental result, Key study

Tert-Butyl Alcohol NOAEL (Clarias gariepinus, 120 h): 332 mg/l Experimental result, Key study

Cumene NOAEL (Danio rerio; Pimephales promelas, 28 d): 0.38 mg/l QSAR QSAR, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Xylene NOAEL (Ceriodaphnia dubia, 7 d): 1.17 mg/l Read-across from supporting substance (structural analogue or surrogate), Key study
NOAEL (Daphnia magna, 21 d): 1.57 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
LOAEL (Daphnia magna, 21 d): 3.16 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
EC 10 (Daphnia magna, 21 d): 1.91 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
EC 50 (Daphnia magna, 21 d): 2.9 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability**Biodegradation**

Product: No data available.

BOD/COD Ratio

Product: No data available.

**Bioaccumulative Potential
Bioconcentration Factor (BCF)**



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Product: No data available.

Specified substance(s):

Xylene

Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 5.5 - < 12.2 Aquatic sediment Experimental result, Key study
Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 8.1 - < 25.9 Aquatic sediment Experimental result, Key study
Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.2 - < 24.2 Aquatic sediment Experimental result, Key study
Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.4 - < 18.5 Aquatic sediment Experimental result, Key study
Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.7 - < 21.2 Aquatic sediment Experimental result, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Tert-Butyl Acetate

Log Kow: 1.76

Xylene

Log Kow: 3.12 - 3.20

Tert-Butyl Alcohol

Log Kow: 0.35

Cumene

Log Kow: 3.66

Mobility in Soil: No data available.

Other Adverse Effects: Harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

UN1139, COATING SOLUTION, 3, PG II

CFR / DOT:

UN1139, Coating solution, 3, PG II

IMDG:

UN1139, COATING SOLUTION, 3, PG II

Further Information:

000000006902

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The above shipping description may not be accurate for all container sizes and all modes of transportation.
Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Tert-Butyl Acetate	5000 lbs.
Xylene	100 lbs.
Tert-Butyl Alcohol	100 lbs.
Cumene	5000 lbs.
Ethylbenzene	1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard

Immediate (Acute) Health Hazards

Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Tert-Butyl Acetate	5000 lbs.
Diisodecyl phthalate	
Xylene	100 lbs.
Tert-Butyl Alcohol	100 lbs.
Cumene	5000 lbs.
Ethylbenzene	1000 lbs.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Tert-Butyl Acetate	500 lbs
Aromatic petroleum distillates	500 lbs
1,2,4-Trimethylbenzene	500 lbs
Xylene	500 lbs
Tert-Butyl Alcohol	500 lbs
Cumene	500 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>
1,2,4-Trimethylbenzene



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Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Xylene	100 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
Tert-Butyl Acetate
1,2,4-Trimethylbenzene

US. Massachusetts RTK - Substance List

<u>Chemical Identity</u>
Tert-Butyl Acetate
1,2,4-Trimethylbenzene

US. Pennsylvania RTK - Hazardous Substances

<u>Chemical Identity</u>
Tert-Butyl Acetate
1,2,4-Trimethylbenzene
Diisodecyl phthalate

US. Rhode Island RTK

<u>Chemical Identity</u>
Tert-Butyl Acetate
1,2,4-Trimethylbenzene
Diisodecyl phthalate

Other Regulations:

Regulatory VOC (less water and exempt solvent):	658 g/l
VOC Method 310:	72.32 %

Inventory Status:

Australia AICS:

All components in this product are listed on or exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP:

One or more components in this product are not listed on or exempt from the Inventory.



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Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	All components in this product are listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	All components in this product are listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
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Revision Date: 07/18/2016

Version #: 3.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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SAFETY DATA SHEET

1. Identification

Material name: AIREXTRA
Material: 730 1000

Recommended use and restriction on use

Recommended use: Cleaning agent
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

216-531-9222

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) Identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Carcinogenicity	Category 2
Toxic to reproduction	Category 1B

Unknown toxicity - Health

Acute toxicity, oral	95.09 %
Acute toxicity, dermal	99.72 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	95.37 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:





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Signal Word: Danger

Hazard Statement: Harmful if swallowed.
Causes skin irritation.
Causes serious eye damage.
Suspected of causing cancer.
May damage fertility or the unborn child.

Precautionary Statement:
Prevention:

Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Take off contaminated clothing.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Potassium hydroxide	1310-58-3	3 - 7%
Diethanolamine	111-42-2	0.1 - 1%
Borax	1303-96-4	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.



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Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.



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7. Handling and storage

Precautions for safe handling: Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not taste or swallow. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Avoid contact with skin.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Potassium hydroxide	Ceiling	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Diethanolamine - Inhalable fraction and vapor.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
Borax - Inhalable fraction.	STEL	6 mg/m3	US. ACGIH Threshold Limit Values (02 2012)
	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (02 2012)



Chemical name	type	Exposure Limit Values	Source
Potassium hydroxide	CEILING	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Potassium hydroxide	CEV	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Potassium hydroxide	CEILING	2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Diethanolamine	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Diethanolamine - Inhalable fraction and vapor.	TWAEV	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Diethanolamine	TWA	3 ppm 13 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment**General information:**

Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection:

Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection**Hand Protection:**

Use suitable protective gloves if risk of skin contact.

Other:

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.



Hygiene measures: Do not eat, drink or smoke when using the product. Wash hands after handling. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Light brown
Odor:	Mild
Odor threshold:	No data available.
pH:	9 - 11
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	239 °C 462 °F
Flash Point:	No data available.
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.007
Solubility(ies)	
Solubility in water:	Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.



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Incompatible Materials: Strong acids. Strong bases.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion: Harmful if swallowed.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Causes skin irritation.

Eye contact: Causes serious eye damage.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 467.57 mg/kg

Dermal

Product: No data available.

Inhalation

Product: No data available.

Specified substance(s):

Diethanolamine LC 0 (Rat, 4 h): 3.35 mg/l

Borax LC 50 (Rat, 4 h): > 0.002 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Potassium hydroxide in vivo (Rabbit, 24 hrs): Corrosive KOH 5%

Borax Irritating



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Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Diethanolamine Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):



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Potassium hydroxide	LC 50 (Western mosquitofish (<i>Gambusia affinis</i>), 96 h): 80 mg/l Mortality
Diethanolamine	LC 50 (Fathead minnow (<i>Pimephales promelas</i>), 96 h): 1,200 - 1,580 mg/l Mortality
Borax	LC 50 (Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>), 48 h): 1,800 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Diethanolamine	LC 50 (Water flea (<i>Daphnia magna</i>), 24 h): 140 - 180 mg/l Mortality
	LC 50 (Ramshorn snail (<i>Helisoma trivolvis</i>), 96 h): > 100 mg/l Mortality
	LC 50 (Water flea (<i>Daphnia magna</i>), 96 h): > 100 mg/l Mortality
	LC 50 (Scud (<i>Gammarus fasciatus</i>), 96 h): > 100 mg/l Mortality
	LC 50 (Oligochaete, worm (<i>Lumbriculus variegatus</i>), 96 h): > 100 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Diethanolamine	Log Kow: -1.43
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Mobility in Soil: No data available.



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Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Potassium hydroxide	1000 lbs.
Diethanolamine	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.



EUCLID CHEMICAL

Version: 1.1
Revision Date: 09/21/2015

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Potassium hydroxide	1000 lbs.
Diethanolamine	100 lbs.
Nonylphenol polyethylene glycol	

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Potassium hydroxide	500 lbs
Diethanolamine	500 lbs
Borax	500 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
Potassium hydroxide

US. Massachusetts RTK - Substance List

<u>Chemical Identity</u>
Potassium hydroxide

US. Pennsylvania RTK - Hazardous Substances

<u>Chemical Identity</u>
Potassium hydroxide

US. Rhode Island RTK

<u>Chemical Identity</u>
Potassium hydroxide

Other Regulations:

Regulatory VOC (less water and exempt solvent):	0 g/l
VOC Method 310:	0.00 %

Inventory Status:

Australia AICS:

All components in this product are listed on or exempt from the Inventory.



EUCLID CHEMICAL

Version: 1.1
Revision Date: 09/21/2015

Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	All components in this product are listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	All components in this product are listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	All components in this product are listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
--

Revision Date: 09/21/2015

Version #: 1.1

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



The Euclid Chemical Company

FLEXOCRETE GEL CONCRETE GRAY PART AVersion 2.0
REVISION DATE: 07/08/2012

Print Date 12/23/2013

SECTION 1 - PRODUCT IDENTIFICATION

Trade name : FLEXOCRETE GEL CONCRETE GRAY PART A
Product code : TD5343104520

COMPANY : Euclid Chemical Company
19218 Redwood Road
Cleveland, OH 44110

Telephone : 1-800-321-7628
Emergency Phone: : U.S. only: 1-800-424-9300
International Users Call Collect: 1-703-527-3887

SECTION 2 - HAZARDS IDENTIFICATION**Emergency Overview**

Gray. Liquid. May cause slight irritation to the respiratory system. Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.

Acute Potential Health Effects/ Routes of Entry

Inhalation : May cause slight irritation to the respiratory system.
Eyes : Slightly irritating.
Ingestion : May cause gastrointestinal irritation, nausea, and vomiting.
Skin : May cause sensitization.

Aggravated Medical Conditions

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure.

Chronic Health Effects

May cause sensitization by contact. Prolonged or repeated exposure to epoxy resin can cause irritation to skin, eyes, skin sensitization, temporary eye injury. Certain epoxy resins are reported to be mutagenic in some laboratory tests. Fillers are encapsulated and not expected to be released from product under normal conditions of use.

Target Organs: Skin, Eye, Ingestion

SECTION 3 - PRODUCT COMPOSITION

Chemical Name	CAS-No.	Weight %
Bisphenol A Polyglycidyl Ether Resin	25068-38-6	> 60.0
Siloxanes and Silicones	67762-90-7	5.0 - 10.0
Aliphatic glycidyl ether	2461-15-6	3.0 - 7.0
Inert Filler	NJ TSN# 51721300-5376P	3.0 - 7.0
Titanium dioxide	13463-67-7	1.0 - 5.0

**FLEXOCRETE GEL CONCRETE GRAY PART A**Version 2.0
REVISION DATE: 07/08/2012

Print Date 12/23/2013

SECTION 4 - FIRST AID MEASURES

Get immediate medical attention for any significant overexposure.

- | | | |
|--------------|---|--|
| Inhalation | : | Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention. |
| Eye contact | : | Flush with water for 15 minutes. If irritation persists, get medical attention. |
| Skin contact | : | Wash with water. If irritation, rash or other disorders develop, get medical attention immediately. |
| Ingestion | : | Do not induce vomiting unless advised by a physician. Call nearest Poison Control Center or Physician immediately. |

SECTION 5 - FIRE FIGHTING MEASURES

- | | | |
|---------------------------------------|---|---|
| Flash point | : | > 200 °F, > 93 °C |
| Method | : | Not available. |
| Lower explosion limit | : | Not available. |
| Upper explosion limit | : | Not available. |
| Autoignition temperature | : | Not available. |
| Extinguishing media | : | This product is not expected to burn under normal conditions of use. |
| Hazardous combustion products | : | Smoke, fumes. |
| Protective equipment for firefighters | : | Use accepted fire fighting techniques. Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA). |
| Fire and explosion conditions | : | This product not expected to ignite under normal conditions of use. |

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Stop flow. Contain spill. Keep out of water courses. Absorb spill in sand, earth or other suitable material. Transfer to appropriate container for disposal.

SECTION 7 - HANDLING AND STORAGE

Prevent inhalation of vapor, ingestion, and contact with skin eyes and clothing. Keep container closed when not in use. Precautions also apply to emptied containers. Store in sealed containers in a dry, ventilated warehouse location above freezing.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protection equipment

**FLEXOCRETE GEL CONCRETE GRAY PART A**

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- Respiratory protection : Not required under normal conditions of use.
- Hand protection : Use suitable impervious rubber or vinyl gloves and protective apparel to reduce exposure.
- Eye protection : Wear appropriate eye protection.
- Skin and body protection : Not required.
- Protective measures : Use professional judgment in the selection, care, and use. Other equipment not normally required.
- Engineering measures : General ventilation is sufficient.

Exposure Limits

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Regulation</u>	<u>Limit</u>	<u>Form</u>
Titanium dioxide	13463-67-7	ACGIH TWA:	10 mg/m3	
		OSHA PEL:	15 mg/m3	Total dust.
		OSHA TWA:	15 mg/m3	Total dust.
		OSHA TWA:	5 mg/m3	Respirable fraction.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

- Form : Liquid
- Color : Gray
- Odor : Epoxy
- pH : Not available.
- Vapour pressure : Not available.
- Vapor density : Heavier than air
- Melting point/range : Not available.
- Freezing point : Not available.
- Boiling point/range : Not available.
- Water solubility : Miscible
- Specific Gravity : 1.07
- % Volatile Weight : 0.0 %

SECTION 10 - REACTIVITY / STABILITY

- Substances to avoid : Acids and bases. Amines. Epoxy curing agents.

SECTION 11 - TOXICOLOGICAL INFORMATION

No Data Available



FLEXOCRETE GEL CONCRETE GRAY PART A

Version 2.0

REVISION DATE: 07/08/2012

Print Date 12/23/2013

SECTION 12 - ECOLOGICAL INFORMATION

No Data Available

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal Method : Not regulated under RCRA. Dispose of in compliance with state and local regulations. Do not incinerate.

SECTION 14 - TRANSPORTATION / SHIPPING DATA

CFR / DOT:

Not Regulated

TDG:

Not Regulated

IMDG:

Not Regulated

SECTION 15 - REGULATORY INFORMATION

North American Inventories:

All components are listed or exempt from the TSCA inventory.

This product or its components are listed on, or exempt from the Canadian Domestic Substances List.

U.S. Federal Regulations:

SARA 313 Components : None present or none present in regulated quantities.

SARA 311/312 Hazards : Acute Health Hazard

OSHA Hazardous Components :

Titanium dioxide 13463-67-7

OSHA Status: Considered : Irritant
hazardous based on the
following criteria:

OSHA Flammability : Not Regulated



The Euclid Chemical Company

FLEXOCRETE GEL CONCRETE GRAY PART A

Version 2.0

Print Date 12/23/2013

REVISION DATE: 07/08/2012

Regulatory VOC (less water and
exempt solvent) : 0 g/l
VOC Method 310 : 0 %

U.S. State Regulations:

MASS RTK Components : Titanium dioxide 13463-67-7

Penn RTK Components : Bisphenol A Polyglycidyl Ether Resin 25068-38-6
Siloxanes and Silicones 67762-90-7
Aliphatic glycidyl ether 2461-15-6
Inert Filler NJ TSRN# 51721300-5376P
Titanium dioxide 13463-67-7

NJ RTK Components : Bisphenol A Polyglycidyl Ether Resin 25068-38-6
Siloxanes and Silicones 67762-90-7
Aliphatic glycidyl ether 2461-15-6
Inert Filler NJ TSRN# 51721300-5376P
Titanium dioxide 13463-67-7

WARNING! Contains chemicals known to the State of California to cause cancer, birth defects and/or other reproductive harm:
1333-86-4 Carbon Black

SECTION 16 - OTHER INFORMATION**HMIS Rating :**

Health	1
Flammability	1
Reactivity	0
PPE	

0 = Minimum
1 = Slight
2 = Moderate
3 = Serious
4 = Severe

Further information:

For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

Prepared by: Rich Mikol**Legend**

ACGIH - American Conference of Governmental Hygienists
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
DOT - Department of Transportation
DSL - Domestic Substance List
EPA - Environmental Protection Agency
HMIS - Hazardous Materials Information System
IARC - International Agency for Research on Cancer
MSHA - Mine Safety Health Administration
NDSL - Non-Domestic Substance List

PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
RTK - Right To Know
SARA - Superfund Amendments and Reauthorization Act
STEL - Short Term Exposure Limit
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
V - Volume



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FLEXOCRETE GEL CONCRETE GRAY PART A

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NIOSH - National Institute for Occupational Safety and Health

NTP - National Toxicology Program

OSHA - Occupational Safety and Health Administration

VOC - Volatile Organic Compound

WHMIS - Workplace Hazardous Materials Information System



The Euclid Chemical Company

FLEXOCRETE GEL PART BVersion 2.0
REVISION DATE: 07/08/2012

Print Date 12/23/2013

SECTION 1 - PRODUCT IDENTIFICATION

Trade name : FLEXOCRETE GEL PART B
Product code : TD5343104520

COMPANY : Euclid Chemical Company
19218 Redwood Road
Cleveland, OH 44110

Telephone : 1-800-321-7628
Emergency Phone: : U.S. only: 1-800-424-9300
International Users Call Collect: 1-703-527-3887

Product use : Curative

SECTION 2 - HAZARDS IDENTIFICATION**Emergency Overview**

Black / Brown. Liquid solution. May cause slight irritation to the respiratory system. Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.

Acute Potential Health Effects/ Routes of Entry

Inhalation : May cause slight irritation to the respiratory system.
Eyes : Vapors or liquid may cause tearing, blurred vision, severe irritation, and possible chemical burns.
Ingestion : May cause irritation to the mouth, throat and stomach. May cause chemical burns to stomach, mouth, nose, and throat.
Skin : May cause moderate irritation. May cause sensitization resulting in irritation, itching and redness.

Aggravated Medical Conditions

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure.

Chronic Health Effects

Prolonged and repeated overexposure to amines may cause liver and kidney damage based on animal studies. Diethylenetriamine is a skin and eye irritant. Prolonged and repeated exposure can cause skin sensitization, dermatitis, asthma. Repeated inhalation of nonyl phenol may cause lung damage. Repeated skin contact with nonyl phenol may cause skin irritation and dermatitis. Fillers are encapsulated and not expected to be released from product under normal conditions of use.

Target Organs: Skin, Eye, Lung

SECTION 3 - PRODUCT COMPOSITION

Chemical Name	CAS-No.	Weight %
4-Nonylphenol	84852-15-3	40.0 - 70.0



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Poly(oxypropylene) diamine	9046-10-0	15.0 - 40.0
Tall oil fatty acids reaction products with Tetraethylenepentamine	68953-36-6	15.0 - 40.0
Siloxanes and Silicones	67762-90-7	7.0 - 13.0
Tris(dimethylaminomethyl)phenol	90-72-2	3.0 - 7.0
Inert Filler	NJ TSRN# 51721300-5376P	3.0 - 7.0
Tetraethylene pentamine	112-57-2	1.0 - 5.0
Diethylenetriamine	111-40-0	1.0 - 5.0

SECTION 4 - FIRST AID MEASURES

Get immediate medical attention for any significant overexposure.

- Inhalation : Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.
- Eye contact : Flush with water for 15 minutes. If irritation persists, get medical attention.
- Skin contact : Wash area of contact thoroughly with hand cleaner followed by soap and water. If irritation, rash or other disorders develop, get medical attention immediately.
- Ingestion : Do not induce vomiting unless advised by a physician. Call nearest Poison Control Center or Physician immediately.

SECTION 5 - FIRE FIGHTING MEASURES

- Flash point : Not available.
- Method : Not available.
- Lower explosion limit : Not available.
- Upper explosion limit : Not available.
- Autoignition temperature : Not available.
- Extinguishing media : If water fog is ineffective, use carbon dioxide, dry chemical or foam.
- Hazardous combustion products : Carbon monoxide, carbon dioxide, and nitrogen oxides.
- Protective equipment for firefighters : Use accepted fire fighting techniques. Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA).
- Fire and explosion conditions : Product may ignite if heated in excess of its flash point.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Stop flow. Contain spill. Keep out of water courses. Absorb spill in sand, earth or other suitable material. Transfer to appropriate container for disposal.

SECTION 7 - HANDLING AND STORAGE

Store under normal warehouse conditions in sealed containers. Keep container closed when not in use. Vapor

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may migrate to sources of ignition. Do not smoke, weld, generate sparks, or use flame near container. Change soiled work clothes frequently. Clean hands thoroughly after handling. Prevent inhalation of vapor, ingestion, and contact with skin eyes and clothing. Keep container closed when not in use. Precautions also apply to emptied containers. Handle in compliance with common hygienic practices. Clean hands thoroughly after handling.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**Personal protection equipment**

- Respiratory protection : Use full engineering controls before relying on personal protective equipment. Wear NIOSH/MSHA approved vapor respirator with appropriate cartridge when the vapor concentration is expected to exceed exposure limits indicated on the MSDS. Follow manufacturer's directions for respirator use.
- Hand protection : Protect hands with impervious gloves.
- Eye protection : Wear chemical safety goggles and/or face shield to prevent eye contact. Do not wear contact lenses. Do not touch eyes with contaminated body parts or materials. Have eye washing facilities readily available.
- Protective measures : Use professional judgment in the selection, care, and use.
- Engineering measures : Use local exhaust when the general ventilation is inadequate.

Exposure Limits

Chemical Name	CAS Number	Regulation	Limit	Form
Diethylenetriamine	111-40-0	ACGIH TWA:	1 ppm	

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

- Form : Liquid solution
- Color : Black / Brown
- pH : Not available.
- Vapour pressure : Not available.
- Vapor density : Not available.
- Melting point/range : Not available.
- Freezing point : Not available.
- Boiling point/range : Not available.
- Water solubility : Not available.
- Specific Gravity : 1.04
- % Volatile Weight : 41.6 %



The Euclid Chemical Company

FLEXOCRETE GEL PART B

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Print Date 12/23/2013

REVISION DATE: 07/08/2012

SECTION 10 - REACTIVITY / STABILITY

Substances to avoid : Acids.

Stability : Stable under normal conditions. Avoid welding arcs, flames or other high temperature sources.

Hazardous polymerization : Will not occur under normal conditions.

SECTION 11 - TOXICOLOGICAL INFORMATION

Tetraethylene pentamine, CAS-No.: 112-57-2

Acute oral toxicity (LD-50 oral) 2,100 mg/kg (Rat) 2,100 mg/kg (Rat) 3,990 mg/kg (Rat)

Acute dermal toxicity (LD-50 dermal) 660 mg/kg (Rabbit)

Diethylenetriamine, CAS-No.: 111-40-0

Acute oral toxicity (LD-50 oral) 1,080 mg/kg (Rat) 2,330 mg/kg (Rat)

SECTION 12 - ECOLOGICAL INFORMATION

No Data Available

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal Method : Subject to hazardous waste treatment, storage, and disposal requirements under RCRA. Recycle or incinerate waste at EPA approved facility or dispose of in compliance with federal, state and local regulations.

SECTION 14 - TRANSPORTATION / SHIPPING DATA**CFR / DOT:**

UN1760, Corrosive liquids, n.o.s. (Alkaline Amine), 8, PG III

TDG:

UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine), 8, PG III

IMDG:

UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine, Nonylphenol), 8, PG III, MARINE POLLUTANT

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

**FLEXOCRETE GEL PART B**Version 2.0
REVISION DATE: 07/08/2012

Print Date 12/23/2013

SECTION 15 - REGULATORY INFORMATION**North American Inventories:**

All components are listed or exempt from the TSCA inventory.

This product or its components are listed on, or exempt from the Canadian Domestic Substances List.

U.S. Federal Regulations:

SARA 313 Components : None present or none present in regulated quantities.

SARA 311/312 Hazards : Acute Health Hazard

OSHA Hazardous Components :
Diethylenetriamine 111-40-0OSHA Status: Considered : Irritant
hazardous based on the
following criteria:

OSHA Flammability : Not Regulated

Regulatory VOC (less water and
exempt solvent) : 434 g/l
VOC Method 310 : 41 %**U.S. State Regulations:**

MASS RTK Components	:	Tetraethylene pentamine	112-57-2
		Diethylenetriamine	111-40-0
Penn RTK Components	:	4-Nonylphenol	84852-15-3
		Poly(oxypropylene) diamine	9046-10-0
		Tall oil fatty acids reaction products with Tetraethylenepentamine	68953-36-6
		Siloxanes and Silicones	67762-90-7
		Tris(dimethylaminomethyl)phenol	90-72-2
		Inert Filler	NJ TSRN# 51721300-5376P
		Tetraethylene pentamine	112-57-2
		Diethylenetriamine	111-40-0
NJ RTK Components	:	4-Nonylphenol	84852-15-3
		Poly(oxypropylene) diamine	9046-10-0
		Tall oil fatty acids reaction products with Tetraethylenepentamine	68953-36-6
		Siloxanes and Silicones	67762-90-7
		Tris(dimethylaminomethyl)phenol	90-72-2

WARNING! Contains chemicals known to the State of California to cause cancer, birth defects and/or other reproductive harm:
None known.



The Euclid Chemical Company

FLEXOCRETE GEL PART B

Version 2.0

REVISION DATE: 07/08/2012

Print Date 12/23/2013

SECTION 16 - OTHER INFORMATION**HMIS Rating :**

Health	2
Flammability	1
Reactivity	1
PPE	

0 = Minimum
1 = Slight
2 = Moderate
3 = Serious
4 = Severe

Further information:

For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

Prepared by: Rich Mikol**Legend**

ACGIH - American Conference of Governmental Hygienists
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
DOT - Department of Transportation
DSL - Domestic Substance List
EPA - Environmental Protection Agency
HMIS - Hazardous Materials Information System
IARC - International Agency for Research on Cancer
MSHA - Mine Safety Health Administration
NDSL - Non-Domestic Substance List
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
RTK - Right To Know
SARA - Superfund Amendments and Reauthorization Act
STEL - Short Term Exposure Limit
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
V - Volume
VOC - Volatile Organic Compound
WHMIS - Workplace Hazardous Materials Information System



EUCLID CHEMICAL

Version: 2.0
Revision Date: 01/14/2016

SAFETY DATA SHEET

1. Identification

Product identifier: DURAL FAST SET EPOXY GEL 1:1 PART B
Product Code: TD5323122NC

Recommended use and restriction on use

Recommended use: Curative
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

216-531-9222

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 4
Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A
Toxic to reproduction	Category 2

Acute toxicity, oral	27.54 %
Acute toxicity, dermal	49.59 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	97.12 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 2
--	------------

Acute hazards to the aquatic environment	64 %
Chronic hazards to the aquatic environment	100 %



EUCLID CHEMICAL

Version: 2.0
Revision Date: 01/14/2016

Label Elements

Hazard Symbol:



Signal Word:

Danger

Hazard Statement:

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
Toxic to aquatic life.

Precautionary Statement

Prevention:

Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust or mists. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.

Storage:

Store locked up.

Disposal:

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification:

None.

3. Composition/Information on Ingredients

**Mixtures**

Chemical Identity	CAS number	Content in percent (%)*
1,3-Cyclohexanedimethanamine	2579-20-6	15 - 40%
4-Nonylphenol	84852-15-3	15 - 40%
Bisphenol A	80-05-7	15 - 40%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	15 - 40%
Tris(dimethylaminomethyl)phenol	90-72-2	3 - 7%
Benzyl alcohol	100-51-6	1 - 5%
1,2-Cyclohexanediamine	694-83-7	1 - 5%
**	**	1 - 5%
**	**	1 - 5%
Calcium oxide	1305-78-8	1 - 5%
Iron oxide	1309-37-1	0.1 - 1%
Magnesium oxide	1309-48-4	0.1 - 1%
Stoddard solvent (Mineral Spirits)	8052-41-3	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Trade secret information: ** A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

Trade secret information: ** A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Ingestion: Rinse mouth. Call a physician or poison control center immediately. Never give liquid to an unconscious person. Do not induce vomiting without advice from poison control center.

Inhalation: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Call a physician or poison control center immediately. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.



EUCLID CHEMICAL

Version: 2.0
Revision Date: 01/14/2016

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.



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Precautions for safe handling: Do not taste or swallow. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Do not get in eyes, on skin, on clothing. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Chemical Identity	type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m ³	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Crystalline Silica (Quartz)/ Silica Sand - Total dust.	TWA	0.3 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
**	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m ³	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	1 mg/m ³	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	PEL	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium oxide	TWA	2 mg/m ³	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Iron oxide - Respirable	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values



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fraction.			(2011)
Iron oxide - Fume.	PEL	10 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Magnesium oxide - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Magnesium oxide - Total particulate.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Stoddard solvent (Mineral Spirits)	TWA	100 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	500 ppm 2,900 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)



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Chemical name	type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWAEV	0.10 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Amorphous silica - Total	TWA	4 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica - Respirable.	TWA	1.5 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica	TWAEV	10 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Amorphous silica - Respirable dust.	TWA	6 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Aluminum oxide - Respirable.	TWA	1 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Aluminum oxide - Respirable fraction.	TWAEV	1 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Aluminum oxide - Total dust. - as Al	TWA	10 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium oxide	TWA	2 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium oxide	TWAEV	2 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium oxide	TWA	2 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the



			Quality of the Work Environment) (12 2008)
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Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment**General information:**

Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection:

Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection**Hand Protection:**

Use suitable protective gloves if risk of skin contact.

Other:

Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures:

Observe good industrial hygiene practices. Do not eat, drink or smoke when using the product. Wash hands after handling. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Do not get this material in contact with skin. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin.

9. Physical and chemical properties**Appearance****Physical state:**

liquid

Form:

liquid

Color:

Gray

Odor:

Mild pungent

Odor threshold:

No data available.

pH:

No data available.

Melting point/freezing point:

No data available.

Initial boiling point and boiling range:

No data available.

Flash Point:

> 93 °C > 200 °F (Setaflash Closed Cup)

Evaporation rate:

Slower than Ether



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Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.20
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	Avoid contact with acids.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Harmful if swallowed.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	May be harmful in contact with skin. Causes severe skin burns. May cause an allergic skin reaction.
Eye contact:	Causes serious eye damage.



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Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 1,299.18 mg/kg

Dermal

Product: ATEmix: 2,287.1 mg/kg

Inhalation

Product: ATEmix: 6.13 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

Tris(dimethylaminomet
hyl)phenol in vivo (Rabbit): Experimental result, Key study

Calcium oxide in vivo (Rabbit): Read-across from supporting substance (structural
analogue or surrogate), Key study

Serious Eye Damage/Eye Irritation

Product: No data available.



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Specified substance(s):

4-Nonylphenol	in vivo (Rabbit, 24 - 72 hrs): Corrosive
Bisphenol A	in vivo (Rabbit, 24 hrs): Not classified as an Irritant
Tris(dimethylaminomet hyl)phenol	in vivo (Rabbit, 3 d): Corrosive
Benzyl alcohol	in vivo (Rabbit, 1 - 72 hrs): Irritating
Amorphous silica	in vivo (Rabbit, 24 hrs): Not irritating
Aluminum oxide	in vivo (Rabbit, 24 hrs): Not irritating
Calcium oxide	in vivo (Rabbit, 24 hrs): Category 1
Iron oxide	in vivo (Rabbit, 1 - 72 hrs): Not irritating
Magnesium oxide	Slightly irritating
Stoddard solvent (Mineral Spirits)	Irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
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US. National Toxicology Program (NTP) Report on Carcinogens:

Crystalline Silica (Quartz)/ Silica Sand	Known To Be Human Carcinogen.
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US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified



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Germ Cell Mutagenicity

In vitro
Product: No data available,

In vivo
Product: No data available.

Reproductive toxicity

Product: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

4-Nonylphenol LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 0.13825 mg/l Mortality

Bisphenol A LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 4 - 5.5 mg/l Mortality

Benzyl alcohol LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 460 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

4-Nonylphenol LC 50 (Amphipod (*Leptocheirus plumulosus*), 144 h): +/- 0.05 mg/l Mortality
EC 50 (Clam (*Mulinia lateralis*), 24 h): +/- +/- 0.05 mg/l Mortality
LC 50 (Marsh grass shrimp (*Palaemonetes vulgaris*), 72 h): > 0.05 - 0.1 mg/l Mortality
LC 50 (Amphipod (*Leptocheirus plumulosus*), 72 h): > 0.05 - 0.1 mg/l Mortality
LC 50 (American lobster (*Homarus americanus*), 48 h): > 0.1 - 0.15 mg/l Mortality



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Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

4-Nonylphenol LOAEL (Lepomis macrochirus, 28 d): 0.126 mg/l experimental result

Bisphenol A
LOAEL (Oryzias latipes, 60 d): 355 - 1,820 µg/l Experimental result, Supporting study
NOAEL (Oryzias latipes, 60 d): 355 µg/l Experimental result, Supporting study
NOAEL (Cyprinodon variegatus, 4 d): 250 µg/l Experimental result, Key study
NOAEL (Pimephales promelas, 164 d): 160 µg/l Experimental result, Key study
NOAEL (Oryzias latipes): 247 µg/l Experimental result, Supporting study

Aluminum oxide NOAEL (Pimephales promelas, 28 d): 4.7 mg/l experimental result

Calcium oxide
LC 50 (7 d): 3,206.2 mg/l Read-across based on grouping of substances (category approach), Key study
NOAEL (Oncorhynchus mykiss, 60 d): 307 mg/l Read-across based on grouping of substances (category approach), Key study
LC 50 (Hypophthalmichthys molitrix, 16 d): 75 - 450 mg/l Experimental result, Key study
LOAEL (Cyprinodon variegatus, 10 d): 697 mg/l Read-across based on grouping of substances (category approach), Key study
LC 50 (7 d): 4,408.5 mg/l Read-across based on grouping of substances (category approach), Key study

Iron oxide LOAEL (Pimephales promelas, 33 d): 1.6 mg/l experimental result

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.



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Specified substance(s):

4-Nonylphenol

Fathead minnow (*Pimephales promelas*), Bioconcentration Factor (BCF):
498 (Flow through)

Partition Coefficient n-octanol / water (log Kow)

Product:

No data available.

Specified substance(s):

Bisphenol A

Log Kow: 3.32

Benzyl alcohol

Log Kow: 1.10

Stoddard solvent (Mineral
Spirits)

Log Kow: 3.16 - 7.15

Mobility in Soil:

No data available.

Other Adverse Effects:

Toxic to aquatic organisms.

13. Disposal considerations

Disposal instructions:

Dispose of waste at an appropriate treatment and disposal facility in
accordance with applicable laws and regulations, and product
characteristics at time of disposal.

Contaminated Packaging:

No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Nonylphenol), 9, PG III,
MARINE POLLUTANT

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation.
Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations



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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity

4-Nonylphenol

**

Reportable quantity

De minimis concentration: 1.0% One-Time Export Notification only.

De minimis concentration: 1.0% One-Time Export Notification only.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity

Benzene

OSHA hazard(s)

Blood

respiratory tract irritation

Central nervous system

Flammability

Cancer

Skin

Aspiration

Eye

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity

Benzene

Reportable quantity

10 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards

Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity

Bisphenol A

Benzene

Reportable quantity

10 lbs.

**SARA 311/312 Hazardous Chemical**

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
1,3-Cyclohexanedimethanamine	500 lbs
4-Nonylphenol	500 lbs
Bisphenol A	500 lbs
Crystalline Silica (Quartz)/ Silica Sand	500 lbs
Tris(dimethylaminomethyl) phenol	500 lbs
Benzyl alcohol	500 lbs
1,2-Cyclohexanediamine	500 lbs
Amorphous silica	500 lbs
Aluminum oxide	500 lbs
Calcium oxide	500 lbs
Iron oxide	500 lbs
Magnesium oxide	500 lbs
Stoddard solvent (Mineral Spirits)	500 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>
Bisphenol A
Aluminum oxide

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations**US. California Proposition 65**

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
Bisphenol A
Crystalline Silica (Quartz)/ Silica Sand
Amorphous silica
Aluminum oxide
Calcium oxide

US. Massachusetts RTK - Substance List

<u>Chemical Identity</u>
4-Nonylphenol
Bisphenol A
Crystalline Silica (Quartz)/ Silica Sand
Benzyl alcohol
Calcium oxide



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US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

4-Nonylphenol
Bisphenol A
Crystalline Silica (Quartz)/ Silica Sand
Benzyl alcohol
Amorphous silica
Aluminum oxide
Calcium oxide

US. Rhode Island RTK

Chemical Identity

Bisphenol A

Other Regulations:

Regulatory VOC (less water and exempt solvent):	228 g/l
VOC Method 310:	19.00 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are



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not listed on or exempt from the Inventory.

Japan ISHL Listing:

One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing:

One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
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Revision Date: 01/14/2016

Version #: 2.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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Version: 1.0
Revision Date: 08/13/2015

SAFETY DATA SHEET

1. Identification

Material name: EUCOBond LS -12/24oz CANS/STRAWS- CS **
Material: 070B-94

Recommended use and restriction on use

Recommended use: Sealant
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:

Telephone:

Emergency telephone number:

EH&S Department

216-531-9222

1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) Identification

Hazard Classification

Health Hazards

Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A

Unknown toxicity - Health

Acute toxicity, oral	59.44 %
Acute toxicity, dermal	59.44 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3
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Unknown toxicity - Environment

Acute hazards to the aquatic environment	99.94 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:





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Version: 1.0
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Signal Word: Danger

Hazard Statement: May cause genetic defects.
May cause cancer.
Harmful to aquatic life.

Precautionary Statement:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/Information on Ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Polymethylene polyphenyl isocyanate	9016-87-9	40 - 70%
Methyl ether (Dimethyl ether)	115-10-6	7 - 13%
Isobutane	75-28-5	7 - 13%
Propane	74-98-6	1 - 5%
Butane	106-97-8	0.5 - 1.5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.



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Indication of Immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.



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Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Polymethylene polyphenyl isocyanate	TWA	0.005 ppm	US. ACGIH Threshold Limit Values (2011)
	Ceiling	0.02 ppm 0.2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Isobutane	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (02 2013)
Propane	PEL	1,000 ppm 1,800 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Butane	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (02 2013)

Chemical name	type	Exposure Limit Values	Source
Polymethylene polyphenyl isocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Polymethylene polyphenyl isocyanate	TWAEV	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)



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Polymethylene polyphenyl isocyanate	TWA	0.005 ppm	0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Methyl ether (Dimethyl ether)	TWA	1,000 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isobutane	TWA	1,000 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Isobutane	TWAEV	800 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Propane	TWA	1,000 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Propane	TWAEV	1,000 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Propane	TWA	1,000 ppm	1,800 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: No data available.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties



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Appearance

Physical state:	liquid
Form:	Aerosols
Color:	Pale yellow
Odor:	Strong petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	-44 °C -47 °F
Flash Point:	-97 °C -143 °F
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	18.6 %(V)
Flammability limit - lower (%):	3.0 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	3,900 mmHg (20 °C 68 °F)
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	0.99
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates).
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information



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Information on likely routes of exposure

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Causes mild skin irritation.

Eye contact: Eye contact is possible and should be avoided.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 9,127.13 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Specified substance(s):

Methyl ether (Dimethyl ether)	LC 50 (Rat, 4 h): > 20000 ppm
Isobutane	LC 50 (Rat, 4 h): > 13023 ppm
Propane	LC 50 (Rat, 4 h): > 13023 ppm
Butane	LC 50 (Rat, 4 h): > 13023 ppm

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.



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Specified substance(s):

Methyl ether (Dimethyl ether) Irritating

Propane Irritating

Butane Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects:

No data available.



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12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Methyl ether (Dimethyl ether) Log Kow: 0.10

Isobutane Log Kow: 2.76

Propane Log Kow: 2.36

Butane Log Kow: 2.89



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Mobility in Soil: No data available.
Other Adverse Effects: Harmful to aquatic organisms.

13. Disposal considerations

Disposal Instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging: No data available.

14. Transport information

TDG:

, LIMITED QUANTITY, 0

CFR / DOT:

UN1950, Aerosols, 2.1, LTD QTY

IMDG:

UN1950, AEROSOLS, 2.1, LTD QTY

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Polymethylene	5000 lbs.
polyphenyl isocyanate	
Methyl ether (Dimethyl ether)	100 lbs.
Isobutane	100 lbs.
Propane	100 lbs.
Butane	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Delayed (Chronic) Health Hazard



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SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Polymethylene	5000 lbs.
polyphenyl isocyanate	
Methyl ether (Dimethyl ether)	100 lbs.
Isobutane	100 lbs.
Propane	100 lbs.
Butane	100 lbs.
Diisononyl phthalate	

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Polymethylene polyphenyl isocyanate	500 lbs
Methyl ether (Dimethyl ether)	500 lbs
Isobutane	500 lbs
Propane	500 lbs
Butane	500 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>
Polymethylene
polyphenyl isocyanate

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
Methyl ether (Dimethyl ether)	10000 lbs
Isobutane	10000 lbs
Propane	10000 lbs
Butane	10000 lbs

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

<u>Chemical Identity</u>
Polymethylene polyphenyl isocyanate
Methyl ether (Dimethyl ether)
Isobutane
Propane



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US. Massachusetts RTK - Substance List

Chemical Identity

Polymethylene polyphenyl isocyanate

Methyl ether (Dimethyl ether)

Isobutane

Propane

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Polymethylene polyphenyl isocyanate

Methyl ether (Dimethyl ether)

Isobutane

Propane

US. Rhode Island RTK

Chemical Identity

Polymethylene polyphenyl isocyanate

Methyl ether (Dimethyl ether)

Isobutane

Propane

Other Regulations:

Regulatory VOC (less water and exempt solvent):	153 g/l
VOC Method 310:	0.18 %

Inventory Status:

Australia AICS:

One or more components in this product are not listed on or exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP:

One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List:

One or more components in this product are not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances:

All components in this product are listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI):

One or more components in this product are not listed on or exempt from the Inventory.

Canada NDSL Inventory:

One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS:

One or more components in this product are not listed on or exempt from the Inventory.



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US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
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Revision Date:	08/13/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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Version: 1.0
Revision Date: 08/17/2015

SAFETY DATA SHEET

1. Identification

Material name: EUCON REDUCE
Material: 031 20

Recommended use and restriction on use

Recommended use: Pigment
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:	EH&S Department
Telephone:	216-531-9222
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements

Hazard Symbol:	No symbol
Signal Word:	No signal word.
Hazard Statement:	not applicable
Precautionary Statement:	not applicable

Other hazards which do not result in GHS classification: None.

3. Composition/Information on ingredients

Mixtures

Composition Comments: The components are not hazardous or are below required disclosure limits.

4. First-aid measures

Ingestion:	Rinse mouth thoroughly.
Inhalation:	Move to fresh air.
Skin Contact:	Remove contaminated clothing and wash the skin thoroughly with soap and water after work.



Eye contact: Rinse immediately with plenty of water.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

**7. Handling and storage**

Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.
Conditions for safe storage, including any incompatibilities:	Store away from incompatible materials. Store in original tightly closed container.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

None of the components have assigned exposure limits.

Appropriate Engineering Controls

Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment**General information:** Use personal protective equipment as required.**Eye/face protection:** Wear goggles/face shield.**Skin Protection****Hand Protection:** Use suitable protective gloves if risk of skin contact.**Other:** No data available.**Respiratory Protection:** In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.**Hygiene measures:** Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.**9. Physical and chemical properties****Appearance****Physical state:** solid
Form: Powder
Color: Light brown**Odor:** Odorless**Odor threshold:** No data available.**pH:** No data available.**Melting point/freezing point:** No data available.**Initial boiling point and boiling range:** No data available.



Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	0.52
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Moderately irritating to skin with prolonged exposure.
Eye contact:	Eye contact is possible and should be avoided.



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Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: No data available.

Dermal

Product: No data available.

Inhalation

Product: No data available.

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.



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Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects:

No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.



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Version: 1.0
Revision Date: 08/17/2015

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Not listed.



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Version: 1.0
Revision Date: 08/17/2015

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

None present or none present in regulated quantities.

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

Regulatory VOC (less water and exempt solvent):	0 g/l
VOC Method 310:	0.00 %

Inventory Status:

Australia AICS:

All components in this product are listed on or exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP:

One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List:

All components in this product are listed on or exempt from the Inventory.



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Version: 1.0
Revision Date: 08/17/2015

China Inv. Existing Chemical Substances:	All components in this product are listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	All components in this product are listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
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Revision Date: 08/17/2015

Version #: 1.0

Further Information: No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



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Version: 1.0
Revision Date: 08/17/2015

SAFETY DATA SHEET

1. Identification

Material name: EUCON DURA-PLUS
Material: 011AE 05

Recommended use and restriction on use

Recommended use: Pigment
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person: EH&S Department
Telephone: 216-531-9222
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) Identification

Hazard Classification

Health Hazards

Serious Eye Damage/Eye Irritation Category 2A

Unknown toxicity - Health

Acute toxicity, oral	85 %
Acute toxicity, dermal	85 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	100 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Warning

Hazard Statement: Causes serious eye irritation.



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Precautionary Statement:

Prevention:

Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Other hazards which do not result in GHS classification:

None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Rosin acid, monosodium salt	61790-51-0	15 - 40%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion:

Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation:

Move to fresh air.

Skin Contact:

Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

Eye contact:

Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms:

May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment:

Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards:

No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:

Do not use water jet as an extinguisher, as this will spread the fire.



Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes. Wash hands thoroughly after handling. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. Store in original tightly closed container.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

Appropriate Engineering Controls

Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

**Individual protection measures, such as personal protective equipment**

General information:	Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	Wear suitable protective clothing.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Avoid contact with eyes.

9. Physical and chemical properties**Appearance****Physical state:** solid**Form:** Powder**Color:** Brown**Odor:** Odorless**Odor threshold:** No data available.**pH:** 9.1 - 9.4**Melting point/freezing point:** No data available.**Initial boiling point and boiling range:** No data available.**Flash Point:** No data available.**Evaporation rate:** No data available.**Flammability (solid, gas):** No**Upper/lower limit on flammability or explosive limits****Flammability limit - upper (%):** No data available.**Flammability limit - lower (%):** No data available.**Explosive limit - upper (%):** No data available.**Explosive limit - lower (%):** No data available.**Vapor pressure:** No data available.**Vapor density:** No data available.**Relative density:** 0.42**Solubility(ies)****Solubility in water:** Miscible with water.**Solubility (other):** No data available.**Partition coefficient (n-octanol/water):** No data available.**Auto-ignition temperature:** No data available.



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Version: 1.0
Revision Date: 08/17/2015

Decomposition temperature: No data available.
Viscosity: No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: No data available.

Conditions to Avoid: Avoid heat or contamination.

Incompatible Materials: No data available.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: May be harmful in contact with skin.

Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: No data available.

Dermal Product: ATEmix: 2,000 mg/kg

Inhalation Product: No data available.

Repeated dose toxicity Product: No data available.

Skin Corrosion/Irritation Product: No data available.



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Version: 1.0
Revision Date: 08/17/2015

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Rosin acid, in vivo (Rabbit, 24 hrs): Irritating
monosodium salt

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects:

No data available.



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12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations



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Revision Date: 08/17/2015

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate (Acute) Health Hazards

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical	
<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Rosin acid, monosodium salt	500 lbs

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.



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Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

Regulatory VOC (less water and exempt solvent):	0 g/l
VOC Method 310:	0.00 %

Inventory Status:

Australia AICS:	All components in this product are listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	All components in this product are listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.



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Philippines PICCS:	All components in this product are listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision
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Revision Date:	08/17/2015
Version #:	1.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.



EUCLID CHEMICAL

Version: 1.0
Revision Date: 07/31/2015

SAFETY DATA SHEET

1. Identification

Material name: EUCON MRC
Material: 709 1000

Recommended use and restriction on use

Recommended use: Additive
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person: EH&S Department
Telephone: 216-531-9222
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity (Oral)	Category 4
Serious Eye Damage/Eye Irritation	Category 2A

Unknown toxicity - Health

Acute toxicity, oral	82.91 %
Acute toxicity, dermal	83.28 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	99.63 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	83.25 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:



Signal Word: Warning



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Hazard Statement: Harmful if swallowed.
Causes serious eye irritation.

Precautionary Statement:

Prevention: Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor/ if you feel unwell. Rinse mouth.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Calcium chloride	10043-52-4	10 - 30%
Triethanolamine	102-71-6	1 - 5%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

**Suitable (and unsuitable) extinguishing media**

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Do not taste or swallow. Wash hands thoroughly after handling. Avoid contact with eyes. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. Store in original tightly closed container.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Chemical Identity	type	Exposure Limit Values	Source
Triethanolamine	TWA	5 mg/m3	US. ACGIH Threshold Limit Values



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			(2011)
Chemical name	type	Exposure Limit Values	Source
Calcium chloride	TWAEV	5 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Triethanolamine	TWA	5 mg/m ³	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Triethanolamine	TWAEV	0.5 ppm 3.1 mg/m ³	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Triethanolamine	TWA	5 mg/m ³	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information:

Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection:

Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection:

Use suitable protective gloves if risk of skin contact.

Other:

No data available.

Respiratory Protection:

In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures:

Do not eat, drink or smoke when using the product. Wash hands after handling. Avoid contact with eyes. Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance

Physical state:

liquid

Form:

liquid



Color:	Brown
Odor:	Mild
Odor threshold:	No data available.
pH:	6
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.27
Solubility(ies)	
Solubility in water:	Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of Hazardous Reactions:	No data available.
Conditions to Avoid:	Avoid heat or contamination.
Incompatible Materials:	Strong acids. Strong bases.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Harmful if swallowed.
Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.



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Skin Contact: Causes mild skin irritation.
Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 1,320.98 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):
Calcium chloride in vivo (Rabbit, 24 - 72 hrs): Irritating
Triethanolamine in vivo (Rabbit, 24 - 72 hrs): Irritating

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
No carcinogenic components identified

**Germ Cell Mutagenicity**

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:**

Fish
Product: No data available.

Specified substance(s):
Calcium chloride LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 3,930 - 5,360 mg/l Mortality
Triethanolamine LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 10,610 - 13,010 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
Calcium chloride LC 50 (Water flea (*Daphnia magna*), 24 h): 1,838 mg/l Mortality
Triethanolamine LC 50 (Water flea (*Daphnia magna*), 24 h): 1,390 mg/l Mortality
LC 50 (Common shrimp, sand shrimp (*Crangon crangon*), 48 h): > 100 mg/l Mortality

Chronic hazards to the aquatic environment:



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Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):
Triethanolamine Log Kow: -1.00

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:



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Version: 1.0
Revision Date: 07/31/2015

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate (Acute) Health Hazards

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical	
<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
Calcium chloride	500 lbs
Triethanolamine	500 lbs

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65
No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act
Chemical Identity
Triethanolamine



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US. Massachusetts RTK - Substance List

Chemical Identity

Triethanolamine

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity

Triethanolamine

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

Regulatory VOC (less water and exempt solvent):	0 g/l
VOC Method 310:	0.00 %

Inventory Status:

Australia AICS:

All components in this product are listed on or exempt from the Inventory.

Canada DSL Inventory List:

All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP:

One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List:

One or more components in this product are not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances:

All components in this product are listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI):

One or more components in this product are not listed on or exempt from the Inventory.

Canada NDSL Inventory:

One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS:

One or more components in this product are not listed on or exempt from the Inventory.

US TSCA Inventory:

All components in this product are listed on or exempt from the Inventory.

New Zealand Inventory of Chemicals:

All components in this product are listed on or exempt from the Inventory.

Japan ISHL Listing:

One or more components in this product are

Product Name: MOBIL DELVAC 1300 SUPER 15W-40

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SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL DELVAC 1300 SUPER 15W-40

Product Description: Base Oil and Additives

Product Code: 201520403560, 440693-00, 970529

Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION

3225 GALLOWS RD.

FAIRFAX, VA. 22037 USA

24 Hour Health Emergency 609-737-4411

Transportation Emergency Phone 800-424-9300 or 703-527-3887 CHEMTREC

Product Technical Information 800-662-4525

MSDS Internet Address <http://www.exxon.com>, <http://www.mobil.com>

SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:

HAZARD NOT OTHERWISE CLASSIFIED (HNOC): None as defined under 29 CFR 1900.1200.

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

ENVIRONMENTAL HAZARDS

No significant hazards.

NFPA Hazard ID: Health: 0 Flammability: 1 Reactivity: 0

HMIS Hazard ID: Health: 0 Flammability: 1 Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	64742-65-0	1 - < 5%	H304
TETRAPROPENYL PHENOL	74499-35-7	0.1 - < 1%	H315, H320(2B), H360(1B)(F), H400(M factor 10), H410(M factor 10)

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

As per paragraph (i) of 29 CFR 1910.1200, formulation is considered a trade secret and specific chemical identity and exact percentage (concentration) of composition may have been withheld. Specific chemical identity and exact percentage composition will be provided to health professionals, employees, or designated representatives in accordance with applicable provisions of paragraph (i).

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

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FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Sulfur oxides, Oxides of carbon, Incomplete combustion products, Smoke, Fume

FLAMMABILITY PROPERTIES

Flash Point [Method]: >236°C (457°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do it without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

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ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit / Standard			NOTE	Source
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3		N/A	OSHA Z1
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE		TWA	2000 mg/m3	500 ppm	N/A	OSHA Z1
SOLVENT DEWAXED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3		N/A	ACGIH

Exposure limits/standards for materials that can be formed when handling this product: When mists/aerosols can occur the following are recommended: 5 mg/m³ - ACGIH TLV (inhalable fraction), 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

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PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid

Color: Amber

Odor: Characteristic

Odor Threshold: N/D

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IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.874
 Flammability (Solid, Gas): N/A
 Flash Point [Method]: >236°C (457°F) [ASTM D-92]
 Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
 Autoignition Temperature: N/D
 Boiling Point / Range: > 316°C (600°F)
 Decomposition Temperature: N/D
 Vapor Density (Air = 1): N/D
 Vapor Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C
 Evaporation Rate (n-butyl acetate = 1): N/D
 pH: N/A
 Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
 Solubility in Water: Negligible
 Viscosity: 110 cSt (110 mm²/sec) at 40 °C | 15 cSt (15 mm²/sec) at 100°C
 Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D
 Melting Point: N/A
 Pour Point: -27°C (-17°F)
 DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Dermal	
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.

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material.	
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitization	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.

Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Tetrapropenyl phenol (TPP). TPP was tested in a rat oral gavage one-generation reproductive toxicity study and a rat dietary two-generation reproductive toxicity study. Results from the one-generation study included reduced ovary weights and changes in male reproductive accessory organs. Results from the two-generation study included prolonged estrous cyclicity, reduced ovary weights, accelerated sexual maturation, decreased mean live litter size, decreased fertility rates, hypospermia, and reduced weights of male reproductive accessory organs. A Specific Concentration Limit (SCL) for reproductive effects of 1.5 wt% TPP was derived by the supplier based on the NOAEL (15 mg/kg/day) from the rat dietary two-generation study and was confirmed in supporting studies with other substances containing TPP as an impurity.

The following ingredients are cited on the lists below: None.

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--REGULATORY LISTS SEARCHED--

1 = NTP CARC
2 = NTP SUS

3 = IARC 1
4 = IARC 2A

5 = IARC 2B
6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land.
Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

NOTE: One or more components of this material contain an impurity (branched alkylphenol) that is highly toxic to aquatic organisms. The components containing the impurity were tested by the supplier and found to be no more than minimally toxic to aquatic organisms.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics:

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TCLP (BENZENE)

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: This material is not considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: DSL, KECI, PICCS, TSCA
Special Cases:

Inventory	Status
AICS	Restrictions Apply
IECSC	Restrictions Apply

EPCRA SECTION 302: This material contains no extremely hazardous substances.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

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Chemical Name	CAS Number	List Citations
ZINC DITHIOPHOSPHATE	68649-42-3	15, 19

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

H315: Causes skin irritation; Skin Corr/Irritation, Cat 2

H320(2B): Causes eye irritation; Serious Eye Damage/Irr, Cat 2B

H360(1B)(F): May damage fertility; Repro Tox, Cat 1B (Fertility)

H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Updates made in accordance with implementation of GHS requirements.

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Internal Use Only

MHC: 0B, 0B, 0, 0, 0, 0

PPEC: A

DGN: 2003305XUS (1012124)



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SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBIL MULTIPURPOSE ATF
Product Description: Base Oil and Additives
Product Code: 201530203505, 525238-85
Intended Use: Automatic gearbox fluid

COMPANY IDENTIFICATION

Supplier: East Coast Lubes Pty Ltd (Queensland and Northern Territory)
A.B.N. 37 117 203 611
Cnr North and Mort Streets
Toowoomba, Queensland 4350 Australia

24 Hour Environmental / Health Emergency Telephone 1300 131 001
Supplier General Contact 1800 069 019

Supplier: Southern Cross Oil Pty Ltd Trading as Southern Cross Lubes (Victoria and Tasmania)
A.B.N. 41 151 437 544
Level 2/768 Lorimer Street
Port Melbourne, Victoria 3207 Australia

24 Hour Environmental / Health Emergency Telephone 1300 131 001
Product Technical Information 1300 466 245
Supplier General Contact 1300 552 861

Supplier: Perkal Pty Ltd Trading as Roto Oil (South Australia)
A.B.N. 43 009 283 363
6-10 Streiff Rd
Wingfield, South Australia 5013 Australia

24 Hour Environmental / Health Emergency Telephone (8:00am to 4:30pm Mon to Fri) 1300 919 904
Product Technical Information (08) 8359 8995
Supplier General Contact (08) 8359 8995

Supplier: Perkal Pty Ltd Trading as Statewide Oil (Western Australia)
A.B.N. 43 009 283 363
14 Beete Street
Welshpool, Western Australia 6106 Australia

24 Hour Environmental / Health Emergency Telephone (8:00am to 4:30pm Mon to Fri) 1300 919 904
Product Technical Information (08) 9350 6777
Supplier General Contact (08) 9350 6777

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SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Other hazard information:**Physical / Chemical Hazards:**

No significant hazards.

Health Hazards:

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

Environmental Hazards:

Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*	GHS Hazard Codes
ALKYL THIOPHOSPHITES		0.1 - < 1.0%	H312, H314(1B), H400(M factor 10), H410(M factor 10)
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	64742-55-8	10 - < 20%	H304
OLEYL AMINE	112-90-3	0.025 - < 0.1%	H302, H314(1B), H400(M factor 10)
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	64742-54-7	70 - < 80%	H304

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Other ingredients determined not to be hazardous up to 100%.

SECTION 4 FIRST AID MEASURES**INHALATION**

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

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Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

NOTE TO PHYSICIAN

None

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >156°C (313°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special

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cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers.

Material is defined under the National Standard [NOHSC:1015] Storage and Handling of Workplace Dangerous Goods.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
HYDROTREATED LIGHT PARAFFINIC DISTILLATES,	Mist.	TWA	5 mg/m3			Australia OELs

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PETROLEUM						
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	Inhalable fraction.	TWA	5 mg/m3			ACGIH
HYDROTREATED LIGHT PARAFFINIC DISTILLATES, PETROLEUM	Mist.	TWA	5 mg/m3			ACGIH
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Inhalable fraction.	TWA	5 mg/m3			ACGIH
SEVERELY HYDROTREATED HEAVY PARAFFINIC DISTILLATE	Mist.	TWA	5 mg/m3			ACGIH

Exposure limits/standards for materials that can be formed when handling this product:

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.
Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Particulate

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Nitrile, Viton

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

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Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practise good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid

Colour: Red

Odour: Characteristic

Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.861

Flammability (Solid, Gas): N/A

Flash Point [Method]: >156°C (313°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

Boiling Point / Range: N/D

Decomposition Temperature: N/D

Vapour Density (Air = 1): > 2 at 101 kPa [Estimated]

Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C [Estimated]

Evaporation Rate (n-butyl acetate = 1): N/D

pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): > 3.5 [Estimated]

Solubility in Water: Negligible

Viscosity: 32.3 cSt (32.3 mm²/sec) at 40 °C | 7 cSt (7 mm²/sec) at 100°C

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/A

DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

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CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.**INCOMPATIBLE MATERIALS:** Strong oxidisers**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.**SECTION 11 TOXICOLOGICAL INFORMATION****INFORMATION ON TOXICOLOGICAL EFFECTS**

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration: Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity: No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity: No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION**Contains:**

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals.

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IARC Classification:

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = IARC 1

2 = IARC 2A

3 = IARC 2B

SECTION 12	ECOLOGICAL INFORMATION
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The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13	DISPOSAL CONSIDERATIONS
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Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken

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for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

This material is not considered hazardous according to Australia Model Work Health and Safety Regulations.

Product is not regulated according to Australian Dangerous Goods Code.

No Poison Schedule number allocated by the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act.

AS1940 COMBUSTIBLE CLASS: C2

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

SECTION 16 OTHER INFORMATION

KEY TO ABBREVIATIONS AND ACRONYMS:

N/D = Not determined, N/A = Not applicable, STEL = Short-Term Exposure Limit, TWA = Time-Weighted Average

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H302: Harmful if swallowed; Acute Tox Oral, Cat 4

H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

H312: Harmful in contact with skin; Acute Tox Dermal, Cat 4

H314(1B): Causes severe skin burns and eye damage; Skin Corr/Irritation, Cat 1B

H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

H410: Very toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:

Company Logo (Fid 1) information was modified.

Product Name: MOBIL MULTIPURPOSE ATF

Revision Date: 23 Feb 2016

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Section 01: Company Mailing Address information was modified.

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Section 05: Hazardous Combustion Products information was modified.

Section 01: Company Contact Methods information was modified.

Section 14: Marine Pollutant information was modified.

Section 16: Revision Information - Implementation of GHS requirements phrase. information was deleted.

East Coast Lubes Pty Ltd (Queensland and Northern Territory): Section 01: Supplier Mailing Address information was deleted.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. You can contact ExxonMobil to insure that this document is the most current available from ExxonMobil. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

DGN: 7010146DAU (1008229)

Prepared by: Exxon Mobil Corporation
EMBSI, Clinton NJ USA

Contact Point: See Section 1 for Local Contact number

End of (M)SDS

Product Name: MOBILFLUID 424
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SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: MOBILFLUID 424
Product Description: Base Oil and Additives
Product Code: 201520508030, 522334-85
Intended Use: Hydraulic/gearbox fluid

COMPANY IDENTIFICATION

Supplier: East Coast Lubes Pty Ltd (Queensland and Northern Territory)
A.B.N. 37 117 203 611
Cnr North and Mort Streets
Toowoomba, Queensland 4350 Australia

24 Hour Environmental / Health Emergency Telephone 1300 131 001
Supplier General Contact 1800 069 019

Supplier: Perkal Pty Ltd Trading as Statewide Oil (Western Australia)
A.B.N. 43 009 283 363
14 Beete Street
Welshpool, Western Australia 6106 Australia

24 Hour Environmental / Health Emergency Telephone (8:00am to 4:30pm Mon to Fri) 1300 919 904
Product Technical Information (08) 9350 6777
Supplier General Contact (08) 9350 6777

Supplier: Perkal Pty Ltd Trading as Roto Oil (South Australia)
A.B.N. 43 009 283 363
6-10 Streiff Rd
Wingfield, South Australia 5013 Australia

24 Hour Environmental / Health Emergency Telephone (8:00am to 4:30pm Mon to Fri) 1300 919 904
Product Technical Information (08) 8359 8995
Supplier General Contact (08) 8359 8995

Supplier: Southern Cross Oil Pty Ltd Trading as Southern Cross Lubes (Victoria and Tasmania)
A.B.N. 41 151 437 544
Level 2/768 Lorimer Street
Port Melbourne, Victoria 3207 Australia

24 Hour Environmental / Health Emergency Telephone 1300 131 001
Product Technical Information 1300 466 245
Supplier General Contact 1300 552 861

Product Name: MOBILFLUID 424

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SECTION 2 HAZARDS IDENTIFICATION

This material is not hazardous according to regulatory guidelines (see (M)SDS Section 15).

Contains: BORATE ESTER May produce an allergic reaction.

Other hazard information:

Physical / Chemical Hazards:

No significant hazards.

Health Hazards:

High-pressure injection under skin may cause serious damage. Excessive exposure may result in eye, skin, or respiratory irritation.

Environmental Hazards:

No significant hazards.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a mixture.

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*	GHS Hazard Codes
BORATE ESTER	POLYMER	0.1 - < 1%	H317
CALCIUM SULPHONATE	Confidential	1 - < 5%	H413
HYDROTREATED MIDDLE DISTILLATE (PETROLEUM)	64742-46-7	1 - < 5%	H304
ZINC ALKYLDITHIOPHOSPHATE	68649-42-3	1 - 2.5%	H318, H401, H411

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. Other ingredients determined not to be hazardous up to 100%.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by

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a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

NOTE TO PHYSICIAN

None

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Pressurised mists may form a flammable mixture.

Hazardous Combustion Products: Aldehydes, Incomplete combustion products, Oxides of carbon, Smoke, Fume, Sulphur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: >192°C (378°F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

For emergency responders: Respiratory protection: respiratory protection will be necessary only in special

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cases, e.g., formation of mists. Half-face or full-face respirator with filter(s) for dust/organic vapor or Self Contained Breathing Apparatus (SCBA) can be used depending on the size of spill and potential level of exposure. If the exposure cannot be completely characterized or an oxygen deficient atmosphere is possible or anticipated, SCBA is recommended. Work gloves that are resistant to hydrocarbons are recommended. Gloves made of polyvinyl acetate (PVA) are not water-resistant and are not suitable for emergency use. Chemical goggles are recommended if splashes or contact with eyes is possible. Small spills: normal antistatic work clothes are usually adequate. Large spills: full body suit of chemical resistant, antistatic material is recommended.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do so without risk. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). When the material is handled in bulk, an electrical spark could ignite any flammable vapors from liquids or residues that may be present (e.g., during switch-loading operations). Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Static Accumulator: This material is a static accumulator.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Do not store in open or unlabelled containers. Keep away from incompatible materials.

Material is defined under the National Standard [NOHSC:1015] Storage and Handling of Workplace Dangerous Goods.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
HYDROTREATED MIDDLE DISTILLATE (PETROLEUM)	Mist.	TWA	5 mg/m3			Australia OELs

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HYDROTREATED MIDDLE DISTILLATE (PETROLEUM)	Inhalable fraction.	TWA	5 mg/m3			ACGIH
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Exposure limits/standards for materials that can be formed when handling this product:

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

No biological limits allocated.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.
Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Particulate

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Nitrile, Viton

No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

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Practise good housekeeping.**ENVIRONMENTAL CONTROLS**

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid

Colour: Amber

Odour: Characteristic

Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15 °C): 0.884

Flammability (Solid, Gas): N/A

Flash Point [Method]: >192°C (378°F) [ASTM D-93]

Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0

Autoignition Temperature: N/D

Boiling Point / Range: > 316°C (600°F)

Decomposition Temperature: N/D

Vapour Density (Air = 1): > 2 at 101 kPa

Vapour Pressure: < 0.013 kPa (0.1 mm Hg) at 20 °C

Evaporation Rate (n-butyl acetate = 1): N/D

pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): > 3.5

Solubility in Water: Negligible

Viscosity: 55 cSt (55 mm²/sec) at 40 °C | 9.3 cSt (9.3 mm²/sec) at 100°C

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D

Melting Point: N/A

Pour Point: -36°C (-33°F)

DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY**STABILITY:** Material is stable under normal conditions.**CONDITIONS TO AVOID:** Excessive heat. High energy sources of ignition.**INCOMPATIBLE MATERIALS:** Strong oxidisers**HAZARDOUS DECOMPOSITION PRODUCTS:** Material does not decompose at ambient temperatures.**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

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SECTION 11 TOXICOLOGICAL INFORMATION**INFORMATION ON TOXICOLOGICAL EFFECTS**

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin	
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.
Skin Corrosion/Irritation: No end point data for material.	Negligible irritation to skin at ambient temperatures. Based on assessment of the components.
Eye	
Serious Eye Damage/Irritation: No end point data for material.	May cause mild, short-lasting discomfort to eyes. Based on assessment of the components.
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: No end point data for material.	Not expected to be a skin sensitizer. Based on assessment of the components.
Aspiration : Data available.	Not expected to be an aspiration hazard. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity : No end point data for material.	Not expected to be a germ cell mutagen. Based on assessment of the components.
Carcinogenicity : No end point data for material.	Not expected to cause cancer. Based on assessment of the components.
Reproductive Toxicity : No end point data for material.	Not expected to be a reproductive toxicant. Based on assessment of the components.
Lactation : No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: No end point data for material.	Not expected to cause organ damage from prolonged or repeated exposure. Based on assessment of the components.

OTHER INFORMATION**Contains:**

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitising in test animals. Middle distillates: Carcinogenic in animal tests. Lifetime skin painting tests produced tumours, but the mechanism is due to repeated cycles of skin damage and restorative hyperplasia. This mechanism is considered unlikely in humans where such prolonged skin irritation would not be tolerated. Did not cause mutations in-vitro. Inhalation of vapours did not result in reproductive or developmental effects in laboratory animals. Inhalation of high concentrations in animals resulted in respiratory tract irritation, lung changes and some reduction in lung function. Non-sensitising in test animals.

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IARC Classification:

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = IARC 1

2 = IARC 2A

3 = IARC 2B

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land.
Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

BIOACCUMULATION POTENTIAL

Base oil component -- Has the potential to bioaccumulate, however metabolism or physical properties may reduce the bioconcentration or limit bioavailability.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Protect the environment. Dispose of used oil at designated sites. Minimize skin contact. Do not mix used oils with solvents, brake fluids or coolants.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION.

Product Name: MOBILFLUID 424
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THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND (ADG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

This material is not considered hazardous according to Australia Model Work Health and Safety Regulations.

Product is not regulated according to Australian Dangerous Goods Code.

No Poison Schedule number allocated by the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act.

AS1940 COMBUSTIBLE CLASS: C2

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TSCA

SECTION 16 OTHER INFORMATION

KEY TO ABBREVIATIONS AND ACRONYMS:

N/D = Not determined, N/A = Not applicable, STEL = Short-Term Exposure Limit, TWA = Time-Weighted Average

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H304: May be fatal if swallowed and enters airways; Aspiration, Cat 1

H317: May cause allergic skin reaction; Skin Sensitization, Cat 1

H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1

H401: Toxic to aquatic life; Acute Env Tox, Cat 2

H411: Toxic to aquatic life with long lasting effects; Chronic Env Tox, Cat 2

H413: May cause long lasting harmful effects to aquatic life; Chronic Env Tox, Cat 4

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:

Company Logo (Fld 1) information was modified.

Section 01: Company Mailing Address information was modified.

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Product Name: MOBILFLUID 424

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Section 01: Company Mailing Address information was modified.
Section 05: Hazardous Combustion Products information was modified.
Section 01: Company Contact Methods information was modified.
Section 14: Marine Pollutant information was modified.
Composition: Component Table information was modified.
Section 16: HCode Key information was modified.
Section 02: GHS Sensitizer Statement - Header information was added.
Section 02: GHS Sensitizer Statement information was added.
Section 02: GHS Sensitizer Statement information was added.
Section 16: Revision Information - Implementation of GHS requirements phrase. information was deleted.
Section 11 Substance Toxicity table - Header information was deleted.
Section 11 Substance Name - Header information was deleted.
Section 11 Acute Toxicity data - Header information was deleted.
Section 11 Substance Toxicology table information was deleted.
East Coast Lubes Pty Ltd (Queensland and Northern Territory): Section 01: Supplier Mailing Address information was deleted.

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DGN: 2005936DAU (545249)

Prepared by: Exxon Mobil Corporation
EMBSI, Clinton NJ USA
Contact Point: See Section 1 for Local Contact number

End of (M)SDS

SAFETY DATA SHEET

1. Identification

Identification

Product name: AEON PD XD

Additional identification

Chemical name: Mixture

Recommended use and restriction on use

Recommended use: Not determined.

Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Supplier
Gardner Denver
1800 Gardner Expressway,
Quincy, IL 62301
United States of America
Ph: 217-222-5400

Emergency telephone number:

FOR TRANSPORT EMERGENCY CALL CHEMTREC (+1)703 527 3887, OR WITHIN USA 800 424 9300
(LUBRIZOL)

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements:

Hazard Symbol: No symbol

Signal Word: No signal word.

Hazard Statement: not applicable

Precautionary Statement: not applicable

**Other hazards which do not result
in GHS classification:** None identified.

3. Composition/information on ingredients

Chemical name	CAS number	Percent by Weight
Mineral oil	Not determined.	1 - 5%
Aryl thiophosphate	597-82-0	0.5 - 1%

The mineral oil contained in this material may be described by one or more of the following CAS Nos.: 64742-54-7, 64742-65-0, 64742-55-8, and 64742-56-9.

4. First-aid measures

Ingestion:	Treat symptomatically. Get medical attention.
Inhalation:	Remove exposed person to fresh air if adverse effects are observed.
Skin Contact:	Wash with soap and water. If skin irritation occurs, get medical attention. Launder contaminated clothing before reuse.
Eye contact:	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.

Most important symptoms/effects, acute and delayed

Symptoms: See section 11.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: Use water to cool containers exposed to fire.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: CO₂, dry chemical, foam, water spray, water fog.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. See section 10 for additional information.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Recommend wearing self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate area if spilled in confined space or other poorly ventilated areas.

Methods and material for containment and cleaning up: Dike far ahead of larger spill for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material.

Environmental Precautions: Avoid release to the environment. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment. Open container in a well ventilated area. Avoid breathing vapors. Keep containers closed when not in use. Do not discharge into drains or the environment, dispose to an authorized waste collection point. Use appropriate containment to avoid environmental contamination. Avoid prolonged exposure to heat and air. Avoid eye contact. Avoid repeated or prolonged skin contact. When using do not eat, drink or smoke. Avoid inhalation of aerosol, mist, spray, fume or vapor. Wash thoroughly after handling. Launder contaminated clothing before reuse. Use grounding and bonding connection when transferring material. Do not breathe thermal decomposition products.

Maximum Handling Temperature: Not determined.

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. Keep material from heat, light, sparks and flame. Store separately from oxidizers. Store in dry, well ventilated place away from sources of heat and direct sunlight. See section 10 for incompatible materials.

Maximum Storage Temperature: Not determined.

8. Exposure controls/personal protection

Control Parameters:

Occupational Exposure Limits

Chemical name	type	Exposure Limit Values	Source
Mineral oil - Inhalable fraction.	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values (02 2012)
Mineral oil - Mist.	REL	5 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Mineral oil - Mist.	STEL	10 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Mineral oil - Mist.	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Appropriate engineering controls: Adequate ventilation should be provided so that exposure limits are not exceeded. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required.

Eye/face protection: If contact is likely, safety glasses with side shields are recommended.

Skin Protection

Hand Protection: Nitrile. Consult clothing/glove manufacturer to determine appropriate type of glove for given situation. Nitrile. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear. Consult clothing/glove manufacturer to determine appropriate type of glove for given situation. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear.

Other: Long sleeve shirt is recommended. Wear apron or protective clothing in case of contact. Use good industrial hygiene practices. In case of skin contact, wash hands and arms thoroughly with soap and water to prevent a skin reaction.

Respiratory Protection: Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Green
Odor:	Characteristic
Odor threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	514.9 °F (268.3 °C) (Cleveland Open Cup)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	0.856 60.1 °F (15.6 °C)
Solubility(ies)	
Solubility in water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	38.75 mm ² /s (104 °F (40 °C))

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.

Possibility of Hazardous Reactions:	Will not occur.
Conditions to Avoid:	Do not expose to excessive heat, ignition sources, or oxidizing materials.
Incompatible Materials:	Strong bases. Strong mineral acids and strong oxidizing agents.
Hazardous Decomposition Products:	Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Ingestion:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Information on toxicological effects

Acute toxicity

Oral

Product:	Not classified for acute toxicity based on available data.
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Dermal

Product:	Not classified for acute toxicity based on available data.
----------	--

Inhalation

Product:	Not classified for acute toxicity based on available data.
----------	--

Skin Corrosion/Irritation:

Product:	Prolonged or repeated contact may cause irritation. Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin. Remarks: Not classified as a primary skin irritant.
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Serious Eye Damage/Eye Irritation:

Product:	Remarks: Not classified as a primary eye irritant.
----------	--

Respiratory sensitization:

No data available

Skin sensitization:

Mineral oil	Classification: Not a skin sensitizer. (Read across) Not a skin sensitizer.
-------------	---

Specific Target Organ Toxicity - Single Exposure:

Mineral oil	If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.
-------------	---

Aspiration Hazard:

Mineral oil

Material can be aspirated into the lungs during the act of swallowing or vomiting. This could result in severe injury to the lungs and death.

Chronic Effects

Carcinogenicity:

Product:

This product contains mineral oils which are severely refined and not considered carcinogenic. All of the oils in this product have been demonstrated to contain less than 3% extractables by the IP 346 test.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity:

Aryl thiophosphate

This material has not exhibited mutagenic or genotoxic potential in laboratory tests.

Reproductive toxicity:

Aryl thiophosphate

Suspected of damaging fertility.
Repeated oral gavage dosing of laboratory animals with aryl thiophosphate in a reproductive/developmental toxicity screening study resulted in litter loss and decreases in number of implantation sites at high doses.

Carboxylic ester

Not Classified based on available data.

Specific Target Organ Toxicity - Repeated Exposure:

No data available

12. Ecological information

Ecotoxicity

Fish

Mineral oil

LC 50 (Fathead Minnow, 4 d): > 100 mg/l

Aquatic Invertebrates

Mineral oil

EC 50 (Water flea (Daphnia magna), 2 d): > 10,000 mg/l

EC 50 (Water flea (Daphnia magna), 21 d): > 10 mg/l

NOEC (Water flea (Daphnia magna), 21 d): > 10 mg/l

Toxicity to Aquatic Plants

Mineral oil

EC 50 (Green algae (Scenedesmus quadricauda), 3 Days): > 100 mg/l

Toxicity to soil dwelling organisms

No data available

Sediment Toxicity

No data available

Toxicity to Terrestrial Plants

No data available

Toxicity to Above-Ground Organisms

No data available

Toxicity to microorganisms

No data available

Persistence and Degradability**Biodegradation**

Mineral oil

OECD TG 301 B, 31 %, 28 d, Not readily degradable.

Bioaccumulative Potential**Bioconcentration Factor (BCF)**

No data available

Partition Coefficient n-octanol / water (log Kow)

No data available

Mobility:

No data available

Other Adverse Effects:

No data available.

13. Disposal considerations**Disposal instructions:**

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Contaminated Packaging:

Container packaging may exhibit hazards.

14. Transport information**DOT**

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

None known.

Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. Review classification requirements before shipping materials at elevated temperatures.

15. Regulatory information**US Federal Regulations**

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

None known.

SARA 302 Extremely Hazardous Substance

SARA 304 Emergency Release Notification

SARA 311/312 Hazardous Chemical

SARA 313 (TRI Reporting)

This product may contain chemical(s) regulated under the Superfund Amendments and Reauthorization Act (SARA). For additional information please contact Lubrizol Customer Assistance: America(s): AmerLZAMCustomerAssistance@Lubrizol.com ; Europe: EMEAICustomerAssistance@Lubrizol.com ; Asia: APCustomerAssistance@Lubrizol.com

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

++ Silica, cristobalite	38.00PPM
Ethyl acrylate	8.00PPM

Inventory Status

Australia (AICS)

All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDL)

All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.

China (IECSC)

All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACH)

To obtain information on the REACH compliance status of this product, please visit Lubrizol.com/REACH, or e-mail us at REACH_MSDS_INQUIRIES@Lubrizol.com

Japan (ENCS)

This product requires notification in Japan.

Korea (ECL)

All components are in compliance in Korea.

New Zealand (NZIoC)

All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)

All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

Switzerland (SWISS)

All components are in compliance with the Environmentally Hazardous Substance Ordinance in Switzerland. Lubrizol must maintain records of all imports of this product into Switzerland. Third party importers are asked to report every import to The Lubrizol PSCD Manager (Europe), Hazelwood, Derby DE56 1QN, UK.

Taiwan (TCSCA)

All components of this product are listed on the Taiwan inventory.

United States (TSCA)

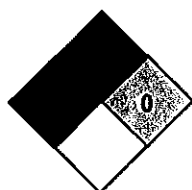
All components of this material are on the US TSCA Inventory.

The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

16. Other information, including date of preparation or last revision**HMIS Hazard ID**

Health	0
Flammability	
Physical Hazards	

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID

Flammability
Health
Reactivity
Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 04/14/2015

Version #: 1.1

Source of information: Internal company data and other publically available resources.

Further Information: Contact supplier (see Section 1)

Disclaimer: As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.

Safety Data Sheet Limestone

Section 1. Identification

GHS product identifier:

Limestone

Other means of identification:

Crushed Stone, Calcium Carbonate, Aggregate

Relevant identified uses of the substance or mixture and uses advised against:

Limestone may be used in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and other construction materials. Limestone aggregate may be distributed in bags, totes, and bulk shipments. No known recommended restrictions.

Supplier's details:

300 E. John Carpenter Freeway, Suite 1645
Irving, TX 75062
(972) 653-5500

Emergency telephone number (24 hours): CHEMTREC: (800) 424-9300

Section 2. Hazards Identification

GHS Classification:

CARCINOGENICITY – Category 1A
SPECIFIC TARGET ORGAN TOXICITY – Category 2
REPEATED EXPOSURE
SKIN CORROSION/IRRITATION – Category 2
EYE DAMAGE/IRRITATION – Category 2A

GHS label elements

Hazard pictograms:



Signal word:

Danger

Hazard statements:

May cause cancer
May cause damage to organs (lung) through prolonged or repeated exposure
Causes skin irritation
Causes serious eye irritation

Precautionary statements:

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash any exposed body parts. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do.

Storage:

Restrict or control access to stockpile areas (store locked up). **Engulfment hazard:** To prevent burial or suffocation, do not enter a confined space, such as a silo, bulk truck or other storage container or vessel that stores or contains aggregates without an effective procedure for assuring safety.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards not otherwise classified (HNOC):

None known

Supplemental Information:

Respirable Crystalline Silica (RCS) may cause cancer. Limestone is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica). In its natural bulk state, limestone is not a known health hazard. Limestone may be subjected to various natural or mechanical forces that produce small particles (dust) which may contain respirable crystalline silica (particles less than 10 micrometers in aerodynamic diameter). Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC and NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g., tridymite and cristobalite) may also be present or formed under certain industrial processes.

Section 3. Composition/information on ingredients

CAS number/other identifiers

Substance/mixture: Limestone, Calcium Carbonate, Quartz

Ingredient name	%	CAS number
Limestone	> 50	1317-65-3
Crystalline Silica (Quartz)	> 1	14808-60-7

Any concentration shown as a range is to protect confidentiality or is due to process variation. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. These materials are mined from the earth. Trace amounts of naturally occurring elements might be detected during chemical analysis of these materials.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye Contact:

Dust: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts if present and easy to do. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.

Inhalation:

Dust: Move to fresh air. Call a physician if symptoms develop or persist.

Skin Contact:

Dust: Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion:

Dust: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms/effects, acute and delayed

Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician:

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

Specific treatments:

Not Applicable

Protection of first-aiders:

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

General information:

Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:

None known.

Specific hazards arising from the chemical:

No unusual fire or explosion hazards noted. Not a combustible dust.

Hazardous thermal decomposition Products:

None known

Special protective equipment for fire-fighters:

General fire hazards:

Use protective equipment appropriate for surrounding materials. No specific precautions. Contact with powerful oxidizing agents may cause fire and/or explosions (see section 10 of SDS). No unusual fire or explosion hazards.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear appropriate protective equipment and clothing during clean-up of materials that contain or may liberate dust.

Methods and materials for containment, cleaning up and Environmental precautions

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Avoid discharge of fine particulate matter into drains or water courses.

Section 7. Handling and storage

Precautions for safe handling

Protective measures:

Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment.

Advice on general occupational hygiene:

Observe good industrial hygiene practices. Promptly remove dusty clothing and launder before reuse.

Conditions for safe storage, including any compatibilities:

Avoid dust formation or accumulation.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits:

- 1 – Value equivalent to OSHA formulas (29 CFR 1910.1000; 29 CFR 1917; 29 CFR 1918)
- 2 – Value also applies to MSHA metal/Non-Metal (1973 TLVs at 30 CFR 56/57.5001)
- 3 – OSHA enforces 0.250 mg/m³ in construction and shipyards (CPL-03-00-007)
- 4 – Value also applies to OSHA construction (29 CFR 1926.55 Appendix A) and shipyards (29 CFR 1915.1000 Table Z)
- 5 – MSHA limit = 10 mg/m³

Ingredient name	Exposure limits
Particulates not otherwise classified (CAS SEQ250)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m ³ . Form: Respirable particles (2) TWA: 10 mg/m ³ . Form: Inhalable particles (2) OSHA PEL (United States, 6/2010) PEL: 5 mg/m ³ . Form: Respirable fraction PEL: 15 mg/m ³ . Form: Total dust (4) TWA: 5 mg/m ³ . Form: Respirable fraction (1) TWA: 15 mg/m ³ . Form: Total dust (1, 4, 5)
Limestone (Calcium Carbonate) (CAS 1317-65-3)	OSHA PEL (United States, 6/2010) TWA: 5 mg/m ³ . Form: Respirable fraction (4) TWA: 15 mg/m ³ . Form: Total dust (5) NIOSH REL (United States, 6/2009) TWA: 5 mg/m ³ . Form: Respirable fraction TWA: 10 mg/m ³ . Form: Total dust

Crystalline Silica (Quartz) (CAS 14808-60-7)	OSHA PEL (United States, 6/2010) TWA: 0.3 mg/m ³ . Form: Total dust (1,2) TWA: 0.1 mg/m ³ . Form: Respirable (1,2,3)
Crystalline Silica (all forms; CAS mixture)	ACGIH TLV (United States, 3/2012) TWA: 0.025 mg/m ³ . Form: Respirable fraction NIOSH REL (United States, 6/2009) TWA: 0.05 mg/m ³ . Form: Respirable dust
Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)	OSHA PEL (United States, 6/2010) TWA: 0.15 mg/m ³ . Form: Total dust (1) TWA: 0.05 mg/m ³ . Form: Respirable (1,2)

Appropriate engineering controls:

Good general ventilation (typically 10 air changes per hour indoors) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Exposure guidelines:

OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including "Particulates Not Otherwise Classified," "Particulates Not Otherwise Regulated," "Particulates Not Otherwise Specified," and "Inert or Nuisance Due" are often used interchangeably; however, the user should review each agency's terminology for differences in meanings.

Biological limit values:

No biological exposure limits noted for the ingredient(s)

Individual protection measures

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Wear safety glasses with side shields (or goggles).

Use personal protective equipment as required.

Use personal protective equipment as required.

Use personal protective equipment as required.

When handling or performing work that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations.

Thermal hazards:

Not anticipated. Wear appropriate thermal protective clothing if necessary.

Section 9. Physical and chemical properties

Appearance

Physical State:	Solid, particles of granular and angular mixture	Lower and Upper explosive flammable limits	Not applicable
Color:	Various colors	Vapor pressure:	Not applicable
Odor:	Not applicable	Vapor density:	Not applicable
Odor threshold:	Not applicable	Relative density:	Not available
pH:	Not available	Solubility:	Not available
Melting point:	Not applicable	Solubility in water:	Insoluble
Boiling point:	Not applicable	Partition coefficient: n-octanol/water:	Not applicable
Flash point:	Non-combustible	Auto-ignition temperature:	Not applicable
Burning time:	Not applicable	Decomposition temperature:	Not applicable
Burning rate:	Not applicable	SADT:	Not available
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Flammability (solid, gas):	Not applicable		

Section 10. Stability and reactivity

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical Stability: Material is stable under normal conditions.
Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.
Conditions to avoid: Avoid contact with strong oxidizing agents.
Incompatible materials: Crystalline silica may react violently with strong oxidizing agents, causing fire and explosions.
Hazardous decomposition products: Silica dissolves in hydrofluoric acid producing a corrosive gas-silicon tetrafluoride.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity: Not expected to be acutely toxic.
Irritation/Corrosion: **Skin:** Dust: May cause irritation through mechanical abrasion. This product is not expected to be a skin hazard.
Eyes: Direct contact with eyes may cause temporary irritation through mechanical abrasion.
Inhalation: Repeated inhalation of respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis is irreversible and may be fatal. Silicosis increases the risk of contracting pulmonary tuberculosis. Some studies suggest that repeated inhalation of respirable crystalline silica may cause other adverse health effects including lung and kidney cancer.
Ingestion: Not likely due to product form. However accidental ingestion may cause discomfort.
Respiratory sensitization: No respiratory sensitizing effects known.
Skin sensitization: Not known to be a dermal irritant or sensitizer.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Aspiration Hazard: Not expected to be an aspiration hazard.
Reproductive toxicity: Not expected to be a reproductive hazard.
Symptoms related to physical, chemical and toxicological characteristics: Dust: discomfort in the chest. Shortness of breath. Coughing.
Carcinogenicity: Respirable crystalline silica has been classified by IARC and NTP as a known human carcinogen, and classified by ACGIH as a suspected human carcinogen.

Product/ingredient name	OSHA	IARC	ACGIH	NTP
Crystalline Silica (Quartz) CAS 14808-60-7)	Not listed	1 Carcinogenic to humans	A2	Known to be human Carcinogen
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)	Not listed	1 Carcinogenic to humans	-	-

Specific target organ toxicity (acute exposure)

Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)	-	Inhalation	Not reported to have effects
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)	-	Inhalation	Not reported to have effects

Specific target organ toxicity (chronic exposure)

Name	Category	Route of Exposure	Target Organs
Crystalline Silica (Quartz) CAS 14808-60-7)		Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.
Respirable Tridymite and Cristobalite (Other forms of Crystalline) (CAS Mixture)		Inhalation	May cause damage to organs (lung through prolonged or repeated exposure.

Potential chronic health effects: General: Prolonged inhalation of respirable crystalline silica may be harmful. May cause damage to organs (lungs) through prolonged or repeated exposure. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and the thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Section 12. Ecological Information

Ecotoxicity

Not expected to be harmful to aquatic organisms. Discharging sand and gravel dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

Persistence and degradability: Not applicable.
Bioaccumulative potential: Not applicable.
Mobility in soil: Not applicable.
Other adverse effects: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, global warming potential) are expected from this component.

Section 13. Disposal considerations

Disposal methods: Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Dispose of contents in accordance with local/regional/national/international regulations.

Hazardous waste code: Not regulated.

Waste from residues/unused products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty packaging materials should be recycled or disposed of in accordance with applicable regulations and practices.

Section 14. Transportation information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	-	-	-
Additional information	-	-	-

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Section 15. Regulatory Information

U.S. Federal regulations:
OSHA Hazard Communication Standard, 29 CFR 1910.1200
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

DOT Section 12(b) Export Notification
(40 CFR 707, Subpart. D):
Not regulated

OSHA Specifically Regulated

Substances (29 CFR 1910.1001-1050): Not listed
 CERCLA Hazardous Substance List (40 CFR 302.4): Not listed
 Clean Air Act Section 112 (b): Hazardous Air Pollutants (HAPs): Not regulated
 Clean Air Act Section 112 (r) Accidental Release Prevention (40 CFR 68.130): Not regulated
 Safe Drinking Water Act (SDWA): Not regulated

SARA 311/312

Classification: Delayed (chronic) health hazard

Composition/information on Ingredients

Name	%	Fire Hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Crystalline Silica (Quartz) CAS 14808-60-7	>1	No	No	No	No	Yes

SARA 313 (TRI)

	Product name	CAS number	%
Form R-Report requirements	Crystalline Silica (Quartz)	14808-60-7	Not regulated

State regulations

Massachusetts RTK:

The following components are listed: Crystalline Silica (Quartz) (CAS 14808-60-7), Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

New Jersey RTK:

The following components are listed: Crystalline Silica (Quartz) (CAS 14808-60-7), Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS mixture)

Pennsylvania RTK:

The following components are listed: Crystalline Silica (Quartz) (CAS 14808-60-7), Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

Rhode Island RTK:

Not regulated.

California Prop. 65

WARNING: This product contains crystalline silica and chemicals (trace metals) known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Crystalline Silica (Quartz) CAS 14808-60-7	Yes	No	No	No

International regulations

Ingredient name	CAS #	TSCA	Canada	WHMIS	EEC
Crystalline Silica (Quartz)	14808-60-7	Yes	DSL	D2A	EINECS
nestone	1317-65-3	Yes	NDSL	N/Ap	EINECS

VHMIS Classification:

D2A "Materials Causing Other Toxic Effects"



Section 16. Other Information

Date of issue: 06/01/2015

Version: 06/01/2015

Revised Section(s): N/Ap

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of limestone as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with limestone to produce limestone products. Users should review other relevant material safety data sheets before working with this limestone or working on limestone products.

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Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations
DOT — Department of Transportation
GHS — Globally Harmonized System
HEPA — High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods
NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit
RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

Safety Data Sheet Sand and Gravel

Section 1. Identification

GHS product identifier:

Sand and Gravel

Other means of identification:

Aggregate, Manufactured Sand, Natural Stone, Crushed Stone

Relevant identified uses of the substance or mixture and uses advised against:

Sand and Gravel aggregate may be used in the manufacture of bricks, mortar, cement, concrete, plasters, paving materials, and other construction materials. Sand and Gravel aggregate may be distributed in bags, totes, and bulk shipments. No known recommended restrictions.

Supplier's details:

300 E. John Carpenter Freeway, Suite 1645
Irving, TX 75062
(972) 653-5500

Emergency telephone number (24 hours):

CHEMTREC: (800) 424-9300

Section 2. Hazards Identification

GHS Classification:

CARCINOGENICITY – Category 1A
SPECIFIC TARGET ORGAN TOXICITY – Category 2
REPEATED EXPOSURE
SKIN CORROSION/IRRITATION – Category 2
EYE DAMAGE/IRRITATION – Category 2A

GHS label elements

Hazard pictograms:



Signal word:

Danger

Hazard statements:

May cause cancer
May cause damage to organs (lung) through prolonged or repeated exposure
Causes skin irritation
Causes serious eye irritation

Precautionary statements:

Prevention:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash any exposed body parts. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse continuously with water for several minutes. Remove contact lenses, if present and easy to do.

Storage:

Restrict or control access to stockpile areas (store locked up). Engulfment hazard: To prevent burial or suffocation, do not enter a confined space, such as a silo, bulk truck or other storage container or vessel that stores or contains aggregates without an effective procedure for assuring safety.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards not otherwise classified (HNOC):

None known

Supplemental information:

Respirable Crystalline Silica (RCS) may cause cancer. Sand and Gravel is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica). In its natural bulk state, sand and gravel is not a known health hazard. Sand and Gravel may be subjected to various natural or mechanical forces that produce small particles (dust) which may contain respirable crystalline silica (particles less than 10 micrometers in aerodynamic diameter). Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC and NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g., tridymite and cristobalite) may also be present or formed under certain industrial processes.

Section 3. Composition/information on ingredients

CAS number/other identifiers

Substance/mixture: Sand and Gravel

Ingredient name	%	CAS number
Sand and Gravel	> 99	None
Crystalline Silica (Quartz)	> 1	14808-60-7

Any concentration shown as a range is to protect confidentiality or is due to process variation. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. These materials are mined from the earth. Trace amounts of naturally occurring elements might be detected during chemical analysis of these materials.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye Contact:

Dust: Immediately flush with plenty of water for at least 15 minutes. Hold eyelids apart. Remove contacts if present and easy to do. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.

Inhalation:

Dust: Move to fresh air. Call a physician if symptoms develop or persist.

Skin Contact:

Dust: Wash off with soap and water. Get medical attention if irritation develops and persists.

Ingestion:

Dust: Rinse mouth and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Most important symptoms/effects, acute and delayed

Inhaling dust may cause discomfort in the chest, shortness of breath, and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, and may cause cancer.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician:

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

Specific treatments:

Not Applicable

Protection of first-aiders:

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

General information:

Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media:

Not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:

None known.

Specific hazards arising from the chemical:

No unusual fire or explosion hazards noted. Not a combustible dust.

Hazardous thermal decomposition products:

None known

Special protective equipment for fire-fighters:

Fighters:
General fire hazards:

Use protective equipment appropriate for surrounding materials. No specific precautions. Contact with powerful oxidizing agents may cause fire and/or explosions (see section 10 of SDS). No unusual fire or explosion hazards.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear appropriate protective equipment and clothing during clean-up of materials that contain or may liberate dust.

Methods and materials for containment, cleaning up and Environmental precautions

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Avoid discharge of fine particulate matter into drains or water courses.

Section 7. Handling and storage

Precautions for safe handling

Protective measures:

Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment.

Advice on general occupational hygiene:

Observe good industrial hygiene practices. Promptly remove dusty clothing and launder before reuse.

Conditions for safe storage, including any compatibilities:

Avoid dust formation or accumulation.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits:

- 1 – Value equivalent to OSHA formulas (29 CFR 1910.1000; 29 CFR 1917; 29 CFR 1918)
- 2 – Value also applies to MSHA metal/Non-Metal (1973 TLVs at 30 CFR 56/57.5001)
- 3 – OSHA enforces 0.250 mg/m³ in construction and shipyards (CPL-03-00-007)
- 4 – Value also applies to OSHA construction (29 CFR 1926.55 Appendix A) and shipyards (29 CFR 1915.1000 Table Z)
- 5 – MSHA limit = 10 mg/m³

Ingredient name	Exposure limits
Particulates not otherwise classified (CAS SEQ250)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m ³ . Form: Respirable particles (2) TWA: 10 mg/m ³ . Form: Inhalable particles (2) OSHA PEL (United States, 6/2010) PEL: 5 mg/m ³ . Form: Respirable fraction PEL: 15 mg/m ³ . Form: Total dust (4) TWA: 5 mg/m ³ . Form: Respirable fraction (1) TWA: 15 mg/m ³ . Form: Total dust (1, 4, 5)
Crystalline Silica (Quartz) (CAS 14808-60-7)	OSHA PEL (United States, 6/2010) TWA: 0.3 mg/m ³ . Form: Total dust (1,2) TWA: 0.1 mg/m ³ . Form: Respirable (1,2,3)
Crystalline Silica (all forms; CAS mixture)	ACGIH TLV (United States, 3/2012) TWA: 0.025 mg/m ³ . Form: Respirable fraction NIOSH REL (United States, 6/2009) TWA: 0.05 mg/m ³ . Form: Respirable dust

Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

OSHA PEL (United States, 6/2010)
TWA: 0.15 mg/m³. Form: Total dust (1)
TWA: 0.05 mg/m³. Form: Respirable (1,2)

Appropriate engineering controls:

Good general ventilation (typically 10 air changes per hour indoors) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Exposure guidelines:

OSHA PELs, MSHA PELs, and ACGIH TLVs are 8-hr TWA values. NIOSH RELs are for TWA exposures up to 10-hr/day and 40-hr/wk. Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled. Terms including "Particulates Not Otherwise Classified," "Particulates Not Otherwise Regulated," "Particulates Not Otherwise Specified," and "Inert or Nuisance Due" are often used interchangeably; however, the user should review each agency's terminology for differences in meanings.

Biological limit values:

No biological exposure limits noted for the ingredient(s)

Individual protection measures

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Eye/face protection:

Wear safety glasses with side shields (or goggles).

Hand protection:

Use personal protective equipment as required.

Body protection:

Use personal protective equipment as required.

Other skin protection:

Use personal protective equipment as required.

Respiratory protection:

When handling or performing work that produces dust or respirable crystalline silica in excess of applicable exposure limits, wear a NIOSH-approved respirator that is properly fitted and is in good condition. Respirators must be used in accordance with all applicable workplace regulations.

Thermal hazards:

Not anticipated. Wear appropriate thermal protective clothing if necessary.

Section 9. Physical and chemical properties

Appearance

Physical State:	Solid, particles of granular mixture	Lower and Upper explosive flammable limits	Not applicable
Color:	Various colors	Vapor pressure:	Not applicable
Odor:	Not applicable	Vapor density:	Not applicable
Odor threshold:	Not applicable	Relative density:	Not available
pH:	Not available	Solubility:	Not available
Melting point:	Not applicable	Solubility in water:	Insoluble
Boiling point:	Not applicable	Partition coefficient: n-octanol/water:	Not applicable
Flash point:	Non-combustible	Auto-ignition temperature:	Not applicable
Burning time:	Not applicable	Decomposition temperature:	Not applicable
Burning rate:	Not applicable	SADT:	Not available
Evaporation Rate:	Not applicable	Viscosity:	Not applicable
Flammability (solid, gas):	Not applicable		

Section 10. Stability and reactivity

Reactivity:

Chemical Stability:

Stability of hazardous reactions:

Conditions to avoid:

Incompatible materials:

The product is stable and non-reactive under normal conditions of use, storage and transport. Material is stable under normal conditions. No dangerous reaction known under conditions of normal use. Avoid contact with strong oxidizing agents. Crystalline silica may react violently with strong oxidizing agents, causing fire and explosions.