

Product Name	Manufacturer	Section
A7+ Hardener	Red Head	1
ABC Dry Chemical	Buckeye Fire Equipment	1
AC-20 +Silicone - Acrylic Latex Caulk / Sealant	Pecora Corporation	1
Acetylene	Airgas	1
Acetylene	Butler Gas (Purity Plus)	1
Akcela HY-Tran Ultracation	Petronas	1
All Purpose Cleaner / Uniweld Cleaner TR	Oatey, Inc.	1
Alloy SAC305 RA 312 - Solder Paste	AIM	1
Alloy SAC305 W20 - Solder Paste	AIM	1
ArmaFlex WB Finish	Armacell, LLC	1
ASJ Tape / Venture Tape	3M Company	1
Breakthru R-D Root Destroyer	Hercules / HCC Holdings, Inc. an Oatey Affiliate	1
Cesspool Cleaner	Hercules / HCC Holdings, Inc.	1
Cleaner / Degreaser Saturated Wipe (Type HP)	American Poly Water Coporation	1
Cleaner / Degreaser Saturated Wipe (Type TR)	American Poly Water Coporation	1
Clear Advanced PVC Cement	Oatey Co.	1
Clear Flexible All Purpose Waterproof Sealant	DAP Global, Inc.	1
Clear Primer - NSF Listed for CPVC & PVC	Oatey Co.	1
Clear Regular PVC Cement	Oatey Co.	1
Compressed Air	Linde, Inc.	1
Copper Tubing	Cerro Flow Products, LLC	1
CP637 Firestop Mortar	Hilti, Corp	1
CPVC Flowguard Gold, UVI One Step Yellow Cement	Oatey Co.	1
CPVC Medium Orange Cement	Oatey Co.	1
Cycoloy	Sabic	1

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SAFETY DATA SHEET**SECTION 1. IDENTIFICATION****Product identifier used on the label**: **A7+ HARDENER****Product Code(s)**

: A7P-10

Recommended use of the chemical and restrictions on use: Hardener component of a two part, concrete adhesive anchor system.
No restrictions on use known.**Chemical family**

: Mixture.

Name, address, and telephone number of the manufacturer:**ITW Commercial Construction North America**700 High Grove Road
Glendale Heights, IL, USA
60139

Manufacturer's Telephone # : (630) 825-7900

Name, address, and telephone number of the supplier:**ITW Construction Products**120 Travail Road
Markham, ON, Canada
L3S 3J1

Supplier's Telephone # : (905) 471-4250

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).**SECTION 2. HAZARDS IDENTIFICATION****Classification of the chemical**

Pasty liquid. Gray. Characteristic odour.

Most important hazards:

Causes eye irritation. May cause an allergic skin reaction. Inhalation may cause central nervous system depression. Suspected of damaging the unborn child. May cause damage to organs. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

Very toxic to aquatic life. Avoid release to the environment. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is classified as hazardous under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).
Classification:

Eye damage/irritation - Category 2B

Skin sensitization - Category 1

Reproductive toxicity - Category 2

Specific target organ toxicity, single exposure - Category 2

Specific target organ toxicity, single exposure - Category 3 (Narcotic effects)

Label elements*Hazard pictogram(s)**Signal Word*
WARNING!

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Hazard statement(s)

Causes eye irritation.
May cause an allergic skin reaction.
May cause drowsiness or dizziness.
Suspected of damaging the unborn child.
May cause damage to organs.

Precautionary statement(s)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe fumes or vapors. Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/clothing and eye/face protection.

If exposed or concerned: Call a POISON CENTER or doctor/physician.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

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.

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

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Heating may cause decomposition. Contains an organic peroxide. May support combustion. After prolonged storage, may release explosive peroxides in the presence of air. Rate of peroxide formation is not known. Toxic fumes may be released during a fire. May be mildly irritating to skin and respiratory system. May cause gastrointestinal irritation. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Environmental precautions:

Very toxic to aquatic life. Avoid release to the environment. See Section 12 for more environmental information.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration</u>
Ethylene glycol	1,2-Ethanediol 1,2-Dihydroxyethane EG	107-21-1	25%
Dibenzoyl peroxide	Benzoic acid peroxide	94-36-0	15%

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
- Inhalation* : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.
- Skin contact* : 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.
- Eye contact* : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Flush eyes with water for at least 15 minutes. If eye irritation persists: get medical advice/attention.

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Most important symptoms and effects, both acute and delayed

- : Causes eye irritation. Contact may cause redness, swelling and a painful sensation. May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema. Inhalation may cause headache, nausea and central nervous effects such as dizziness, coordination difficulties and unconsciousness. Mild respiratory irritant. May cause coughing and breathing difficulties.
- : May cause mild skin irritation. Direct skin contact may cause temporary redness.
- : Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects.
- : May cause damage to organs. May cause damage to the kidneys if swallowed. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.
- : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Water spray; Dry chemical; Carbon dioxide (CO₂); Foam

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. Contains an organic peroxide. May support combustion. Organic peroxides will burn vigorously with the potential for explosion. After prolonged storage, may release explosive peroxides in the presence of air. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Toxic fumes may be released during a fire.

Hazardous combustion products

- : Carbon oxides; Formaldehyde; Acrolein; Other unidentified organic compounds.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : All persons dealing with the clean-up should wear the appropriate personal protective equipment. Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil. Avoid release to the environment.

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Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. For spilled liquids: absorb spill with inert, non-combustible material such as sand, then place into suitable containers. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. . Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe fumes or vapours. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep container tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Contaminated work clothing should not be allowed out of the workplace. Maximum Handling Temperature: < 30°C (86°F)

Conditions for safe storage

- : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking. Recommended storage temperature: 5 - 30°C (41 - 86°F)

Incompatible materials

- : Strong oxidizing agents; Acids; Bases; Reducing agents; Sulphur compounds; Heavy metals; Rust

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Ethylene glycol	100 mg/m ³ (aerosol) (Ceiling)	N/Av	50 ppm (Ceiling) (final rule limit)	N/Av
Dibenzoyl peroxide	5 mg/m ³	N/Av	5 mg/m ³	N/Av

Exposure controls

Ventilation and engineering measures

- : Use only outdoors or in a well-ventilated area. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection

- : If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Refer to CSA Z94.3 or other appropriate standards. Advice should be sought from respiratory protection specialists.

Skin protection

- : Wear protective gloves/clothing. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Depending on conditions of use, an impervious apron should be worn. Wear sufficient clothing to prevent skin contact.

Eye / face protection

- : Wear eye/face protection. Chemical splash goggles are recommended. A full face shield may also be necessary.

Other protective equipment

- : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

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General hygiene considerations

- : Do not breathe fumes or vapours. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing should not be allowed out of the workplace.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Pasty liquid. Gray
Odour	: Characteristic
Odour threshold	: N/Av
pH	: N/Av
Melting/Freezing point	: N/Av
Initial boiling point and boiling range	
	: > 103°C (217°F) (based on ingredients)
Flash point	: N/Av
Flashpoint (Method)	: N/Av
Evaporation rate (BuAe = 1)	: N/Av
Flammability (solid, gas)	: Not applicable.
Lower flammable limit (% by vol.)	
	: N/Av
Upper flammable limit (% by vol.)	
	: N/Av
Oxidizing properties	: None known.
Explosive properties	: Not explosive
Vapour pressure	: N/Av
Vapour density	: N/Av
Relative density / Specific gravity	
	: > 1
Solubility in water	: Insoluble.
Other solubility(ies)	: N/Av
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution	
	: N/Av
Auto-ignition temperature	: N/Av
Decomposition temperature	: N/Av
Viscosity	: 750 000 cP
Volatiles (% by weight)	: N/Av
Volatile organic Compounds (VOC's)	
	: N/Av
Absolute pressure of container	
	: N/Av
Flame projection length	: N/Av
Other physical/chemical comments	
	: No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not normally reactive. Contains an organic peroxide. Heating may cause decomposition
Chemical stability	: Stable under normal conditions. After prolonged storage, may release explosive peroxides in the presence of air. Rate of peroxide formation is not known.
Possibility of hazardous reactions	
	: Hazardous polymerization does not occur.

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- Conditions to avoid** : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
- Incompatible materials** : Strong oxidizing agents; Acids; Bases; Reducing agents; Sulphur compounds; Heavy metals; Rust
- Hazardous decomposition products** : Peroxides. Refer also to hazardous combustion products, Section 5.

SECTION II. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

- Routes of entry inhalation** : YES
- Routes of entry skin & eye** : YES
- Routes of entry Ingestion** : YES
- Routes of exposure skin absorption** : NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : Mild respiratory irritant. May cause coughing and breathing difficulties. Inhalation may cause headache, nausea and central nervous effects such as dizziness, coordination difficulties and unconsciousness.

Sign and symptoms ingestion

- : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Sign and symptoms skin

- : May cause mild skin irritation. Direct skin contact may cause temporary redness.

Sign and symptoms eyes

- : Causes eye irritation. May cause mild eye irritation. Symptoms may include mild redness and swelling.

Potential Chronic Health Effects

- : Prolonged or repeated skin contact may cause drying and irritation.

Mutagenicity

- : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

- : Not classifiable as a human carcinogen.
No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

- : This material is classified as hazardous under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Reproductive toxicity - Category 2. Suspected of damaging the unborn child.
Contains ethylene glycol, which may cause teratogenic effects at doses which are not maternally toxic, based on animal data.
Not expected to have other reproductive effects.

Sensitization to material

- : No data available to indicate product or components may be respiratory sensitizers.
No data available to indicate product or components may be skin sensitizers.

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Specific target organ effects : This material is classified as hazardous under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
Specific target organ toxicity, single exposure
Category 2. May cause damage to organs.
Category 3. May cause drowsiness or dizziness.
May cause damage to the kidneys if swallowed. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.

Mild effects may be seen in the following organs: Eyes; Skin; Respiratory system; Digestive system; Central nervous system; Liver.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials

: None known or reported by the manufacturer.

Toxicological data

: No data is available on the product itself. The calculated ATE values for this mixture are:
ATE oral = 4440 mg/kg
ATE inhalation (dust/mist) = 43.7 mg/L/4H

See below for individual ingredient acute toxicity data.

Chemical name	LC ₅₀ (4hr)	LD ₅₀	
	inh. rat	(Oral, rat)	(Rabbit, dermal)
Ethylene glycol	4300 ppm (10.92 mg/L) (aerosol)	4000 mg/kg (rat) The estimated human lethal dose is: 1110 - 1665 mg/kg	9530 mg/kg
Dibenzoyl peroxide	> 24.3 mg/L (No mortality)	> 5000 mg/kg	N/Av

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Very toxic to aquatic life. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. The product contains the following substances which are hazardous for the environment: Dibenzoyl peroxide.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Ethylene glycol	107-21-1	22 810 mg/L (Rainbow trout)	N/Av	None.
Dibenzoyl peroxide	94-36-0	0.24 mg/L (Japanese ricefish)	N/Av	1

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<u>Ingredients</u>	CAS No	<u>Toxicity to Daphnia</u>		
		EC50 / 48h	NOEC / 21 day	M Factor
Ethylene glycol	107-21-1	49 000 mg/L (Daphnia magna)	7500 - 15 000 mg/L	None.
Dibenzoyl peroxide	94-36-0	0.07 mg/L (Daphnia magna)	N/Av	10

<u>Ingredients</u>	CAS No	<u>Toxicity to Algae</u>		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Ethylene glycol	107-21-1	6500 - 13 000 mg/L/96hr (Green algae)	10 000 mg/L/96hr	None.
Dibenzoyl peroxide	94-36-0	0.44 mg/L/72hr (Green algae)	N/Av	1

Persistence and degradability

: The product itself has not been tested.
The following ingredients are considered to be readily biodegradable: Ethylene glycol; Dibenzoyl peroxide.

Bioaccumulation potential

: The product itself has not been tested. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Ethylene glycol (CAS 107-21-1)	- 1.36	10 (Fish)
Dibenzoyl peroxide (CAS 94-36-0)	3.43	92

Mobility in soil

: The product itself has not been tested.

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS


Handling for Disposal

: Refer to protective measures listed in sections 7 and 8.
Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of in accordance with local regulations. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

Methods of Disposal

: Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibenzoyl peroxide)	9	III	
TDG Additional information	This material may be shipped as an exempted marine pollutant in accordance with TDG Section 1.45.1 and Special Provision 99.				



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ICAO/IATA	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Dibenzoyl peroxide)	9	III	
ICAO/IATA Additional information	Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material.				
IMDG	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibenzoyl peroxide)	9	III	
IMDG Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 Litres; in packages not exceeding 30 kg gross mass.				

Special precautions for user : Appropriate advice on safety must accompany the package. Avoid release to the environment.

Environmental hazards : This product meets the criteria for an environmentally hazardous material according to the IMDG Code. See Section 12 for more environmental information.

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

: Not applicable.

SECTION 15 - REGULATORY INFORMATION

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian National Pollutant Release Inventory (NPRI): This product contains the following substances listed on the NPRI:

- Ethylene glycol (Part 1, Group A Substance)
- Dibenzoyl peroxide (Part 1, Group A Substance)

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECS</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>New Zealand IOC</u>
Ethylene glycol	107-21-1	203-473-3	Present	Present	(2)-230	KE-13169	Present	HSR001534
Dibenzoyl peroxide	94-36-0	202-327-6	Present	Present	(3)-1349	KE-09889	Present	HSR001372, HSR007398 (dilution)

SECTION 16. OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Services
- CSA: Canadian Standards Association
- EC50: Effective Concentration 50%.
- EINECS: European Inventory of Existing Commercial chemical Substances
- ENCS: Existing and New Chemical Substances
- HSDB: Hazardous Substances Data Bank
- IARC: International Agency for Research on Cancer

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IBC: Intermediate Bulk Container
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RTECS: Registry of Toxic Effects of Chemical Substances
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Preparation Date (mm/dd/yyyy)

: 08/25/2016

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for:

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120 Travail Road
Markham, ON, Canada, L3S 3J1
Telephone: (905) 471-4250
Direct all enquiries to: ITW Construction Products

**Prepared by:**

ICC The Compliance Center Inc.
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<http://www.thecompliancecenter.com>

**DISCLAIMER**

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END OF DOCUMENT



A7+ RESIN

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Revision Date: 02/05/2020

Date of Issue: 05/17/2016

Supersedes Date: 05/23/2016

Version: 1.1

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: A7+ RESIN

1.2. Intended Use of the Product

Chemical fixing.

1.3. Name, Address, and Telephone of the Responsible Party

Company

ITW Commercial Construction North America

700 High Grove Blvd.

Glendale Heights, IL 60139

U.S.A.

Phone: 1-800-848-5611

Email: Technical@itwccna.com

www.itwredhead.com

1.4. Emergency Telephone Number

Emergency Number : 1-800-424-9300

CHEMTREC – TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Flam. Liq. 4 H227

Skin Irrit. 2 H315

Eye Irrit. 2 H319

Skin Sens. 1 H317

STOT SE 3 H335

Asp. Tox. 1 H304

Aquatic Acute 3 H402

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :



Signal Word (GHS-US/CA) :

Danger

Hazard Statements (GHS-US/CA) :

- H227 - Combustible liquid.
- H304 - May be fatal if swallowed and enters airways.
- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.
- H402 - Harmful to aquatic life.

Precautionary Statements (GHS-US/CA) :

- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P261 - Avoid breathing vapors, mist, or spray.
- P264 - Wash hands, forearms, and other 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.
- P273 - Avoid release to the environment.

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P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep 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.
P312 - Call a POISON CENTER or doctor 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.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use water spray, fog, carbon dioxide, alcohol-resistant foam, or dry chemical to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Excessive heating or exposure to incompatibilities may cause an exothermic polymerization reaction. Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Synonyms	Product Identifier	% *	GHS Ingredient Classification
Quartz**	Quartz (SiO ₂) / Silica, crystalline, quartz / Crystalline silica, quartz / .alpha.-Quartz / Silica, crystalline, .alpha.-quartz / QUARTZ / Crystalline silica in the form of quartz / Quartz, silica / Quartz (respirable fraction) / Silica dust / Silica, crystalline-.alpha.quartz / Silica, .alpha.-quartz / Silicon dioxide / Silica, quartz / Silica, crystalline	(CAS-No.) 14808-60-7	25 - 50	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Limestone	Chalk / Limestone (A noncombustible solid characteristic of sedimentary rock. It consists primarily of calcium carbonate.) / Natural calcium carbonate / Marble / Calcium carbonate / Limestone (sedimentary rock) / Calcite / Limestone ground / Acetate, 4-methyl-2-propyl-2H-tetrahydropyran-4-yl / Ground limestone	(CAS-No.) 1317-65-3	10 - 30	Not classified
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol	Methacrylic acid, monoester with 1,2-propanediol / Methacrylic acid, monoester with propane-1,2-diol / Hydroxypropyl methacrylate / Propylene glycol monomethacrylate / 2-Hydroxypropyl methacrylate	(CAS-No.) 27813-02-1	2.5 - 10	Eye Irrit. 2A, H319 Skin Sens. 1, H317
Vinyltoluenes	Methylstyrene / Vinyltoluene, all isomers / Vinyltoluene (all isomers) / Methylstyrenes / Methylstyrene, all isomers / Vinyltoluenes, stabilized / Vinyltoluene / Vinyl toluene / Vinyltoluene (mixed isomers) / Toluene, vinyl- / Styrene, methyl- / Styrene, ar-methyl- / Benzene, ethenylmethyl- / C9 Styrenes / Ethenylmethylbenzene / Vinyltoluene	(CAS-No.) 25013-15-4	2.5 - 10	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapor), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Asp. Tox. 1, H304 Aquatic Acute 2, H401

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	(isomers mixture) / Vinyltoluene isomers mixture / Methylstyrene (isomers mixture)			Aquatic Chronic 3, H412
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Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

**Because this product is in liquid form, the hazards typically associated with respirable quartz do not apply.

SECTION 4: FIRST AID MEASURES

4.1. 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 where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Immediately remove contaminated clothing. Immediately drench affected area with water for at least 15 minutes. Obtain medical attention if irritation/rash develops or persists.

Eye Contact: Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

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

General: Causes irritation. Skin sensitization. May be fatal if swallowed and enters airways.

Inhalation: Prolonged exposure may cause irritation.

Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.

Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Ingestion: Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

Chronic Symptoms: None expected under normal conditions of use. Finely divided Quartz dust has caused cancer and lung disease in workers that inhale it over an extended period of time. Since this product is in a liquid form, the Quartz dust is not able to become airborne and cannot be inhaled. Thus, the hazards usually associated with Quartz dust are not applicable to this product.

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: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

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: Combustible liquid.

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.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Silicon oxides. Oxides of calcium. Irritating or toxic vapors.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid breathing (vapor, mist, spray). 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.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

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6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: 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. Ventilate area. Eliminate ignition sources.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials 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. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Transfer spilled material to a suitable container for disposal. Use only non-sparking tools. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. Do not pressurize, cut, or weld containers. Handle empty containers with care because residual vapors are flammable.

Precautions for Safe Handling: Avoid breathing vapors, mist, spray. Avoid contact with eyes, skin and clothing. 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.

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. Store locked up/in a secure area.

Incompatible Materials: Oxidizers. Acids. Peroxides. Metal salts. Aluminum chloride. Iron salts.

7.3. Specific End Use(s)

Chemical fixing.

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), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Quartz (14808-60-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	50 µg/m ³ (Respirable crystalline silica)
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)
Alberta	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate)
British Columbia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable)
Manitoba	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	0.1 mg/m ³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nunavut	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline))
Northwest Territories	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline))

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Ontario	OEL TWA (mg/m ³)	0.1 mg/m ³ (designated substances regulation-respirable (Silica, crystalline))
Prince Edward Island	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Québec	VEMP (mg/m ³)	0.1 mg/m ³ (respirable dust)
Saskatchewan	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline (Trydimite removed)))
Yukon	OEL TWA (mg/m ³)	300 particle/mL (Silica - Quartz, crystalline)
Limestone (1317-65-3)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³ (total)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
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
Québec	VEMP (mg/m ³)	10 mg/m ³ (Limestone, containing no Asbestos and <1% Crystalline silica-total dust)
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)	30 mppcf 10 mg/m ³
Vinyltoluenes (25013-15-4)		
USA ACGIH	ACGIH TWA (ppm)	50 ppm
USA ACGIH	ACGIH STEL (ppm)	100 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	480 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	480 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA IDLH	US IDLH (ppm)	400 ppm
Alberta	OEL STEL (mg/m ³)	483 mg/m ³
Alberta	OEL STEL (ppm)	100 ppm
Alberta	OEL TWA (mg/m ³)	242 mg/m ³ (Methyl styrene (all isomers))
Alberta	OEL TWA (ppm)	50 ppm (Methyl styrene (all isomers))
British Columbia	OEL STEL (ppm)	75 ppm
British Columbia	OEL TWA (ppm)	25 ppm
Manitoba	OEL STEL (ppm)	100 ppm
Manitoba	OEL TWA (ppm)	50 ppm
New Brunswick	OEL STEL (mg/m ³)	483 mg/m ³
New Brunswick	OEL STEL (ppm)	100 ppm
New Brunswick	OEL TWA (mg/m ³)	242 mg/m ³
New Brunswick	OEL TWA (ppm)	50 ppm
Newfoundland & Labrador	OEL STEL (ppm)	100 ppm
Newfoundland & Labrador	OEL TWA (ppm)	50 ppm

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Nova Scotia	OEL STEL (ppm)	100 ppm
Nova Scotia	OEL TWA (ppm)	50 ppm
Nunavut	OEL STEL (ppm)	100 ppm
Nunavut	OEL TWA (ppm)	50 ppm
Northwest Territories	OEL STEL (ppm)	100 ppm
Northwest Territories	OEL TWA (ppm)	50 ppm
Ontario	OEL STEL (ppm)	100 ppm
Ontario	OEL TWA (ppm)	50 ppm
Prince Edward Island	OEL STEL (ppm)	100 ppm
Prince Edward Island	OEL TWA (ppm)	50 ppm
Québec	VECD (mg/m ³)	483 mg/m ³
Québec	VECD (ppm)	100 ppm
Québec	VEMP (mg/m ³)	242 mg/m ³
Québec	VEMP (ppm)	50 ppm
Saskatchewan	OEL STEL (ppm)	100 ppm
Saskatchewan	OEL TWA (ppm)	50 ppm
Yukon	OEL STEL (mg/m ³)	720 mg/m ³
Yukon	OEL STEL (ppm)	150 ppm
Yukon	OEL TWA (mg/m ³)	480 mg/m ³
Yukon	OEL TWA (ppm)	100 ppm

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.



Materials for Protective Clothing: Chemically resistant materials and fabrics. Wear fire/flammable resistant/retardant clothing.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

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	: Paste
Odor	: Not available
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: > 60 °C (140 °F)
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available

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Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: Not available
Relative Density	: Not available
Specific Gravity	: > 1
Solubility	: Water: Insoluble
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.
- 10.2. Chemical Stability:** Combustible liquid. May form flammable or explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization may 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:** Oxidizers. Acids. Peroxides. Metal salts. Aluminum chloride. Iron salts.
- 10.6. Hazardous Decomposition Products:** Thermal decomposition may produce : Toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

- Acute Toxicity (Oral):** Not classified
- Acute Toxicity (Dermal):** Not classified
- Acute Toxicity (Inhalation):** Not classified
- LD50 and LC50 Data:** Not available
- Skin Corrosion/Irritation:** Causes skin irritation.
- Eye Damage/Irritation:** Causes serious eye irritation.
- Respiratory or Skin Sensitization:** May cause an allergic skin reaction.
- Germ Cell Mutagenicity:** Not classified
- Carcinogenicity:** Not classified. *Because this product is in liquid form, the hazards typically associated with respirable quartz do not apply.
- Specific Target Organ Toxicity (Repeated Exposure):** Not classified.
- Reproductive Toxicity:** Not classified
- Specific Target Organ Toxicity (Single Exposure):** May cause respiratory irritation.
- Aspiration Hazard:** May be fatal if swallowed and enters airways.
- Symptoms/Injuries After Inhalation:** Prolonged exposure may cause irritation.
- Symptoms/Injuries After Skin Contact:** Redness, pain, swelling, itching, burning, dryness, and dermatitis. May cause an allergic skin reaction.
- Symptoms/Injuries After Eye Contact:** Contact causes severe irritation with redness and swelling of the conjunctiva.
- Symptoms/Injuries After Ingestion:** Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.
- Chronic Symptoms:** None expected under normal conditions of use. Finely divided Quartz dust has caused cancer and lung disease in workers that inhale it over an extended period of time. Since this product is in a liquid form, the Quartz dust is not able to become airborne and cannot be inhaled. Thus, the hazards usually associated with Quartz dust are not applicable to this product.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
2-Propanoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
LD50 Oral Rat	11200 mg/kg
LD50 Dermal Rabbit	> 3000 mg/kg
Vinyltoluenes (25013-15-4)	
LD50 Oral Rat	4000 mg/kg
ATE US/CA (vapors)	11.00 mg/l/4h

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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.
Vinyltoluenes (25013-15-4)	
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Vinyltoluenes (25013-15-4)	
LC50 Fish 1	5.2 mg/l (Exposure time: 96 h - Species: Pimephales rafinesque)
EC50 Daphnia 1	9.3 mg/l
NOEC Chronic Fish	1.16 mg/l (Read across)
NOEC Chronic Crustacea	0.32 (Read across)

12.2. Persistence and Degradability

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Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

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Bioaccumulative Potential	Not established.
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
Log Pow	0.97
Vinyltoluenes (25013-15-4)	
BCF Fish 1	32 - 35
Log Pow	3.36

12.4. Mobility in Soil Not 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

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Proper Shipping Name : COMBUSTIBLE LIQUID, N.O.S.(Vinyltoluenes)
Identification Number : NA1993
Packing Group : III

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

15.1. US Federal Regulations

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SARA Section 311/312 Hazard Classes	Health hazard - Respiratory or skin sensitization Health hazard - Skin corrosion or Irritation

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	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Serious eye damage or eye irritation Health hazard - Aspiration hazard
Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Limestone (1317-65-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Vinyltoluenes (25013-15-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. US State Regulations

California Proposition 65



WARNING: This product can expose you to Quartz, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Quartz (14808-60-7)	X			

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

Limestone (1317-65-3)

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

Vinyltoluenes (25013-15-4)

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

15.3. Canadian Regulations

Quartz (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

Limestone (1317-65-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

2-Propenoic acid, 2-methyl-, monoester with 1,2-propanediol (27813-02-1)

Listed on the Canadian DSL (Domestic Substances List)

Vinyltoluenes (25013-15-4)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 02/05/2020

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

Acute Tox. 4 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 4
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

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Carc. 1A	Carcinogenicity Category 1A
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
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
H227	Combustible liquid
H304	May be fatal if swallowed and enters airways
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
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
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.

NA GHS SDS 2015 (Can, US)



A7+ HARDENER

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Revision Date: 02/05/2020

Date of Issue: 05/17/2016

Supersedes Date: 06/03/2016

Version: 2.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: A7+ HARDENER

1.2. Intended Use of the Product

Chemical fixing.

1.3. Name, Address, and Telephone of the Responsible Party

Company

ITW Commercial Construction North America

700 High Grove Blvd.

Glendale Heights, IL 60139

U.S.A.

Phone: 1-800-848-5611

Email: Technical@itwccna.com

www.itwredhead.com

1.4. Emergency Telephone Number

Emergency Number : 1-800-424-9300

CHEMTREC – TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Acute Tox. 4 (Oral) H302

Eye Irrit. 2A H319

Skin Sens. 1 H317

STOT RE 2 H373

Aquatic Acute 1 H400

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA)



Signal Word (GHS-US/CA)

: Warning

Hazard Statements (GHS-US/CA)

: H302 - Harmful if swallowed.
 H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).
 H400 - Very toxic to aquatic life.

Precautionary Statements (GHS-US/CA)

: 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.
 P272 - Contaminated work clothing should not be allowed out of the workplace.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves, protective clothing, and eye protection.
 P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
 P302+P352 - IF ON SKIN: Wash with plenty of 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.

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P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P330 - Rinse mouth.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Synonyms	Product Identifier	% *	GHS Ingredient Classification
1,2,3-Propanetriol	Propane-1,2,3-triol / GLYCERIN / 1,2,3-Trihydroxypropane / Glycerol / Glycerine / Glycerin	(CAS-No.) 56-81-5	10 - 50	Not classified
Ethylene glycol	1,2-Dihydroxyethane / Ethane-1,2-diol / 1,2-Ethanediol / Ethanediol / Dowtherm 4000 / GLYCOL / Glycol / Monoethylene glycol / Ethandiol	(CAS-No.) 107-21-1	10 - 40	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Dibenzoyl peroxide	Peroxide, dibenzoyl / Diphenylglyoxal peroxide / Benzoyl superoxide / Benzoyl peroxide / Benzoyl Peroxide / BPO	(CAS-No.) 94-36-0	5 - 15	Org. Perox. B, H241 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400

Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

SECTION 4: FIRST AID MEASURES

4.1. 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 where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Immediately drench affected area with water for at least 15 minutes. Remove contaminated clothing. Obtain medical attention if irritation/rash develops or persists.

Eye Contact: Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Harmful if swallowed. Causes serious eye irritation. Skin sensitization. May cause damage to organs through prolonged or repeated exposure.

Inhalation: Prolonged exposure may cause irritation.

Skin Contact: May cause an allergic skin reaction.

Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Ingestion: This material is harmful orally and can cause adverse health effects or death in significant amounts.

Chronic Symptoms: Repeated ingestion of this product may impair renal function.

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.

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SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but contains organic peroxides that may support combustion.

Explosion Hazard: Product is not explosive.

Reactivity: This material contains an organic peroxide. Heating may cause hazardous decomposition. Hazardous decomposition products from peroxides are flammable and can be explosive under confinement.

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.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Toxic vapors. Benzoic acid. May form explosive peroxides.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid breathing (vapor, mist, spray). Do not get in eyes, on skin, or on clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: 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.

Ventilate area. Eliminate ignition sources.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Minimize generation of dust. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained.

Precautions for Safe Handling: Avoid breathing vapors, mist, spray. Do not get in eyes, on skin, or on clothing. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Handle empty containers with care because they may still present a hazard. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Handling Temperature: < 30 °C (86 °F)

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.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials: Reducing agents. Sulfur compounds. Heavy metals. Rust. Strong acids, strong bases, strong oxidizers.

Storage Temperature: 5 - 30 °C (41 - 86 °F)

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According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

7.3. Specific End Use(s)

Chemical fixing.

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), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Ethylene glycol (107-21-1)		
USA ACGIH	ACGIH TWA (ppm)	25 ppm (vapor fraction)
USA ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
USA ACGIH	ACGIH STEL (ppm)	50 ppm (vapor fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
Alberta	OEL Ceiling (mg/m ³)	100 mg/m ³
British Columbia	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
British Columbia	OEL Ceiling (ppm)	50 ppm (vapour)
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³ (particulate)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (particulate)
Manitoba	OEL STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
Manitoba	OEL STEL (ppm)	50 ppm (vapor fraction)
Manitoba	OEL TWA (ppm)	25 ppm (vapor fraction)
New Brunswick	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
Newfoundland & Labrador	OEL STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
Newfoundland & Labrador	OEL STEL (ppm)	50 ppm (vapor fraction)
Newfoundland & Labrador	OEL TWA (ppm)	25 ppm (vapor fraction)
Nova Scotia	OEL STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
Nova Scotia	OEL STEL (ppm)	50 ppm (vapor fraction)
Nova Scotia	OEL TWA (ppm)	25 ppm (vapor fraction)
Nunavut	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
Northwest Territories	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
Ontario	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol only)
Prince Edward Island	OEL STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
Prince Edward Island	OEL STEL (ppm)	50 ppm (vapor fraction)
Prince Edward Island	OEL TWA (ppm)	25 ppm (vapor fraction)
Québec	PLAFOND (mg/m ³)	127 mg/m ³ (mist and vapour)
Québec	PLAFOND (ppm)	50 ppm (mist and vapour)
Saskatchewan	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
Yukon	OEL STEL (mg/m ³)	20 mg/m ³ (particulate) 325 mg/m ³ (vapour)
Yukon	OEL STEL (ppm)	10 ppm (particulate) 125 ppm (vapour)
Yukon	OEL TWA (mg/m ³)	10 mg/m ³ (particulate) 250 mg/m ³ (vapour)
Yukon	OEL TWA (ppm)	100 ppm (vapour)
1,2,3-Propanetriol (56-81-5)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (mist, total particulate) 5 mg/m ³ (mist, respirable fraction)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³ (mist)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (mist) 3 mg/m ³ (mist-respirable)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (mist)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³ (mist)

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Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (mist)
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³ (mist)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (mist)
Québec	VEMP (mg/m ³)	10 mg/m ³ (mist)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³ (mist)
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³ (mist)
Yukon	OEL TWA (mg/m ³)	30 mppcf (mist) 10 mg/m ³ (mist)

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 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)	1500 mg/m ³
Alberta	OEL TWA (mg/m ³)	5 mg/m ³
British Columbia	OEL TWA (mg/m ³)	5 mg/m ³
Manitoba	OEL TWA (mg/m ³)	5 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	5 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	5 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	5 mg/m ³
Nunavut	OEL STEL (mg/m ³)	10 mg/m ³
Nunavut	OEL TWA (mg/m ³)	5 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	10 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	5 mg/m ³
Ontario	OEL TWA (mg/m ³)	5 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	5 mg/m ³
Québec	VEMP (mg/m ³)	5 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	10 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	5 mg/m ³
Yukon	OEL STEL (mg/m ³)	5 mg/m ³
Yukon	OEL TWA (mg/m ³)	5 mg/m ³

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. Gas detectors should be used when flammable gases or vapors may be released. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

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 : Gray paste

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According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Odor	: Characteristic
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: Not available
Relative Density	: Not available
Specific Gravity	: > 1
Solubility	: Water: Insoluble
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. **Reactivity:** This material contains an organic peroxide. Heating may cause hazardous decomposition. Hazardous decomposition products from peroxides are flammable and can be explosive under confinement.
- 10.2. **Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. **Conditions to Avoid:** Sparks, heat, open flame and other sources of ignition. Direct sunlight, extremely high or low temperatures, and incompatible materials.
- 10.5. **Incompatible Materials:** Reducing agents. Sulfur compounds. Heavy metals. Rust. Strong acids, strong bases, strong oxidizers.
- 10.6. **Hazardous Decomposition Products:** May form explosive peroxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Harmful if swallowed.

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data:

A7+ HARDENER

ATE US/CA (oral)	1,250.00 mg/kg body weight
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Skin Corrosion/Irritation: Not classified

Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs (kidneys) through prolonged or repeated exposure (oral).

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Injuries After Ingestion: This material is harmful orally and can cause adverse health effects or death in significant amounts.

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Chronic Symptoms: Repeated ingestion of this product may impair renal function.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Ethylene glycol (107-21-1)	
LD50 Dermal Rat	10600 mg/kg
ATE US/CA (oral)	500.00 mg/kg body weight
1,2,3-Propanetriol (56-81-5)	
LD50 Oral Rat	12600 mg/kg
LD50 Dermal Rabbit	> 10 g/kg
LC50 Inhalation Rat	> 570 mg/m ³ (Exposure time: 1 h)
Dibenzoyl peroxide (94-36-0)	
LD50 Oral Rat	7710 mg/kg
Dibenzoyl peroxide (94-36-0)	
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Very toxic to aquatic life. Very toxic to aquatic life.

Ethylene glycol (107-21-1)	
LC50 Fish 1	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
NOEC Chronic Crustacea	4.2 mg/l
1,2,3-Propanetriol (56-81-5)	
LC50 Fish 1	54000 (51000 - 57000) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
Dibenzoyl peroxide (94-36-0)	
LC50 Fish 1	0.0602 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 Daphnia 1	0.07 mg/l

12.2. Persistence and Degradability

A7+ HARDENER	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

A7+ HARDENER	
Bioaccumulative Potential	Not established.
Ethylene glycol (107-21-1)	
Log Pow	-1.93
1,2,3-Propanetriol (56-81-5)	
BCF Fish 1	(no bioaccumulation)
Log Pow	-1.76
Dibenzoyl peroxide (94-36-0)	
Log Kow	3.2

12.4. Mobility in Soil Not 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, territorial, provincial, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

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SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.(Contains dibenzoyl peroxide)
Hazard Class : 9
Identification Number : UN3082
Label Codes : 9
Packing Group : III
Marine Pollutant : Marine pollutant
ERG Number : 171



14.2. In Accordance with IMDG

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Contains dibenzoyl peroxide)
Hazard Class : 9
Identification Number : UN3082
Label Codes : 9
Packing Group : III
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Marine pollutant : Marine pollutant



14.3. In Accordance with IATA

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains dibenzoyl peroxide)
Hazard Class : 9
Identification Number : UN3082
Label Codes : 9
Packing Group : III
ERG Code (IATA) : 9L



14.4. In Accordance with TDG

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Contains dibenzoyl peroxide)
Hazard Class : 9
Identification Number : UN3082
Label Codes : 9
Packing Group : III
Marine Pollutant (TDG) : Marine pollutant



SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

A7+ HARDENER	
SARA Section 311/312 Hazard Classes	Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Respiratory or skin sensitization Health hazard - Serious eye damage or eye irritation Health hazard - Acute toxicity (any route of exposure)
Ethylene glycol (107-21-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
SARA Section 313 - Emission Reporting	1 %
1,2,3-Propanetriol (56-81-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Dibenzoyl peroxide (94-36-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	

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SARA Section 313 - Emission Reporting	1 %
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15.2. US State Regulations

California Proposition 65



WARNING: This product can expose you to Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Ethylene glycol (107-21-1)		X		

Ethylene glycol (107-21-1)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

1,2,3-Propanetriol (56-81-5)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) 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

15.3. Canadian Regulations

Ethylene glycol (107-21-1)

Listed on the Canadian DSL (Domestic Substances List)

1,2,3-Propanetriol (56-81-5)

Listed on the Canadian DSL (Domestic Substances List)

Dibenzoyl peroxide (94-36-0)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 02/05/2020

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Org. Perox. B	Organic Peroxide Category B
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H241	Heating may cause a fire or explosion
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life

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.

**SAFETY DATA SHEET
ABC DRY CHEMICAL**

SECTION I. Chemical Product and Company Identification

Product Name: ABC Dry Chemical Fire Extinguishant
(Fire Extinguishing Agent, Non-pressurized and Pressurized)
Synonym: Multi-Purpose Dry Chemical
Manufacturer: Buckeye Fire Equipment Company
PO Box 428
Kings Mountain, NC 28086
Telephone: 704.739.7415
Web Address: www.buckeyefire.com
Email Address: bfec@buckeyef.com
Recommended Use: Fire suppression, not for human or animal drug use.
Emergency: CHEMTREC 1.800.424.9300
Revision Date: 08/02/2022

SECTION II. Hazard Identification

Note: This SDS covers both pressurized and non-pressurized containers of the product.

GHS – Classification (Pressurized):

Hazard Classification: Gas Under Pressure-Compressed Gas

GHS Label Elements:



Hazard Symbols:
Signal Word: WARNING

Hazard Statements: Contents Under Pressure: may explode if heated

Precautionary Statements: P251 Pressurized container; do not pierce or burn, even after use.

GHS – Classification (Non-pressurized):

Eye Irritation: Category 2B
Skin Irritation: Category 5
Inhalation: Category 5

GHS Label Elements:



Hazard Symbols:
Signal Word: WARNING

Hazard Statements:

H313 May be harmful in contact with skin.
H320 Causes eye irritation
H333 May be harmful if inhaled.

Precautionary Statements:

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P234 Keep in original container.
P251 Pressurized container; do not pierce or burn, even after use
P261 Avoid breathing dust
P264 Wash hands and face thoroughly after handling
P270 Do not eat, drink, or smoke when using this product
P281 Use personal protective equipment as required

SAFETY DATA SHEET ABC DRY CHEMICAL

P285	In case of inadequate ventilation, wear respiratory protection
P301+322+331	If swallowed, drink 2-3 glasses of water and do not induce vomiting
302+352	If on skin, wash with soap and water
304+313+341	If inhaled, and if distress occurs, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice/attention.
305+351+338	If in eyes, rinse cautiously with water for several minutes. Remove contact lenses if present and east to do and continue to rinse.
337+313	If eye irritation persists, get medical advice/attention.
P401+402+403	Store in original container or extinguisher in a dry, well ventilated place.

SECTION III. Composition/Information on Ingredients

This product is a mixture.

Chemical Name	Weight %*	CAS #
Monoammonium phosphate	85	7722-76-1
Barium Sulfate	8	7727-43-7
Mica	< 3	12001-26-2
Amorphous Silica (non-crystalline)	< 3	112926-00-8 (7631-86-9)
Stannous octoate	< .3	301-10-0
Silicone	< .1	63148-57-2
Pigment	< .1	6358-31-2

Note: Pressurized product uses nitrogen as the expellant 7727-37-9

* % is rounded to the nearest appropriate number. Values are not to be considered product specifications

SECTION IV. First Aid Measures

Eye Exposure- Flush eyes with water until pain-free. If irritation develops or persists, seek medical attention.

Skin Exposure- Wash with plenty of soap and water. If irritation develops or persists, seek medical attention.

Inhalation- Move victim to fresh air. If irritation develops or persists, seek medical attention.

Ingestion- If victim is conscious and alert, give 2-3 glasses of water to drink. Do not induce vomiting. If vomiting occurs and the victim is conscious, give additional water to further dilute the chemical. Prevent aspiration of swallowed product by laying victim on side with head lower than their waist. Seek medical attention. Do not leave victim unattended.

Medical Conditions Possibly Aggravated by Exposure- Inhalation of the product may aggravate existing chronic respiratory conditions such as asthma, emphysema, or bronchitis. Contact with the skin may aggravate an existing skin disease. Chronic overexposure may cause pneumoconiosis ("Dusty Lung" disease).

SECTION V. Firefighting Measures

Extinguishing Media: N/A. This product is an extinguishing agent. It is nonflammable and noncombustible.

Special Firefighting Procedures: N/A

Unusual Fire and Explosion Hazards: This product may decompose in fire and release oxides of carbon, potassium, and nitrogen (Refer to Section X).

Sensitivity to Mechanical Impact or Static Discharge: None

SECTION VI. Accidental Release Measures

In case of accidental release, use the appropriate respiratory protection. Clean up the product using a vacuum or wet sweep and shovel to minimize the generation of dust. Bag or drum the product for disposal. If the product is used and/or contaminated, use personal protective equipment and containment means that are appropriate for the composition of the mixture. Product should be prevented from entering waterways.

SAFETY DATA SHEET

ABC DRY CHEMICAL

SECTION VII. Handling and Storage

Avoid eye, respiratory, and skin exposure. Use the appropriate personal protective equipment when handling. Wash thoroughly after handling (Refer to Section VIII). Product should be stored in its original container or extinguisher. When the product is contained under pressure (e.g., an extinguisher), inspect the container for rust or damage that may compromise the container integrity. Do not store the product in high humidity and do not mix with other extinguishing agents, particularly potassium bicarbonate-based agents.

SECTION VIII. Exposure Controls and Personal Protection

Exposure Guidelines:

	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Monoammonium phosphate	Particulates Not Otherwise Classified Total Dust- 15 mg/m ³ Respirable Fraction- 5 mg/m ³	Particulates Not Otherwise Classified Total Dust- 10 mg/m ³ Respirable Fraction- 3 mg/m ³
Barium sulfate	Particulates Not Otherwise Classified Total Dust- 15 mg/m ³ Respirable Fraction- 5 mg/m ³	Particulates Not Otherwise Classified Total Dust- 10 mg/m ³ Respirable Fraction- 3 mg/m ³
Mica	6 mg/m ³	3 mg/m ³
Amorphous Silica	6 mg/m ³	10 mg/m ³
Stannous octoate	.1 mg/m ³	.1 mg/m ³
Silicone	Not Regulated	Not Regulated
Pigment	Not Regulated	Not Regulated

During the use of this product on fires, exhaust gases and products of incomplete combustion are the main respiratory hazards. In the manufacture of this product, employers and employees must use their collective judgment in determining the on-the-job settings where the use of a dust mask or respirator is prudent. The need for respiratory protection is not likely for short-term use in well-ventilated areas.

Respiratory Protection: Use an N-95 dust mask for limited exposures and use air-purifying respirators with high efficiency particulate air filters (HEPA filters) for prolonged exposures.

Eye Protection: Wear chemical goggles or full-face air-purifying respirator.

Skin Protection: Use nitrile, latex, or similar gloves and coveralls. Good personal hygiene practices are essential. After handling the product, avoid food, tobacco products, or other means of transferring the product from hand to mouth until after thoroughly washing.

SECTION IX. Physical and Chemical Properties

Chemical Agent

Appearance and Odor: Light yellow fine powder that is odorless.

Apparent Density: 0.82

Solubility: The product is coated with water repellant silicone. Not immediately soluble in water.

pH: Approximately 4 -5

Flash Point: N/A

Flammability: N/A

Vapor Pressure: N/A

Boiling Point: N/A

Explosive or Oxidizing Properties: None

Expellant- Nitrogen

Appearance and Odor: Colorless and odorless.

Specific Gravity: 0.075 lb./ft³@ 70°F as vapor

Solubility: N/A

pH: N/A

Flash Point: Nonflammable

Flammability: Nonflammable

Vapor Pressure: N/A

Boiling Point: -321°F

Explosive or Oxidizing Properties: None

SAFETY DATA SHEET

ABC DRY CHEMICAL

SECTION X. Stability and Reactivity

Reactivity: Pressurized containers may rupture or explode if exposed to high heat

Stability: Stable

Incompatibles: Magnesium, strong oxidizers such as calcium hypochlorite (pool chlorine), strong alkalis, and isocyanic acids.

Decomposition Products: This product may decompose in fire and release carbon monoxide, carbon dioxide, and sulfur dioxide. Oxides of phosphorous and ammonia have been reported.

Hazardous Polymerization: Will not occur

Hazardous Reactions: None

SECTION XI. Toxicological Information

Acute Toxicity: Monoammonium phosphate LD50 (rat): > 1000mg/kg body weight.

Target organs in humans: respiratory system, eyes, and skin. This product is an irritant to epithelial tissue and may aggravate dermatitis. No indication that the product causes sensitization.

Chronic Toxicity: Pneumoconiosis, or "Dusty Lung" disease, may result from chronic exposure to any dust.

Reproductive Toxicity: This product is not known to have any reproductive effects.

Nitrogen: Simple asphyxiant. Exposure at high concentrations can cause suffocation by reducing the available oxygen.

SECTION XII. Ecological Information

Ecotoxicity: Negative effects are unknown. Provides nutrient nitrogen and phosphorous to plant life.

Degradability: Degrades rapidly in wet or humid environment.

Bioaccumulation: Unknown extent.

Mobility in Soil: Water-soluble. May leech in to groundwater.

SECTION XIII. Disposal Consideration

This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal regulations. Be aware that product used on a fire may be altered or contaminated and thereby require different disposal considerations.

SECTION XIV. Transportation Information

This product is not defined as a hazardous material under U.S. Department of Transportation 49 CFR 172, or by Transport Canada "Transportation of Dangerous Goods" regulations.

Please Note: Although this material is not considered hazardous, when contained in a stored pressure fire extinguisher pressurized with a nonflammable gas, the extinguisher itself is considered a hazardous material by the U.S. Department of Transportation (USDOT) and Transport Canada (TC). The proper shipping name shall be Fire Extinguisher and the UN Identification Number is UN 1044. The USDOT hazard class is Limited Quantity when pressurized to less than 241 psig and when shipped via highway or rail. UN Class 2.2. for shipment by Air or Water, consult the current IATA or IMDG Regulations respectively.

SAFETY DATA SHEET

ABC DRY CHEMICAL

SECTION XV. Regulatory Information

International Inventory Status: All ingredients are on the following inventories

<u>Country</u>	<u>Agency</u>	<u>Country</u>	<u>Agency</u>
U.S.A.	TSCA	Australia	AICS
Canada	DSL	Japan	MITI
Europe	EINECS/ELINCS	South Korea	KECL

European Risk and Safety Phrases:

EU Classification-		Harmful
R Phrases-	22 36/37/38	Harmful if swallowed Irritating to eyes, respiratory system, and skin.
S Phrases-	26 36	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice Wear suitable protective clothing

U.S. Federal Regulatory Information:

Non-pressurized; None of the chemicals in this product are under SARA reporting requirements or have SARA Threshold Planning Quantities or CERCLA Reportable Quantities or are regulated under TSCA 8(d).

Pressurized: SARA Title III Section 311/312 Categorization is Pressure Hazard

State Regulatory Information:

Chemicals in this product are covered under the specific State regulations noted:

Alaska	Designated Toxic and Hazardous Substances- None		
California	Permissible Exposure Limits for Chemical Contaminants- None		
Florida	Substance list- Mica dust	Pennsylvania	Hazardous Substance List- None
Illinois	Toxic Substance List- None	Rhode Island	Hazardous Substance List- Mica dust
Kansas	Section 302/303 List- None	Texas	Hazardous Substance List- No
Massachusetts	Substance list- Mica dust	West Virginia	Hazardous Substance List- None
Minnesota	List of Hazardous Substances- None	Wisconsin	Toxic and Hazardous Substances- None
Missouri	Employer Information/Toxic Substance List- None		
New Jersey	Right to Know Hazardous Substance List- None		
North Dakota	List of Hazardous Chemicals, Reportable Quantities- None		

California Proposition 65- No component is listed on the California Proposition 65 List

SECTION XVI. Other Information

This Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

HMIS RATINGS:

Health 1
Flammability 0
Reactivity 0

Personal Protective Equipment: use N-95 dust mask (See Section 8)

WHMIS (Canadian Workplace Hazardous Materials Identification)

D2B- May irritate eyes, mucous membranes, and/or skin

Revised on 7/24/19: Page 1, Section II GHS-classification (Non-pressurized) changed (Class) to (Category) Skin Irritation: Class 3 to Category 5, and Inhalations from Class 5 to Category 5.

The information contained herein is given in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made.

SAFETY DATA SHEET



AC-20[®] +Silicone

1. PRODUCT IDENTIFICATION

IDENTIFICATION of the SUBSTANCE or PREPARATION

TRADE NAME (AS LABELED):	AC-20 [®] +Silicone
PRODUCT DESCRIPTION:	Acrylic Latex Sealant
CHEMICAL NAME/CLASS:	Acrylic Latex
OTHER MEANS OF IDENTIFICATION/SYNONYMS	AC-20; AC-20 Acrylic Latex Plus Silicone
RELEVANT USE:	Sealant
USES ADVISED AGAINST:	Other Than Relevant Use

COMPANY/UNDERTAKING IDENTIFICATION:

SUPPLIER/MANUFACTURER'S NAME:	Pecora Corporation
ADDRESS:	165 Wambold Road, Harleysville, PA 19438
EMERGENCY PHONE:	800-424-9300 (CHEMTREC, 24-hours)
BUSINESS PHONE:	215-723-6051 (Mon-Fri, 8 AM-5 PM ET)

PREPARATION DATE:	February 20, 2009
REVISION DATE:	December 6, 2016

This product is sold for commercial use. This SDS has been developed to address safety concerns of those individuals working with bulk quantities of this material, as well as those of potential users of this product in industrial/occupational settings. ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian WHMIS 2015 and the Global Harmonization required information is included in appropriate sections based on the Global Harmonization Standard format. This product has been classified in accordance with the hazard criteria of the countries listed above and the SDS contains all the information required by the Canadian WHMIS 2015 [HPR-GHS], the Global Harmonization Standard and OSHA 1910.120.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with Global Harmonization Standard under U.S. OSHA Hazard Communication Standard, Canadian WHMIS HPR-GHS 2015

Classification: Skin Irritation Cat. 2

Signal Word: Warning

Hazard Statement Codes: H315

Precautionary Statement Codes: P264, P280, P302 + P352, P332 + P313, P362 + P364, P321

Hazard Symbols/Pictogram: GHS07



EMERGENCY OVERVIEW:

Physical Description: This product is a smooth paste with an acrylic odor that comes in a variety of colors.

Health Hazards: CAUTION! May cause skin irritation, especially if exposure is prolonged. May be harmful if ingested. Contains a trace compound (Crystalline Silica), a known human carcinogen by inhalation of particles.

Flammability Hazards: This product is combustible and can ignite if exposed to high temperature or direct flame.

Reactivity Hazards: This product is not reactive.

Environmental Hazard: This product has not been tested for environmental impact. This product contains a compound that can cause chronic aquatic toxicity.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS[®])

Health	1
Flammability	1
Physical Hazard	0

See Section 16 for definitions of ratings

0 = Minimal 3 = Serious
1 = Slight 4 = Severe
2 = Moderate * = Chronic

HMIS[®] is a registered trademark of the National Paint and Coatings Association.

CANADIAN WHMIS (HPR-GHS) 2015 CLASSIFICATION AND SYMBOLS: See Section 16 for in Classification and Symbols under HPR-GHS 2015.

U.S. OSHA REGULATORY STATUS: This product has a classification under the Global Harmonization Standard, as applied under OSHA regulations, as given earlier in this Section. See Section 16 for full classification details.

3. COMPOSITION and INFORMATION ON INGREDIENTS

Chemical Name	CAS #	W/W%	LABEL ELEMENTS GHS Classification under U.S. OSHA Hazard Communication Standard & Canadian WHMIS (HPR-GHS) 2015 Hazard Statement Codes
Calcium Carbonate	1317-65-3	30.0- 60.0	SELF CLASSIFICATION Classification: Not Applicable

3. COMPOSITION and INFORMATION ON INGREDIENTS (Continued)

Chemical Name	CAS #	W/W%	LABEL ELEMENTS GHS Classification under U.S. OSHA Hazard Communication Standard & Canadian WHMIS (HPR-GHS) 2015 Hazard Statement Codes
Proprietary Acrylic Polymer Emulsion		15.0–25.0	SELF CLASSIFICATION Classification: Not Applicable
Proprietary Benzoate Esters		3.0–7.0	SELF CLASSIFICATION Classification: Not Applicable
Proprietary Mineral Spirits (contains less than 0.1% benzene)		1.0–3.0	HARMONISED CLASSIFICATION - ANNEX VI OF REGULATION (EC) NO 1272/2008 (CLP REGULATION) Classification: Aspiration Hazard Cat. 1 Hazard Statement Codes: H304 ADDITIONAL SELF-CLASSIFICATION Classification: Flammable Liquid Cat. 3, Skin Irritation Cat. 2, STOT (Central Nervous System) SE Cat. 3, Aquatic Chronic Cat. 2 Hazard Statement Codes: H226, H315, H336, H411
Quartz	14808-60-7	0.01-0.4	SELF CLASSIFICATION Classification: Carcinogenic Cat. 1B Hazard Statement Codes: H350i
The following are pigments that can be in the product, depending on coloration:			
Titanium Dioxide	13463-67-7	0.0-5.0	SELF-CLASSIFICATION Classification: Carcinogenic Cat. 2 Hazard Statement Codes: H351i
Water and other components. Each of the other components is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).		Balance	Classification: Not Applicable

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

4. FIRST-AID MEASURES

PROTECTION OF FIRST AID RESPONDERS: Rescuers should not attempt to retrieve victims of exposure to this material without adequate personal protective equipment. Rescuers should be taken for medical attention, if necessary.

DESCRIPTION OF FIRST AID MEASURES: Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Remove and isolate contaminated clothing and shoes. Seek immediate medical attention. Take copy of label and MSDS to physician or other health professional with victim(s).

Inhalation: If dusts of this material are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

Skin Exposure: If the material contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 20 minutes. Do not interrupt flushing. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention.

Eye Exposure: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 20 minutes. Do not interrupt flushing.

Ingestion: If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directly by medical personnel. Have victim rinse mouth with water or give several cupfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Dermatitis or other pre-existing skin disorders may be aggravated by exposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure. Persons suffering allergic reactions must seek immediate medical attention.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not determined. **AUTOIGNITION:** Unknown.

FLAMMABLE LIMITS IN AIR: Unknown.

EXTINGUISHING MEDIA:

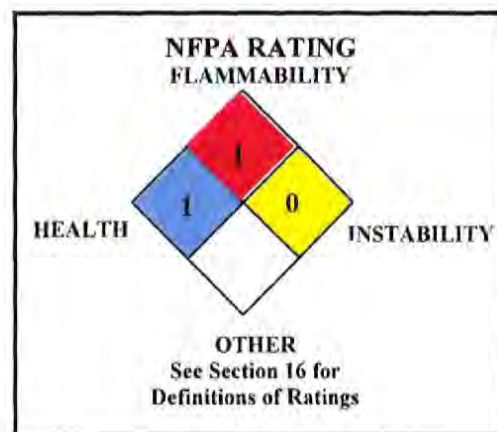
Suitable Extinguishing Media: Use extinguishing material suitable to the surrounding fire, including foam, halon, carbon dioxide and dry chemical.

Unsuitable Extinguishing Media: None known.

PROTECTION OF FIREFIGHTERS:

Special Hazards Arising From The Substance: This product is combustible and can be ignited when exposed to its flashpoint. Not sensitive to mechanical impact under normal conditions. Not sensitive to static discharge under normal conditions. Closed containers may develop pressure and rupture in event of fire.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.



6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: An accidental release can result in a fire. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Use only non-sparking tools and equipment during the response. The atmosphere must at least 19.5 percent Oxygen before non-emergency personnel can be allowed in the area without Self-Contained Breathing Apparatus and fire protection.

PERSONAL PROTECTIVE EQUIPMENT: Responders should wear the level of protection appropriate to the type of chemical released, the amount of the material spilled, and the location where the incident has occurred.

Small Spills: For releases of 1 drum or less, Level D Protective Equipment (gloves, chemical resistant apron, boots, and eye protection) should be worn.

Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit, fire-retardant clothing and boots, hard hat, and Self-Contained Breathing Apparatus.**

METHODS FOR CLEAN-UP AND CONTAINMENT:

All Spills: Access to the spill area should be restricted. Spread should be limited by gently covering the spill with polypads. Scrape up or pick-up spilled material, placing in suitable containers. Absorb any residual on appropriate material, such as sand. All contaminated absorbents and other materials should be placed in an appropriate container and seal. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). Dispose of recovered material and report spill per regulatory requirements. Remove all residue before decontamination of spill area. Clean spill area with soap and copious amounts of water.

ENVIRONMENTAL PRECAUTIONS: Minimize use of water to prevent environmental contamination. Prevent spill or rinsate from contaminating storm drains, sewers, soil or groundwater. Place all spill residues in a suitable container and seal. Do not discharge effluent containing this product into streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

OTHER INFORMATION: U.S. regulations may require reporting of spills of this material that reach surface waters if a sheen is formed. If necessary, the toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Use only with adequate ventilation. Keep away from heat and flame. In the event of a spill, follow practices indicated in Section 6: ACCIDENTAL RELEASE MEASURES.

CONDITIONS FOR SAFE STORAGE: This product is stable under ordinary conditions of handling, use and storage. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10: STABILITY AND REACTIVITY). Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. To prolong shelf life, store at temperatures below 26°C (80°F).

PRODUCT END USE: This product is used as a sealant. Follow all industry standards for use of this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below.

Occupational/Workplace Exposure Limits/Guidelines:

Chemical Name	CAS #	Guideline	Value
Acrylic Polymer	Proprietary	NE	NE
Benzoate Esters	Proprietary	NE	NE
Calcium Carbonate	1317-65-3	OSHA PEL TWA NIOSH REL TWA	15 mg/m ³ total dust 5 mg/m ³ respirable fraction 10 mg/m ³ total dust 5 mg/m ³ respirable fraction
Crystalline Silica/Quartz	14808-60-7	ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA	0.025 mg/m ³ respirable fraction 30 mg/m ³ / % SiO ₂ + 2 total dust; 10 mg/m ³ / % SiO ₂ + 2 respirable fraction 0.05 mg/m ³ respirable dust, See Pocket Guide Appendix A
Proprietary Mineral Spirits Exposure limits given are for Petroleum Distillates, Naphtha		OSHA PEL TWA NIOSH REL TWA NIOSH REL STEL	2000 mg/m ³ 300 mg/m ³ 1800 mg/m ³ , 15 minutes
Titanium Dioxide	13463-67-7	ACGIH TLV TWA OSHA PEL TWA NIOSH REL & NIOSH STEL	10 mg/m ³ 15 mg/m ³ total dust See Pocket Guide Appendix A

NE = Not Established. See Section 16 for Definitions of Terms Used.

Biological Exposures Indices (BEIs): Currently, the no BEI's have been established for components.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

PERSONAL PROTECTIVE EQUIPMENT (PPE): *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including the Respiratory Protection Standard (29 CFR 1910.134), Eye Protection Standard 29 CFR 1910.13, the Hand Protection Standard 29 CFR 1910.138, and the Foot Protection Standard 29 CFR 1910.136), equivalent standards of Canada (including the Canadian CSA Respiratory Standard Z94.4-93-02, the CSA Eye Protection Standard Z94.3-M1982, Industrial Eye and Face Protectors and the Canadian CSA Foot Protection Standard Z195-M1984, Protective Footwear). Please reference applicable regulations and standards for relevant details.*

Eye/Face Protection: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations and standards.

Skin Protection: Wear chemical impervious gloves (e.g., Nitrile or Neoprene). Use triple gloves for spill response. If necessary, refer to appropriate regulations and standards.

Body Protection: Use body protection appropriate for task (e.g., lab coat, coveralls, Tyvek suit). If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) or appropriate Standards of Canada. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in appropriate regulations and standards.

Respiratory Protection: If mists or sprays from this product are created during use, use appropriate respiratory protection. If necessary, use only respiratory protection authorized in appropriate regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under appropriate regulations and standards.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Smooth paste.

MOLECULAR WEIGHT: Mixture.

ODOR: Acrylic

SPECIFIC GRAVITY: 18.73

RELATIVE VAPOR DENSITY (air = 1): Heavier than air.

SOLUBILITY IN WATER: Soluble.

MELTING/FREEZING POINT: < 0°C (< 32°F)

VOC (less water and exempt): 1.0–10.0 g/L

FLASH POINT: Not determined.

pH: 7.0-7.5

FLAMMABLE LIMITS (in air by volume, %): Lower: Not established; Upper: Not established.

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not established.

HOW TO DETECT THIS SUBSTANCE (IDENTIFYING PROPERTIES): The appearance of this product may act as an identifying property in the event of an accidental release.

COLOR: Variety of colors.

MOLECULAR FORMULA: Mixture.

ODOR THRESHOLD: Not available.

VAPOR PRESSURE, mm Hg @ 20°C: Not established.

EVAPORATION RATE (BuAc = 1): Not determined.

OTHER SOLUBILITIES: Not available.

BOILING POINT: Not established.

WEIGHT % VOC: 0.1–0.9%

AUTOIGNITION TEMPERATURE: Not established.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under normal circumstances of use and handling. Product cures upon contact with air.

CONDITIONS TO AVOID: Avoid contact with incompatible chemicals and exposure to extreme temperatures.

INCOMPATIBLE MATERIALS: This product is not compatible with strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: **Combustion:** Thermal decomposition of this product can generate dusts, irritating fumes, and toxic gases (e.g., calcium, carbon, magnesium and titanium oxides, and acrylic compounds depending on formulation).

Hydrolysis: None known.

POSSIBILITY OF HAZARDOUS REACTIONS/POLYMERIZATION: This product is not expected to undergo hazardous polymerization, decomposition, condensation, or self-reactivity. Product slowly cures upon contact with air.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS: The most significant routes of occupational exposure are inhalation and contact with skin and eyes.

The symptoms of exposure to this product are as follows:

Contact with Skin or Eyes: Contact may mildly irritate the skin and cause redness and discomfort. Prolonged or repeated skin contact may cause dermatitis (dry, red skin). Eye contact may cause redness, pain, and tearing.

Skin Absorption: The components of this product are not known to be absorbed through intact skin.

Ingestion: If the product is swallowed, it may mildly irritate the mouth, throat, and other tissues of the gastro-intestinal system and may cause nausea, vomiting, and diarrhea.

Inhalation: Exposure to vapors of this product generated during curing, or dusts of this product generated during use after curing may mildly irritate the respiratory tract and cause coughing and sneezing.

Injection: Accidental injection of this product (e.g. puncture with a contaminated object) may cause burning, redness, and swelling in addition to the wound.

Target Organs: **Acute:** Skin, eyes. **Chronic:** Skin.

Chronic Effects: Prolonged or repeated skin contact may cause dermatitis (dry, red skin).

11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA: There are currently no toxicity data available for this product; the following toxicology information is available for components greater than 1% in concentration. Due to large amount of data for components, only Human data, Irritancy data, LD50 Oral-Rat, LD50 Oral-Mouse, LD50 Skin-Rat, LD50 Skin-Rabbit, LC50 Inhalation-Rat, LC50 Inhalation-Mouse and select reproductive toxicity data are provided in this SDS. Contact Pecora for information on additional data.

CALCIUM CARBONATE:

Skin Irritancy (rabbit) = 500 mg/24 hours; moderate

Eye Irritancy (rabbit) = 750 µg/24 hours; severe

LD₅₀ (oral, rat) = 6450 mg/k

ACRYLIC POLYMER:

Patch test on human volunteers did not demonstrate sensitization properties.

PROPRIETARY MINERAL SPIRITS:

Standard Draize Test (Eye-Human) 100 ppm: Mild

Standard Draize Test (Eye-Rabbit) 500 mg/24 hours: Moderate

PROPRIETARY MINERAL SPIRITS (continued):

LC₅₀ (Inhalation-Rat) > 1400 ppm/8 hours

TITANIUM DIOXIDE:

Standard Draize Test (Skin-Human) 300 µg/3 days-intermittent: Mild

DNA Damage (Human Lung) 100 µg/plate

DNA Damage (Human Lung) 20 µg/disk/4 hours

Sister Chromatid Exchange (Human Lymphocyte) 2 µmol/L/72 hours

Micronucleus Test (Human Lymphocyte) 5 µmol/L/72 hours

DNA Inhibition (Hamster Lung) 500 mg/L

CARCINOGENIC POTENTIAL: The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be or suspected to be a carcinogen by the listed agency, see section 16 for definitions of other ratings.

CHEMICAL	ACGIH	EPA	IARC	DFG MAK	NTP	NIOSH	OSHA	PROP 65
Calcium Carbonate	No	No	No	No	No	No	No	No
Crystalline Silica/Quartz	A2	No	1	MAK-1 (respirable fraction)	K (respirable fraction)	Ca	No	Yes (airborne unbound particles of respirable size)
Mineral Spirits	No	No	No	No	No	No	No	No
Titanium Dioxide	A4	No	2B	No	No	Ca	No	Yes (airborne unbound particles of respirable size)

ACGIH TLV-A2: Suspected Human Carcinogen. ACGIH TLV-A4: Not Classifiable as a Human Carcinogen. IARC-1: Carcinogenic to Humans. IARC Group 2B: Possibly Carcinogenic to Humans. MAK-1 Substances that Cause Cancer in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk. NIOSH-Ca: Potential Occupational Carcinogen, with No Further Categorization. NTP-K: Known to Be a Human Carcinogen.

IRRITANCY OF PRODUCT: This product may irritate contaminated tissue, especially if contact is prolonged.

SENSITIZATION TO THE PRODUCT: The components of this product are not known to be human skin or respiratory sensitizers.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: None known.

REPRODUCTIVE TOXICITY INFORMATION: This product has not been tested for reproductive toxicity. The following information is available for some components.

Mutagenicity: The components of this product are not reported to produce mutagenic effects in humans. Animal or microorganism data for components are as follows: Titanium dioxide was not mutagenic to *Salmonella typhimurium* TA1535, TA1537, TA1538, TA97, TA98 or TA100 or to *Escherichia coli* WP2, either in the presence or absence of an exogenous metabolic system from the livers of uninduced and Arochlor-induced rats, mice and Syrian hamsters. Positive results for Carbon Black have been obtained in somatic cells following live animal inhalation exposure.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All release to terrestrial, atmospheric and aquatic environments should be avoided.

OTHER ADVERSE EFFECTS: This material is not expected to have any ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: As supplied, this product would not be a hazardous waste as defined by U.S. federal regulation (40 CFR 261) if discarded or disposed. State and local regulations may differ from federal regulations. The generator of the waste is responsible for proper waste determination and management.

U.S. EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: This product is NOT classified as Dangerous Goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is NOT classified as dangerous goods, per the International Air Transport Association.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not classified as dangerous goods, per the International Maritime Organization.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

U.S. SARA Reporting Requirements: No component of this product is subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No

U.S. TSCA Inventory Status: All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

U.S. CERCLA Reportable Quantity (RQ): Not applicable.

U.S. Clean Air Act (CA 112r) Threshold Quantity (TQ): Not applicable.

Other U.S. Federal Regulations: Not applicable.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): The trace Quartz component (airborne, unbound particles of respirable size) is found on the Proposition 65 List of chemicals known to the state to cause cancer. Due to the form of the product, the Proposition 65 warning for Quartz is not applicable to this compound in this product.

CANADIAN REGULATIONS:

Canadian DSL/NDSL Inventory Status: The components of this product listed by CAS# in Section 3 (MATERIAL IDENTIFICATION) are listed on the DSL Inventory.

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: Not applicable.

Canadian WHMIS (HPR-GHS) 2015 Classification and Symbols: See Section 16 for in Classification and Symbols under HPR-GHS 2015.

MEXICAN REGULATIONS:

Mexican Workplace Regulations (NOM-018-STPS-2000): This product is not classified as hazardous.

16. OTHER INFORMATION

WARNINGS (per ANSI Z129.1): WARNING! MAY CAUSE SKIN IRRITATION, ESPECIALLY IF EXPOSURE IS PROLONGED. CONTAINS TRACE AMOUNT OF CRYSTALLINE SILICA, A KNOWN HUMAN CARCINOGEN BY INHALATION. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Keep away from heat and flame. Wear gloves, eye protection, respiratory protection, and appropriate body protection. FIRST-AID: In case of contact, immediately flush skin and eyes with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention. IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO₂. IN CASE OF SPILL: Absorb spilled product with polypads or other suitable absorbing material. Place all spill residue in an appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada.

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with the Global Harmonization Standard.

Classification: Skin Irritation Category 2

Signal Word: Warning

Hazard Statements: H315: Causes skin irritation.

Precautionary Statements:

Prevention: P264: Wash thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P332 + P313: If skin irritation occurs, get medical attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P321: Specific treatment (remove from exposure and treat symptoms). Refer to other portions of precautionary text on this label, SDS or other product information sheets, as appropriate.

Storage: None.

Disposal: None

Hazard Symbols/Pictogram: GHS07

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information presented in this Material Safety Data Sheet is presented in good faith based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale.

All materials may present hazards and should be used with caution. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices or applicable federal, state, or local laws or regulations. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

REFERENCES AND DATA SOURCES: Contact the supplier for information.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Bridging principles were used to classify this product.

REVISION DETAILS: February 2012: Up-date and revise entire SDS to include current GHS requirements. May 2012: Up-date for formulation change.

December 2012: Revision due to formula change. April 2014: Addition of missing GHS Symbol. December 2016: Revision of SDS due formulation revision. Up-date entire SDS accordingly.

DATE OF PRINTING

December 6, 2016

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these, which are commonly used,

KEY ACRONYMS:

CHEMTREC: Chemical Transportation Emergency Center, a 24-hour emergency information and/or emergency assistance to emergency responders.

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed humans. 2: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed mammals. 3A: Substances that have been shown to induce genetic damage in germ cells of human or animals, or which produce mutagenic effects in somatic cells of mammals *in vivo* and have been shown to reach the germ cells in an active form. 3B: Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell *in vivo*; in exceptional cases, substances for which there are no *in vivo* data, but that are clearly mutagenic *in vitro* and structurally related to known *in vivo* mutagens. 4: Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) 5: Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Pregnancy Risk Group Classification: **Group A:** A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A-C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

PEL: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL" is placed next to the PEL that was vacated by Court Order.

SKIN: Used when there is a danger of cutaneous absorption.

KEY ACRONYMS (continued):

STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: 0 **Minimal Hazard:** No significant health risk, irritation of skin or eyes not anticipated. *Skin Irritation:* Essentially non-irritating. Mechanical irritation may occur. PII or Draize = 0. *Eye Irritation:* Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. Draize = 0. *Oral Toxicity LD₅₀ Rat:* > 5000 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* > 2000 mg/kg. *Inhalation Toxicity 4-hrs LC₅₀ Rat:* > 20 mg/L. 1 **Slight Hazard:** Minor reversible injury may occur; may irritate the stomach if swallowed; may defat the skin and exacerbate existing dermatitis. *Skin Irritation:* Slightly or mildly irritating. PII or Draize > 0 < 5. *Eye Irritation:* Slightly to mildly irritating, but reversible within 7 days. Draize > 0 ≤ 25. *Oral Toxicity LD₅₀ Rat:* > 500-5000 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* > 1000-2000 mg/kg. *Inhalation Toxicity LC₅₀ 4-hrs Rat:* > 2-20 mg/L. 2 **Moderate Hazard:** Temporary or transitory injury may occur; prolonged exposure may affect the CNS. *Skin Irritation:* Moderately irritating; primary irritant; sensitizer. PII or Draize ≥ 5, with no destruction of dermal tissue. *Eye Irritation:* Moderately to severely irritating; reversible corneal opacity; corneal involvement or irritation clearing in 8-21 days. Draize = 26-100, with reversible effects. *Oral Toxicity LD₅₀ Rat:* > 50-500 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* > 200-1000 mg/kg. *Inhalation Toxicity LC₅₀ 4-hrs Rat:* > 0.5-2 mg/L. 3 **Serious Hazard:** Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation:* Severely irritating and/or corrosive; may cause destruction of dermal tissue, skin burns, and dermal necrosis. PII or Draize > 5-8, with destruction of tissue. *Eye Irritation:* Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize ≥ 80 with effects irreversible in 21 days. *Oral Toxicity LD₅₀ Rat:* > 1-50 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* > 20-200 mg/kg. *Inhalation Toxicity LC₅₀ 4-hrs Rat:* > 0.05-0.5 mg/L. 4 **Severe Hazard:** Life-threatening; major or permanent damage may result from single or repeated exposure; extremely toxic; irreversible injury may result from brief contact. *Skin Irritation:* Not appropriate. Do not rate as a 4, based on skin irritation alone. *Eye Irritation:* Not appropriate. Do not rate as a 4, based on eye irritation alone. *Oral Toxicity LD₅₀ Rat:* ≤ 1 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* ≤ 20 mg/kg. *Inhalation Toxicity LC₅₀ 4-hrs Rat:* ≤ 0.05 mg/L.

include the following:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

FLAMMABILITY HAZARD: 0 **Minimal Hazard:** Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes. 1 **Slight Hazard:** Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C (200°F) (i.e. OSHA Class IIIB); and Most ordinary combustible materials (e.g. wood, paper, etc.). 2 **Moderate Hazard:** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors. 3 **Serious Hazard:** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions. This usually includes the following: Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 38°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids); and Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). 4 **Severe Hazard:** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric).

PHYSICAL HAZARD: 0 **Water Reactivity:** Materials that do not react with water. **Organic Peroxides:** Materials that are normally stable, even under fire conditions and will not react with water. **Explosives:** Substances that are Non-Explosive. **Compressed Gases:** No Rating. **Pyrophorics:** No Rating. **Oxidizers:** No 0 rating. **Unstable Reactives:** Substances that will not polymerize, decompose, condense, or self-react. 1 **Water Reactivity:** Materials that change or decompose upon exposure to moisture. **Organic Peroxides:** Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. **Explosives:** Division 1.5 & 1.6 explosives. **Substances:** that are very insensitive explosives or that do not have a mass explosion hazard. **Compressed Gases:** Pressure below OSHA definition. **Pyrophorics:** No Rating. **Oxidizers:** Packaging Group III oxidizers. **Solids:** any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. **Liquids:** any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. **Unstable Reactives:** Substances that may decompose, condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosion hazard. **Substances:** that readily undergo hazardous polymerization in the absence of inhibitors. 2 **Water Reactivity:** Materials that may react violently with water. **Organic Peroxides:** Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. **Explosives:** Division 1.4 explosives. **Explosive substances:** where the explosive effects are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. **Compressed Gases:** Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. **Pyrophorics:** No Rating. **Oxidizers:** Packing Group II oxidizers. **Solids:** any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. **Liquids:** any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. **Reactives:** Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential (or low risk) for significant heat generation or explosion. **Substances:** that readily form peroxides upon exposure to air or oxygen at room temperature. 3 **Water Reactivity:** Materials that may form explosive reactions with water. **Organic Peroxides:** Materials that are capable of detonation or explosive reaction, but require a strong initiating source or must be heated under confinement before initiation; or materials that react explosively with water. **Explosives:** Division 1.3 explosives. **Explosive substances:** that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. **Compressed Gases:** Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. **Pyrophorics:** No Rating. **Oxidizers:** Packing Group I oxidizers. **Solids:** any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3:2 potassium bromate/cellulose mixture. **Liquids:** any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. **Unstable Reactives:** Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a moderate potential (or moderate risk) to cause significant heat generation or explosion. 4 **Water Reactivity:** Materials that react explosively with water without requiring heat or confinement. **Organic Peroxides:** Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. **Explosives:** Division 1.1 & 1.2 explosives. **Explosive substances:** that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. **Compressed Gases:** No Rating. **Pyrophorics:** Add to the definition of Flammability 4. **Oxidizers:** No 4 rating. **Unstable Reactives:** Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion. **Pyrophorics:** Add to the definition of Flammability 4. **Oxidizers:** No 4 rating. **Unstable Reactives:** Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion.

DEFINITIONS OF TERMS (Continued)

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS

HEALTH HAZARD: 0 Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors with an LC₅₀ for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 200 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD₅₀ for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-irritating to the respiratory tract, eyes, and skin. 1 Materials that, under emergency conditions, can cause significant irritation. Gases and vapors with an LC₅₀ for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 10 mg/L but less than or equal to 200 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes and skin. Materials with an LD₅₀ for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. 2 Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases with an LC₅₀ for acute inhalation toxicity greater than 3,000 ppm but less than or equal to 5,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 200 mg/kg but less than or equal to 1000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. Materials whose LD₅₀ for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. 3 Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC₅₀ for acute inhalation toxicity greater than 1,000 ppm but less than or equal to 3,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials corrosive to the skin. Cryogenic gases that cause frostbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -55°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials with an LD₅₀ for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg. 4 Materials that, under emergency conditions, can be lethal. Gases with an LC₅₀ for acute inhalation toxicity less than or equal to 1,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 1000 ppm. Dusts and mists whose LC₅₀ for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD₅₀ for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD₅₀ for acute oral toxicity is less than or equal to 5 mg/kg.

FLAMMABILITY HAZARD: 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D of NFPA 704. 1 Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D of NFPA 704. Liquids, solids, and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids) Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the *Method of Testing for Sustained Combustibility*, per 49 CFR 173, Appendix H or the UN *Recommendations on the Transport of Dangerous Goods, Model Regulations* (current edition) and the related *Manual of Tests and Criteria* (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85% by weight. Liquids that have no fire point when tested by ASTM D 92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*, up to the boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Most ordinary combustible materials. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 2 Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures with air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 3 Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IB and IC liquids). Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 4 Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

INSTABILITY HAZARD: 0 Materials that in themselves are normally stable, even under fire conditions. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry. 1 Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. 2 Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100 W/mL. 3 Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. 4 Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). **Flash Point:** Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. **Autoignition Temperature:** Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition. **LEL:** Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. **UEL:** Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented **LD₅₀:** Lethal Dose (solids & liquids) that kills 50% of the exposed animals. **LC₅₀:** Lethal Concentration (gases) that kills 50% of the exposed animals. **ppm:** Concentration expressed in parts of material per million parts of air or water. **mg/m³:** Concentration expressed in weight of substance per volume of air. **mg/kg:** Quantity of material, by weight, administered to a test subject, based on their body weight in kg. **TDL₀:** Lowest dose to cause a symptom. **TCL₀:** Lowest concentration to cause a symptom. **TD₀, LD₀, and LD₀₁, or TC, TC₀, LCL₀, and LCO:** Lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** **IARC:** International Agency for Research on Cancer. **NTP:** National Toxicology Program. **RTECS:** Registry of Toxic Effects of Chemical Substances. **IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other Information:** **BEI:** ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

REPRODUCTIVE INFORMATION: A **mutagen** is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An **embryotoxin** is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A **teratogen** is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A **reproductive toxin** is any substance that interferes in any way with the reproductive process.

ECOLOGICAL INFORMATION:

EC: Effect concentration in water. **BCF:** Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. **TL_m:** Median threshold limit. **log K_{ow}** or **log K_{oc}:** Coefficient of Oil/Water Distribution is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION: This section explains the impact of various laws and regulations on the material.

U.S.:

EPA: U.S. Environmental Protection Agency. **ACGIH:** American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits. **OSHA:** U.S. Occupational Safety and Health Administration. **NIOSH:** National Institute of Occupational Safety and Health, which is the research arm of OSHA. **DOT:** U.S. Department of Transportation. **TC:** Transport Canada. **SARA:** Superfund Amendments and Reauthorization Act. **TSCA:** U.S. Toxic Substance Control Act. **CERCLA:** Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material's package label.

CANADA:

WHMIS: Canadian Workplace Hazardous Materials Information System. **TC:** Transport Canada. **DSL/NDSL:** Canadian Domestic/Non-Domestic Substances List.

SAFETY DATA SHEET



AC-20[®] +Silicone Black

1. PRODUCT IDENTIFICATION

IDENTIFICATION of the SUBSTANCE or PREPARATION

TRADE NAME (AS LABELED):	AC-20 [®] +Silicone Black
PRODUCT DESCRIPTION:	Acrylic Latex Sealant
CHEMICAL NAME/CLASS:	Acrylic Latex
OTHER MEANS OF IDENTIFICATION/SYNONYMS	None
RELEVANT USE:	Sealant
USES ADVISED AGAINST:	Other Than Relevant Use

COMPANY/UNDERTAKING IDENTIFICATION:

SUPPLIER/MANUFACTURER'S NAME:	Pecora Corporation
ADDRESS:	165 Wambold Road, Harleysville, PA 19438
EMERGENCY PHONE:	800-424-9300 (CHEMTREC, 24-hours)
BUSINESS PHONE:	215-723-6051 (Mon-Fri, 8 AM-5 PM ET)

PREPARATION DATE:	December 8, 2016
REVISION DATE:	New

This product is sold for commercial use. This SDS has been developed to address safety concerns of those individuals working with bulk quantities of this material, as well as those of potential users of this product in industrial/occupational settings. ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian WHMIS 2015 and the Global Harmonization required information is included in appropriate sections based on the Global Harmonization Standard format. This product has been classified in accordance with the hazard criteria of the countries listed above and the SDS contains all the information required by the Canadian WHMIS 2015 (HPR-GHS), the Global Harmonization Standard and OSHA 1910.120.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with Global Harmonization Standard under U.S. OSHA Hazard Communication Standard, Canadian WHMIS HPR-GHS 2015

Classification: Skin Irritation Cat. 2

Signal Word: Warning

Hazard Statement Codes: H315

Precautionary Statement Codes: P264, P280, P302 + P352, P332 + P313, P362 + P364, P321

Hazard Symbols/Pictogram: GHS07



EMERGENCY OVERVIEW:

Physical Description: This product is a smooth, black paste with an acrylic odor.

Health Hazards: CAUTION! May cause skin irritation, especially if exposure is prolonged. May be harmful if ingested. Contains (Crystalline Silica), a known human carcinogen by inhalation of particles.

Flammability Hazards: This product is combustible and can ignite if exposed to high temperature or direct flame.

Reactivity Hazards: This product is not reactive.

Environmental Hazard: This product has not been tested for environmental impact. This product contains a compound that can cause chronic aquatic toxicity.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS[®])

Health	1
Flammability	1
Physical Hazard	0

See Section 16 for definitions of ratings

0 = Minimal 3 = Serious
1 = Slight 4 = Severe
2 = Moderate * = Chronic

HMIS[®] is a registered trademark of the National Paint and Coatings Association.

CANADIAN WHMIS (HPR-GHS) 2015 CLASSIFICATION AND SYMBOLS: See Section 16 for in Classification and Symbols under HPR-GHS 2015.

U.S. OSHA REGULATORY STATUS: This product has a classification under the Global Harmonization Standard, as applied under OSHA regulations, as given earlier in this Section. See Section 16 for full classification details.

3. COMPOSITION and INFORMATION ON INGREDIENTS

Chemical Name	CAS #	W/W%	LABEL ELEMENTS GHS Classification under U.S. OSHA Hazard Communication Standard & Canadian WHMIS (HPR-GHS) 2015 Hazard Statement Codes
Calcium Carbonate	1317-65-3	30.0-60.0	SELF CLASSIFICATION Classification: Not Applicable

3. COMPOSITION and INFORMATION ON INGREDIENTS (Continued)

Chemical Name	CAS#	W/W%	LABEL ELEMENTS GHS Classification under U.S. OSHA Hazard Communication Standard & Canadian WHMIS (HPR-GHS) 2015 Hazard Statement Codes
Proprietary Acrylic Polymer Emulsion		10.0-25.0	SELF CLASSIFICATION Classification: Not Applicable
Proprietary Benzoate Esters		3.0-7.0	SELF CLASSIFICATION Classification: Not Applicable
Proprietary Mineral Spirits (contains less than 0.1% benzene)		1.0-3.0	HARMONISED CLASSIFICATION - ANNEX VI OF REGULATION (EC) NO 1272/2008 (CLP REGULATION) Classification: Aspiration Hazard Cat. 1 Hazard Statement Codes: H304 ADDITIONAL SELF-CLASSIFICATION Classification: Flammable Liquid Cat. 3, Skin Irritation Cat. 2, STOT (Central Nervous System) SE Cat. 3, Aquatic Chronic Cat. 2 Hazard Statement Codes: H226, H315, H336, H411
Quartz	14808-60-7	1.0-2.0	SELF CLASSIFICATION Classification: Carcinogenic Cat. 1B Hazard Statement Codes: H350i
The following are pigments that can be in the product, depending on coloration.			
Carbon Black	1333-86-4	0.1-0.5	SELF-CLASSIFICATION Classification: Carcinogenic Cat. 2 Hazard Statement Codes: H351i
Water and other components. Each of the other components is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).		Balance	Classification: Not Applicable

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

4. FIRST-AID MEASURES

PROTECTION OF FIRST AID RESPONDERS: Rescuers should not attempt to retrieve victims of exposure to this material without adequate personal protective equipment. Rescuers should be taken for medical attention, if necessary.

DESCRIPTION OF FIRST AID MEASURES: Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Remove and isolate contaminated clothing and shoes. Seek immediate medical attention. Take copy of label and MSDS to physician or other health professional with victim(s).

Inhalation: If dusts of this material are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

Skin Exposure: If the material contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 20 minutes. Do not interrupt flushing. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention.

Eye Exposure: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 20 minutes. Do not interrupt flushing.

Ingestion: If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directly by medical personnel. Have victim rinse mouth with water or give several cupfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Dermatitis or other pre-existing skin disorders may be aggravated by exposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure. Persons suffering allergic reactions must seek immediate medical attention.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not determined. **AUTOIGNITION:** Unknown.

FLAMMABLE LIMITS IN AIR: Unknown.

EXTINGUISHING MEDIA:

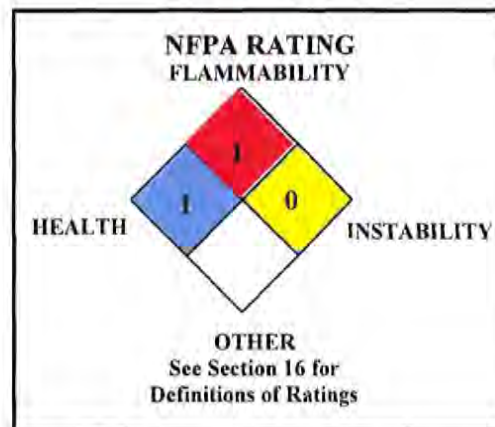
Suitable Extinguishing Media: Use extinguishing material suitable to the surrounding fire, including foam, halon, carbon dioxide and dry chemical.

Unsuitable Extinguishing Media: None known.

PROTECTION OF FIREFIGHTERS:

Special Hazards Arising From The Substance: This product is combustible and can be ignited when exposed to its flashpoint. Not sensitive to mechanical impact under normal conditions. Not sensitive to static discharge under normal conditions. Closed containers may develop pressure and rupture in event of fire.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.



6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: An accidental release can result in a fire. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Use only non-sparking tools and equipment during the response. The atmosphere must at least 19.5 percent Oxygen before non-emergency personnel can be allowed in the area without Self-Contained Breathing Apparatus and fire protection.

PERSONAL PROTECTIVE EQUIPMENT: Responders should wear the level of protection appropriate to the type of chemical released, the amount of the material spilled, and the location where the incident has occurred.

Small Spills: For releases of 1 drum or less, Level D Protective Equipment (gloves, chemical resistant apron, boots, and eye protection) should be worn.

Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit, fire-retardant clothing and boots, hard hat, and Self-Contained Breathing Apparatus.**

METHODS FOR CLEAN-UP AND CONTAINMENT:

All Spills: Access to the spill area should be restricted. Spread should be limited by gently covering the spill with polypads. Scrape up or pick-up spilled material, placing in suitable containers. Absorb any residual on appropriate material, such as sand. All contaminated absorbents and other materials should be placed in an appropriate container and seal. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). Dispose of recovered material and report spill per regulatory requirements. Remove all residue before decontamination of spill area. Clean spill area with soap and copious amounts of water.

ENVIRONMENTAL PRECAUTIONS: Minimize use of water to prevent environmental contamination. Prevent spill or rinsate from contaminating storm drains, sewers, soil or groundwater. Place all spill residues in a suitable container and seal. Do not discharge effluent containing this product into streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

OTHER INFORMATION: U.S. regulations may require reporting of spills of this material that reach surface waters if a sheen is formed. If necessary, the toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Use only with adequate ventilation. Keep away from heat and flame. In the event of a spill, follow practices indicated in Section 6: ACCIDENTAL RELEASE MEASURES.

CONDITIONS FOR SAFE STORAGE: This product is stable under ordinary conditions of handling, use and storage. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10: STABILITY AND REACTIVITY). Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. To prolong shelf life, store at temperatures below 26°C (80°F).

PRODUCT END USE: This product is used as a sealant. Follow all industry standards for use of this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below.

Occupational/Workplace Exposure Limits/Guidelines:

Chemical Name	CAS #	Guideline	Value
Acrylic Polymer	Proprietary	NE	NE
Benzoate Esters	Proprietary	NE	NE
Calcium Carbonate	1317-65-3	OSHA PEL TWA NIOSH REL TWA	15 mg/m ³ total dust 5 mg/m ³ respirable fraction 10 mg/m ³ total dust 5 mg/m ³ respirable fraction
Carbon Black	1309-48-4	ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA DFG MAK TWA	3 mg/m ³ (inhalable fraction) 3.5 mg/m ³ 3.5 mg/m ³ (0.1 in the presence of PAHs, as PAHs: 10-hr TWA) As inhalable dust
Crystalline Silica/Quartz	14808-60-7	ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA	0.025 mg/m ³ respirable fraction 30 mg/m ³ / % SiO ₂ + 2 total dust; 10 mg/m ³ / % SiO ₂ + 2 respirable fraction 0.05 mg/m ³ respirable dust, See Pocket Guide Appendix A
Proprietary Mineral Spirits Exposure limits given are for Petroleum Distillates, Naphtha		OSHA PEL TWA NIOSH REL TWA NIOSH REL STEL	2000 mg/m ³ 300 mg/m ³ 1800 mg/m ³ , 15 minutes

NE = Not Established See Section 16 for Definitions of Terms Used.

Biological Exposures Indices (BEIs): Currently, the no BEI's have been established for components.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

PERSONAL PROTECTIVE EQUIPMENT (PPE): The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including the Respiratory Protection Standard (29 CFR 1910.134), Eye Protection Standard 29 CFR 1910.13, the Hand Protection Standard 29 CFR 1910.138, and the Foot Protection Standard 29 CFR 1910.136), equivalent standards of Canada (including the Canadian CSA Respiratory Standard Z94.4-93-02, the CSA Eye Protection Standard Z94.3-M1982, Industrial Eye and Face Protectors and the Canadian CSA Foot Protection Standard Z195-M1984, Protective Footwear). Please reference applicable regulations and standards for relevant details.

Eye/Face Protection: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations and standards.

Skin Protection: Wear chemical impervious gloves (e.g., Nitrile or Neoprene). Use triple gloves for spill response. If necessary, refer to appropriate regulations and standards.

Body Protection: Use body protection appropriate for task (e.g., lab coat, coveralls, Tyvek suit). If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) or appropriate Standards of Canada. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in appropriate regulations and standards.

Respiratory Protection: If mists or sprays from this product are created during use, use appropriate respiratory protection. If necessary, use only respiratory protection authorized in appropriate regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under appropriate regulations and standards.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Smooth paste.

MOLECULAR WEIGHT: Mixture.

ODOR: Acrylic

SPECIFIC GRAVITY: 18.73

RELATIVE VAPOR DENSITY (air = 1): Heavier than air.

SOLUBILITY IN WATER: Soluble.

MELTING/FREEZING POINT: Not available.

VOC (less water and exempt): Not available.

FLASH POINT: Not determined.

pH: Not available.

FLAMMABLE LIMITS (in air by volume, %): Lower: Not established; Upper: Not established.

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not established.

HOW TO DETECT THIS SUBSTANCE (IDENTIFYING PROPERTIES): The appearance of this product may act as an identifying property in the event of an accidental release.

COLOR: Black.

MOLECULAR FORMULA: Mixture.

ODOR THRESHOLD: Not available.

VAPOR PRESSURE, mm Hg @ 20°C: Not established.

EVAPORATION RATE (BuAc = 1): Not determined.

OTHER SOLUBILITIES: Not available.

BOILING POINT: Not established.

WEIGHT % VOC: Not available.

AUTOIGNITION TEMPERATURE: Not established.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under normal circumstances of use and handling. Product cures upon contact with air.

CONDITIONS TO AVOID: Avoid contact with incompatible chemicals and exposure to extreme temperatures.

INCOMPATIBLE MATERIALS: This product is not compatible with strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: **Combustion:** Thermal decomposition of this product can generate dusts, irritating fumes, and toxic gases (e.g., calcium, carbon and magnesium oxides, and acrylic compounds depending on formulation). **Hydrolysis:** None known.

POSSIBILITY OF HAZARDOUS REACTIONS/POLYMERIZATION: This product is not expected to undergo hazardous polymerization, decomposition, condensation, or self-reactivity. Product slowly cures upon contact with air.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS: The most significant routes of occupational exposure are inhalation and contact with skin and eyes.

The symptoms of exposure to this product are as follows:

Contact with Skin or Eyes: Contact may mildly irritate the skin and cause redness and discomfort. Prolonged or repeated skin contact may cause dermatitis (dry, red skin). Eye contact may cause redness, pain, and tearing.

Skin Absorption: The components of this product are not known to be absorbed through intact skin.

Ingestion: If the product is swallowed, it may mildly irritate the mouth, throat, and other tissues of the gastro-intestinal system and may cause nausea, vomiting, and diarrhea.

Inhalation: Exposure to vapors of this product generated during curing, or dusts of this product generated during use after curing may mildly irritate the respiratory tract and cause coughing and sneezing.

Injection: Accidental injection of this product (e.g. puncture with a contaminated object) may cause burning, redness, and swelling in addition to the wound.

Target Organs: **Acute:** Skin, eyes. **Chronic:** Skin.

Chronic Effects: Prolonged or repeated skin contact may cause dermatitis (dry, red skin).

11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA: There are currently no toxicity data available for this product; the following toxicology information is available for components greater than 1% in concentration. Due to large amount of data for components, only Human data, Irritancy data, LD50 Oral-Rat, LD50 Oral-Mouse, LD50 Skin-Rat, LD50 Skin-Rabbit, LC50 Inhalation-Rat, LC50 Inhalation-Mouse and select reproductive toxicity data are provided in this SDS. Contact Pecora for information on additional data.

CALCIUM CARBONATE:

Skin Irritancy (rabbit) = 500 mg/24 hours; moderate

Eye Irritancy (rabbit) = 750 µg/24 hours; severe

LD₅₀ (oral, rat) = 6450 mg/k

CARBON BLACK:

Mutation in microorganisms (*Salmonella typhimurium*, bacteria) = 1 mg/plate

DNA adduct (inhalation, mouse) = 6200 µg/m³/16 hours/12 weeks/intermittent

ACRYLIC POLYMER:

Patch test on human volunteers did not demonstrate sensitization properties.

MINERAL SPIRITS:

Standard Draize Test (Eye-Human) 100 ppm: Mild

Standard Draize Test (Eye-Rabbit) 500 mg/24 hours: Moderate

LC₅₀ (Inhalation-Rat) > 1400 ppm/8 hours

CARCINOGENIC POTENTIAL: The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be or suspected to be a carcinogen by the listed agency, see section 16 for definitions of other ratings.

CHEMICAL	ACGIH	EPA	IARC	DFG MAK	NTP	NIOSH	OSHA	PROP 65
Calcium Carbonate	No	No	No	No	No	No	No	No
Carbon Black	A3	No	2B	3B	No	Ca	No	Yes (airborne unbound particles of respirable size)
Crystalline Silica/Quartz	A2	No	1	MAK-1 (respirable fraction)	K (respirable fraction)	Ca	No	Yes (airborne unbound particles of respirable size)
Mineral Spirits	No	No	No	No	No	No	No	No

ACGIH TLV-A2: Suspected Human Carcinogen. ACGIH TLV-A3: Concerned Animal Carcinogen with Unknown Relevance to Humans. IARC-I: Carcinogenic to Humans. IARC Group 2B: Possibly Carcinogenic to Humans. MAK-1 Substances that Cause Cancer in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk. MAK-B: Substances for Which in vitro Tests or Animal Studies Have Yielded Evidence of Carcinogenic Effects that is Not Sufficient for Classification of the Substance in One of the Other Categories. NIOSH-Ca: Potential Occupational Carcinogen, with No Further Categorization. NTP-K: Known to Be a Human Carcinogen.

IRRITANCY OF PRODUCT: This product may irritate contaminated tissue, especially if contact is prolonged.

SENSITIZATION TO THE PRODUCT: The components of this product are not known to be human skin or respiratory sensitizers.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: None known.

REPRODUCTIVE TOXICITY INFORMATION: This product has not been tested for reproductive toxicity.

Mutagenicity/Embryotoxicity/ Teratogenicity/Reproductive Toxicity: No information available.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All release to terrestrial, atmospheric and aquatic environments should be avoided.

OTHER ADVERSE EFFECTS: This material is not expected to have any ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: As supplied, this product would not be a hazardous waste as defined by U.S. federal regulation (40 CFR 261) if discarded or disposed. State and local regulations may differ from federal regulations. The generator of the waste is responsible for proper waste determination and management.

U.S. EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: This product is NOT classified as Dangerous Goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is NOT classified as dangerous goods, per the International Air Transport Association.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not classified as dangerous goods, per the International Maritime Organization.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

U.S. SARA Reporting Requirements: No component of this product is subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No

U.S. TSCA Inventory Status: All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

15. REGULATORY INFORMATION (Continued)

U.S. REGULATIONS (continued):

U.S. CERCLA Reportable Quantity (RQ): Not applicable.

U.S. Clean Air Act (CA 112r) Threshold Quantity (TQ): Not applicable.

Other U.S. Federal Regulations: Not applicable.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): The Quartz and Carbon Black components (airborne, unbound particles of respirable size) are found on the Proposition 65 List of chemicals known to the state to cause cancer. Due to the form of the product, the Proposition 65 warning for Quartz and Carbon Black is not applicable to this product.

CANADIAN REGULATIONS:

Canadian DSL/NDSL Inventory Status: The components of this product listed by CAS# in Section 3 (MATERIAL IDENTIFICATION) are listed on the DSL Inventory.

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: Not applicable.

Canadian WHMIS (HPR-GHS) 2015 Classification and Symbols: See Section 16 for in Classification and Symbols under HPR-GHS 2015.

MEXICAN REGULATIONS:

Mexican Workplace Regulations (NOM-018-STPS-2000): This product is not classified as hazardous.

16. OTHER INFORMATION

WARNINGS (per ANSI Z129.1): WARNING! MAY CAUSE SKIN IRRITATION, ESPECIALLY IF EXPOSURE IS PROLONGED. CONTAINS TRACE AMOUNT OF CRYSTALLINE SILICA, A KNOWN HUMAN CARCINOGEN BY INHALATION. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Keep away from heat and flame. Wear gloves, eye protection, respiratory protection, and appropriate body protection. FIRST-AID: In case of contact, immediately flush skin and eyes with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention. IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO₂. IN CASE OF SPILL: Absorb spilled product with polypads or other suitable absorbing material. Place all spill residue in an appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada.

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with the Global Harmonization Standard.

Classification: Skin Irritation Category 2

Signal Word: Warning

Hazard Statements: H315: Causes skin irritation.

Precautionary Statements:

Prevention: P264: Wash thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P332 + P313: If skin irritation occurs, get medical attention. P362 +

P364: Take off contaminated clothing and wash it before reuse. P321: Specific treatment (remove from exposure and treat symptoms). Refer to other portions of precautionary text on this label, SDS or other product information sheets, as appropriate.

Storage: None.

Disposal: None

Hazard Symbols/Pictogram: GHS07

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information presented in this Material Safety Data Sheet is presented in good faith based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale.

All materials may present hazards and should be used with caution. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices or applicable federal, state, or local laws or regulations. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

REFERENCES AND DATA SOURCES: Contact the supplier for information.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Bridging principles were used to classify this product.

REVISION DETAILS: February 2012: Up-date and revise entire SDS to include current GHS requirements. May 2012: Up-date for formulation change. December 2012: Revision due to formula change. April 2014: Addition of missing GHS Symbol. December 2016: Revision of SDS due formulation revision. Up-date entire SDS accordingly.

DATE OF PRINTING

December 9, 2016

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these, which are commonly used,

KEY ACRONYMS:

CHEMTREC: Chemical Transportation Emergency Center, a 24-hour emergency information and/or emergency assistance to emergency responders.

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed humans. 2: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed mammals. 3A: Substances that have been shown to induce genetic damage in germ cells of human or animals, or which produce mutagenic effects in somatic cells of mammals *in vivo* and have been shown to reach the germ cells in an active form. 3B: Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell *in vivo*; in exceptional cases, substances for which there are no *in vivo* data, but that are clearly mutagenic *in vitro* and structurally related to known *in vivo* mutagens. 4: Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) 5: Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Pregnancy Risk Group Classification: **Group A:** A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A-C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

PEL: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL" is placed next to the PEL that was vacated by Court Order.

SKIN: Used when there is a danger of cutaneous absorption.

KEY ACRONYMS (continued):

STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: 0 Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. *Skin Irritation:* Essentially non-irritating. Mechanical irritation may occur. PII or Draize = 0. *Eye Irritation:* Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. Draize = 0. *Oral Toxicity LD₅₀ Rat:* > 5000 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* > 2000 mg/kg. *Inhalation Toxicity 4-hrs LC₅₀ Rat:* > 20 mg/L. 1 **Slight Hazard:** Minor reversible injury may occur; may irritate the stomach if swallowed; may defecate the skin and exacerbate existing dermatitis. *Skin Irritation:* Slightly or mildly irritating. PII or Draize > 0 < 5. *Eye Irritation:* Slightly to mildly irritating, but reversible within 7 days. Draize > 0 ≤ 25. *Oral Toxicity LD₅₀ Rat:* > 500-5000 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* > 1000-2000 mg/kg. *Inhalation Toxicity LC₅₀ 4-hrs Rat:* > 2-20 mg/L. 2 **Moderate Hazard:** Temporary or transitory injury may occur; prolonged exposure may affect the CNS. *Skin Irritation:* Moderately irritating; primary irritant; sensitizer. PII or Draize ≥ 5, with no destruction of dermal tissue. *Eye Irritation:* Moderately to severely irritating; reversible corneal opacity; corneal involvement or irritation clearing in 8-21 days. Draize = 26-100, with reversible effects. *Oral Toxicity LD₅₀ Rat:* > 50-500 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* > 200-1000 mg/kg. *Inhalation Toxicity LC₅₀ 4-hrs Rat:* > 0.5-2 mg/L. 3 **Serious Hazard:** Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation:* Severely irritating and/or corrosive; may cause destruction of dermal tissue, skin burns, and dermal necrosis. PII or Draize > 5-8, with destruction of tissue. *Eye Irritation:* Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize ≥ 80 with effects irreversible in 21 days. *Oral Toxicity LD₅₀ Rat:* > 1-50 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* > 20-200 mg/kg. *Inhalation Toxicity LC₅₀ 4-hrs Rat:* > 0.05-0.5 mg/L. 4 **Severe Hazard:** Life-threatening; major or permanent damage may result from single or repeated exposure; extremely toxic; irreversible injury may result from brief contact. *Skin Irritation:* Not appropriate. Do not rate as a 4, based on skin irritation alone. *Eye Irritation:* Not appropriate. Do not rate as a 4, based on eye irritation alone. *Oral Toxicity LD₅₀ Rat:* ≤ 1 mg/kg. *Dermal Toxicity LD₅₀ Rat or Rabbit:* ≤ 20 mg/kg. *Inhalation Toxicity LC₅₀ 4-hrs Rat:* ≤ 0.05 mg/L.

include the following:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

FLAMMABILITY HAZARD: 0 Minimal Hazard: Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes. 1 **Slight Hazard:** Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C (200°F) (i.e. OSHA Class IIIB); and Most ordinary combustible materials (e.g. wood, paper, etc.). 2 **Moderate Hazard:** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors. 3 **Serious Hazard:** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions. This usually includes the following: Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 38°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids); and Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). 4 **Severe Hazard:** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric).

PHYSICAL HAZARD: 0 Water Reactivity: Materials that do not react with water. *Organic Peroxides:* Materials that are normally stable, even under fire conditions and will not react with water. *Explosives:* Substances that are Non-Explosive. *Compressed Gases:* No Rating. *Pyrophorics:* No Rating. *Oxidizers:* No 0 rating. *Unstable Reactives:* Substances that will not polymerize, decompose, condense, or self-react. 1 **Water Reactivity:** Materials that change or decompose upon exposure to moisture. *Organic Peroxides:* Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. *Explosives:* Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases:* Pressure below OSHA definition. *Pyrophorics:* No Rating. *Oxidizers:* Packaging Group III oxidizers; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives:* Substances that may decompose, condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosion hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors. 2 **Water Reactivity:** Materials that may react violently with water. *Organic Peroxides:* Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives:* Division 1.4 explosives. Explosive substances where the explosive effects are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases:* Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics:* No Rating. *Oxidizers:* Packing Group II oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Reactives:* Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential (or low risk) for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature. 3 **Water Reactivity:** Materials that may form explosive reactions with water. *Organic Peroxides:* Materials that are capable of detonation or explosive reaction, but require a strong initiating source or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives:* Division 1.3 explosives. Explosive substances that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases:* Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics:* No Rating. *Oxidizers:* Packing Group I oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3:2 potassium bromate/cellulose mixture. Liquids: any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives:* Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a moderate potential (or moderate risk) to cause significant heat generation or explosion. 4 **Water Reactivity:** Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides:* Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives:* Division 1.1 & 1.2 explosives. Explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases:* No Rating. *Pyrophorics:* Add to the definition of Flammability 4. *Oxidizers:* No 4 rating. *Unstable Reactives:* Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion. *Pyrophorics:* Add to the definition of Flammability 4. *Oxidizers:* No 4 rating. *Unstable Reactives:* Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion.

DEFINITIONS OF TERMS (Continued)

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS

HEALTH HAZARD: 0 Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors with an LC₅₀ for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 200 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD₅₀ for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-irritating to the respiratory tract, eyes, and skin. 1 Materials that, under emergency conditions, can cause significant irritation. Gases and vapors with an LC₅₀ for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 10 mg/L but less than or equal to 200 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes and skin. Materials with an LD₅₀ for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. 2 Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases with an LC₅₀ for acute inhalation toxicity greater than 3,000 ppm but less than or equal to 5,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 200 mg/kg but less than or equal to 1000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. Materials whose LD₅₀ for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. 3 Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC₅₀ for acute inhalation toxicity greater than 1,000 ppm but less than or equal to 3,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Dusts and mists with an LC₅₀ for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an LD₅₀ for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials corrosive to the skin. Cryogenic gases that cause frostbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -55°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials with an LD₅₀ for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg. 4 Materials that, under emergency conditions, can be lethal. Gases with an LC₅₀ for acute inhalation toxicity less than or equal to 1,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC₅₀ for acute inhalation toxicity, if its LC₅₀ is less than or equal to 1000 ppm. Dusts and mists whose LC₅₀ for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD₅₀ for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD₅₀ for acute oral toxicity is less than or equal to 5 mg/kg.

FLAMMABILITY HAZARD: 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D of NFPA 704. 1 Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur: Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D of NFPA 704. Liquids, solids, and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the *Method of Testing for Sustained Combustibility*, per 49 CFR 173, Appendix H or the *UN Recommendations on the Transport of Dangerous Goods, Model Regulations* (current edition) and the related *Manual of Tests and Criteria* (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85% by weight. Liquids that have no fire point when tested by ASTM D 92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*, up to the boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Most ordinary combustible materials. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 2 Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures with air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 3 Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IB and IC liquids). Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 4 Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air, Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

INSTABILITY HAZARD: 0 Materials that in themselves are normally stable, even under fire conditions. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry. 1 Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. 2 Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100W/mL. 3 Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. 4 Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). **Flash Point:** Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. **Autoignition Temperature:** Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition. **LEL:** Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. **UEL:** Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. **LD₅₀:** Lethal Dose (solids & liquids) that kills 50% of the exposed animals. **LC₅₀:** Lethal Concentration (gases) that kills 50% of the exposed animals. **ppm:** Concentration expressed in parts of material per million parts of air or water. **mg/m³:** Concentration expressed in weight of substance per volume of air. **mg/kg:** Quantity of material, by weight, administered to a test subject, based on their body weight in kg. **TDL₀:** Lowest dose to cause a symptom. **TCL₀:** Lowest concentration to cause a symptom. **TDL₀**, **LD₀**, and **LD₀**, or **TC**, **TC₀**, **LCL₀**, and **LCO₀**: Lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** **IARC:** International Agency for Research on Cancer. **NTP:** National Toxicology Program. **RTECS:** Registry of Toxic Effects of Chemical Substances. **IARC and NTP** rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information:** **BEI:** ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

REPRODUCTIVE INFORMATION: A **mutagen** is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An **embryotoxin** is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A **teratogen** is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A **reproductive toxin** is any substance that interferes in any way with the reproductive process.

ECOLOGICAL INFORMATION:

EC: Effect concentration in water. **BCF:** Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. **TL_m:** Median threshold limit. **log K_{OW}** or **log K_{OC}:** Coefficient of Oil/Water Distribution is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION: This section explains the impact of various laws and regulations on the material.

U.S.:

EPA: U.S. Environmental Protection Agency. **ACGIH:** American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits. **OSHA:** U.S. Occupational Safety and Health Administration. **NIOSH:** National Institute of Occupational Safety and Health, which is the research arm of OSHA. **DOT:** U.S. Department of Transportation. **TC:** Transport Canada. **SARA:** Superfund Amendments and Reauthorization Act. **TSCA:** U.S. Toxic Substance Control Act. **CERCLA:** Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material's package label.

CANADA:

WHMIS: Canadian Workplace Hazardous Materials Information System. **TC:** Transport Canada. **DSL/NDSL:** Canadian Domestic/Non-Domestic Substances List.

SAFETY DATA SHEET


Acetylene

Airgas
an Air Liquide company

Section 1. Identification

GHS product identifier	: Acetylene
Chemical name	: acetylene
Other means of identification	: Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene
Product type	: Gas.
Product use	: Synthetic/Analytical chemistry.
Synonym	: Ethyne; Ethine; Narcylen; C2H2; Acetylen; UN 1001; Vinylene
SDS #	: 001001
Supplier's details	: Airgas USA, LLC and its affiliates 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
24-hour telephone	: 1-866-734-3438

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas
GHS label elements	
Hazard pictograms	: 
Signal word	: Danger
Hazard statements	: Extremely flammable gas. Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation. May form explosive mixtures with air.
Precautionary statements	
General	: Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Fusible plugs in top, bottom, or valve melt at 98°C to 107°C (208°F to 224°F). Do not discharge at pressures above 15psig (103kpa). Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Approach suspected leak area with caution.
Prevention	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Response	: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leakage, eliminate all ignition sources.
Storage	: Protect from sunlight. Store in a well-ventilated place.
Disposal	: Not applicable.
Hazards not otherwise classified	: In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Section 3. Composition/information on ingredients

Substance/mixture	: Substance
Chemical name	: acetylene
Other means of identification	: Ethyne; Ethine; Narcylen; C ₂ H ₂ ; Acetylen; UN 1001; Vinylene
Product code	: 001001

CAS number/other identifiers

CAS number : 74-86-2

Ingredient name	%	CAS number
Acetylene	100	74-86-2

Any concentration shown as a range is to protect confidentiality or is due to batch 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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Skin contact	: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur.
Ingestion	: As this product is a gas, refer to the inhalation section.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Contact with rapidly expanding gas may cause burns or frostbite.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Contact with rapidly expanding gas may cause burns or frostbite.
Frostbite	: Try to warm up the frozen tissues and seek medical attention.
Ingestion	: As this product is a gas, refer to the inhalation section.

Over-exposure signs/symptoms

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

Large spill : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical

Section 7. Handling and storage

(ventilating, lighting and material handling) equipment.

Advice on general occupational hygiene

- : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

- : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Acetylene	<p>NIOSH REL (United States, 10/2020). CEIL: 2662 mg/m³ CEIL: 2500 ppm</p> <p>ACGIH TLV (United States, 1/2021). Oxygen Depletion [Asphyxiant]. Explosive potential.</p> <p>California PEL for Chemical Contaminants (Table AC-1) (United States). Oxygen Depletion [Asphyxiant].</p>

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures 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 protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. 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.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Gas.
- Color** : Colorless.
- Odor** : Mild. Ethereal.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point** : -81°C (-113.8°F)
- Boiling point** : Not available.
- Critical temperature** : 35.25°C (95.5°F)
- Flash point** : Closed cup: -18.15°C (-0.67°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.
Highly flammable in the presence of the following materials or conditions: heat.
- Lower and upper explosive (flammable) limits** : Lower: 2.5%
Upper: 100%
- Vapor pressure** : 635 (psig)
- Vapor density** : 0.907 (Air = 1)
- Specific Volume (ft³/lb)** : 14.7058
- Gas Density (lb/ft³)** : 0.0691
- Relative density** : Not applicable.
- Solubility in water** : 1.2 g/l
- Partition coefficient: n-octanol/water** : 0.37
- Auto-ignition temperature** : 305°C (581°F)
- Decomposition temperature** : Not available.
- Flow time (ISO 2431)** : Not available.
- Molecular weight** : 26.04 g/mole
- Aerosol product**
- Heat of combustion** : -48257522 J/kg

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Incompatible materials** : Oxidizers
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Contact with rapidly expanding gas may cause burns or frostbite.

Inhalation : No known significant effects or critical hazards.

Section 11. Toxicological information

- Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.
Ingestion : As this product is a gas, refer to the inhalation section.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
Potential delayed effects : Not available.

Long term exposure

- Potential immediate effects** : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Not available.

- General** : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Acetylene	0.37	-	low

Mobility in soil

- Soil/water partition coefficient (K_{oc})** : Not available.






Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	DOT	TDG	Mexico	IMDG	IATA
UN number	UN1001	UN1001	UN1001	UN1001	UN1001
UN proper shipping name	Acetylene, dissolved	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	ACETYLENE, DISSOLVED	Acetylene, dissolved
Transport hazard class(es)	2.1 	2.1 	2.1 	2.1 	2.1 
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

"Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product."

Additional information

- DOT Classification** : **Limited quantity** No.
Packaging instruction Exceptions: None. Non-bulk: 303. Bulk: None.
Quantity limitation Passenger aircraft/rail: Forbidden. Cargo aircraft: 15 kg.
Special provisions N86, N88
- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).
Explosive Limit and Limited Quantity Index
 0
Passenger Carrying Vessel Index
 75
Passenger Carrying Road or Rail Index
 Forbidden
Special provisions
 38
- IMDG** : **Emergency schedules** _F-D_, _S-U_

Section 14. Transport information

IATA : **Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Packaging instructions: Forbidden. Cargo Aircraft Only: 15 kg. Packaging instructions: 200. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
Special provisions A1

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
Clean Air Act (CAA) 112 regulated flammable substances: acetylene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

State regulations

Massachusetts : This material is listed.

New York : This material is not listed.

New Jersey : This material is listed.

Pennsylvania : This material is listed.

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

Section 15. Regulatory information

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: This material is listed or exempted.
Canada	: This material is listed or exempted.
China	: This material is listed or exempted.
Eurasian Economic Union	: Russian Federation inventory: Not determined.
Japan	: Japan inventory (CSCL): This material is listed or exempted. Japan inventory (ISHL): Not determined.
New Zealand	: This material is listed or exempted.
Philippines	: This material is listed or exempted.
Republic of Korea	: This material is listed or exempted.
Taiwan	: This material is listed or exempted.
Thailand	: This material is listed or exempted.
Turkey	: This material is listed or exempted.
United States	: This material is active or exempted.
Viet Nam	: This material is listed or exempted.

Section 16. Other information

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

Health	/ 0
Flammability	4
Physical hazards	3

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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



Note: The instability hazard rating for acetylene, dissolved (stabilized acetylene) is 2.

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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas	Expert judgment According to package

Section 16. Other information

History

Date of printing : 10/8/2022

Date of issue/Date of revision : 10/8/2022

Date of previous issue : 9/1/2022

Version : 5.02

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

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.

Safety Data Sheet

Acetylene

PurityPlus Gases
6331 East 30th Street
P.O. Box 19907
Indianapolis, IN 46219-0907
317.562.1483 (tel)
317.562.1484 (fax)

Section 1: Product and Company Identification

PurityPlus Gases
6331 East 30th Street
P.O. Box 19907
Indianapolis, IN 46219-0907
317.562.1483 (tel)
317.562.1484 (fax)

Product Code: Acetylene

Section 2: Hazards Identification



Danger

Hazard Classification:

Flammable (Category 1)
Gases Under Pressure

Hazard Statements:

Contains gas under pressure; may explode if heated
Extremely flammable gas

Precautionary Statements

Prevention:

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

Response:

Eliminate all ignition sources if safe to do so.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Storage:

Protect from sunlight.
Store in well-ventilated place.

Section 3: Composition/Information on Ingredients

CAS #

74-86-2

Chemical Substance	Chemical Family	Trade Names
ACETYLENE, DISSOLVED	hydrocarbons, aliphatic	ACETYLENE; ETHYNE; WELDING GAS; ACETYLEN; ETHINE; NARCYLEN; VINYLENE; UN 1001; C2H2

Section 4: First Aid Measures

Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Gas: Not applicable. Liquid: Wash exposed skin with soap and water.	Gas: Not applicable. Liquid: Flush eyes with plenty of water.	Not applicable.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen.

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray.	Oxides of carbon	<ul style="list-style-type: none">Respiratory protection may be needed for frequent or heavy exposure.Any self-contained breathing apparatus with a full facepiece.

Section 6: Accidental Release Measures

Personal Precautions	Environmental Precautions	Methods for Containment
Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.	Avoid heat, flames, sparks and other sources of ignition.	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition.

Methods for Cleanup	Other Information
Evacuate, stop leak if possible. Remove sources of ignition.	None

Section 7: Handling and Storage

Handling	Storage
Avoid heat, flames, sparks and other sources of ignition. Grounding and bonding required. Secure to prevent tipping. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.	Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store outside or in a detached building. Keep separated from incompatible substances. Store in a cool, dry place. Store in a well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines
ACETYLENE, DISSOLVED: ACETYLENE: ACGIH (simple asphyxiant) 2500 ppm (2662 mg/m ³) NIOSH recommended ceiling

Engineering Controls

Handle only in fully enclosed systems.

Eye Protection	Skin Protection	Respiratory Protection
Eye protection not required, but recommended.	Protective clothing is not required.	Respiratory protection may be needed for frequent or heavy exposure.

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Gas	Colorless	Colorless	N/A	Liquefied gas	Sweet odor	N/A

Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Flammable gas. Can be ignited at all normal temperatures. A flash point of 0 F (-18 C) (CC) has been reported.		2691.53 (log = 3.44) (estimated from water solubility)	581 F (305 C)	81%; 100% if there is a substantial energy ignition source, and under certain conditions of pressure, container size and shape.	0.025

Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
-103 F (-75 C) @ 170 kPa abs (24.7 psi abs) or 69 kPa gage (10 psi gage)	Not available	760 mmHg @ -84 C	0.9 (Air=1)	Not applicable	0.94% @ 25 C	Not applicable	240 mg/m ³ (226 ppm) (detection) (4); 657 mg/m ³ (620 ppm) (not specified) (8) 1300-2750 mg/m ³ (1222-2585 ppm) (not specified)	Not applicable	0.010 cP @ 20 C

Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
26.04	H-C-C-H	1.1747 g/L @ 0 C	Not available	Not available	Not applicable	Soluble: Acetone, benzene, chloroform, ether

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
May decompose violently on heating. May explode when heated.	May decompose violently on heating. May explode when heated.	Metals, halogens, oxidizing materials, metal carbide, reducing agents, halo carbons BRASS, CALCIUM HYPOCHLORITE, COPPER, MERCURY AND SILVER SALTS, HALOGENS, HEAVY METALS, HYDRIDES, LIQUID NITROGEN, NITRIC ACID, OXYGEN, OZONE, PERCHLORIC ACID, POTASSIUM

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Hydrogen	Polymerizes with evolution of heat. Avoid contact with curing agents, accelerators, and/or initiators.

Section 11: Toxicology Information

Acute Effects

Oral LD50	Dermal LD50	Inhalation
Not established	Not established	Nausea, vomiting, chest pain, wheezing, headache, drowsiness, dizziness, loss of coordination, bluish skin color, suffocation, lung congestion, coma

Eye Irritation	Skin Irritation	Sensitization
No information on significant adverse effects	Rash	Central nervous system depression, difficulty breathing, asphyxiant

Chronic Effects

Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Not established	Not established	Not established	No data

Section 12: Ecological Information

Fate and Transport

Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Relatively non-persistent in the environment. Highly volatile from water.	Accumulates very little in the bodies of living organisms.	Not expected to leach through the soil or the sediment.

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001, D003.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
Acetylene, dissolved	UN1001	2.1	Not applicable	2.1	Forbidden	15 kg	N/A

Canadian Transportation of Dangerous Goods

Shipping Name	UN Number	Class	Packing Group / Risk Group
Acetylene, dissolved	UN1001	2.1	Not applicable

Section 15: Regulatory Information

U.S. Regulations

CERCLA Sections	SARA 355.30	SARA 355.40
Not regulated.	Not regulated.	Not regulated.

SARA 370.21

Acute	Chronic	Fire	Reactive	Sudden Release

Yes	No	Yes	Yes	Yes
-----	----	-----	-----	-----

SARA 372.65

Not regulated.

OSHA Process Safety

Not regulated.

State Regulations

CA Proposition 65

Not regulated.

Canadian Regulations

WHMIS Classification

A, B1

National Inventory Status

US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating

HEALTH=1 FIRE=4 REACTIVITY=3

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

MIXTURE IDENTIFICATION:

Trade name: **AKCELA HY-TRAN ULTRACTION**

Trade code: 76060

Registration Number N/A

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

RECOMMENDED USE: Lubricant for transmission system.

USES ADVISED AGAINST: This product should not be used for other purposes than those specified without the advice of an expert.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

COMPANY: PETRONAS LUBRICANTS ITALY S.P.A.

Via Santena 1

10029 Villastellone (Torino)

Tel: +39.01196131 Fax : +39.0119613313

COMPETENT PERSON FOR SAFETY DATA OF PRODUCT:

Information on the legislation compliance info-regulation.eu@pli-petronas.com

1.4. EMERGENCY TELEPHONE NUMBER

Emergency Answer Service (24h/7d):

+44 1235 239670

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Regulation (EC) n. 1272/2008 (CLP)

Aquatic Chronic Harmful to aquatic life with long lasting effects.

3

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. LABEL ELEMENTS

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

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P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

EUH208 Contains 3-[[bis(2-methylpropoxy)phosphinothioyl]thio]-2-methyl-Propanoic acid. May produce an allergic reaction.
EUH208 Contains Benzenesulfonic acid, propenated, calcium salt, overbased. May produce an allergic reaction.

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. OTHER HAZARDS

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

N.A.

3.2. MIXTURES

Severely refined mineral and/or synthetic oils, additives.

Hazardous components within the meaning of the CLP regulation and related classification:

QTY	NAME	IDENT. NUMB.	CLASSIFICATION	REGISTRATION NUMBER
1.0-<1.5 %	Severely refined paraffinic mineral and synthetic oils, viscosity 40°C \leq 20.5 cSt (**)	CAS:Mixture EC:Mixture	Asp. Tox. 1, H304, DECLL(*)	
1.0-<1.5 %	Benzenesulfonic acid, propenated, calcium salt, overbased	CAS:68610-84-4, - EC:271-877-7, 701-205-4	Skin Sens. 1B, H317; Aquatic Chronic 4, H413	01-2119657986-16-XXXX
0.5-<0.95 %	2,6-ditert-butyl-p-cresol	CAS:128-37-0 EC:204-881-4	Aquatic Acute 1, H400; Aquatic Chronic 1, H410, M-Chronic:1, M-Acute:1	01-2119480433-46-XXXX; 01-2119480433-40-XXXX; 01-2119555270-46-XXXX; 01-2119565113-46-XXXX

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Refer to section 4.1.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

This product has no special fire risk. In case of fire use foam, carbon dioxide, dry chemical powder and water mist.

Cool down with water the containers don't get involved in fire to avoid their possible explosion.

Avoid high pressure water jet. Use water jet only to cool down surfaces exposed to fire.

SUITABLE EXTINGUISHING MEDIA:

Water.

Carbon dioxide (CO₂).

EXTINGUISHING MEDIA WHICH MUST NOT BE USED FOR SAFETY REASONS:

None in particular.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Don't breathe combustion fumes: fire can form harmful compounds.

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of carbon, compounds of sulphur, phosphorus, nitrogen and products of incomplete combustion.

5.3. ADVICE FOR FIREFIGHTERS

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Avoid ingestion of product. Avoid contact with skin and eyes by wearing appropriate protective clothing. Avoid to breathe fumes and aerosols.

Surfaces on which the product has been spilled may become slippery.

Wear personal protection equipment.

See protective measures under point 7 and 8.

6.2. ENVIRONMENTAL PRECAUTIONS

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Avoid flame and/or spark near leak and produced waste. Do not smoke. In case of large spills dike, absorb and shovel up into suitable containers for disposal. Contain small spills with absorbent material. Put dirty material in suitable container. Dispose of dirty material in accordance with local or national regulations.

6.4. REFERENCE TO OTHER SECTIONS

See also section 8 and 13

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Avoid ingestion. Avoid frequent and prolonged skin contact and contact with eyes. Provide adequate ventilation to avoid mist or aerosol. Don't smoke or use spare flames; avoid contact with spark or other sources of ignition. Don't work near open container to avoid high concentration of vapours. Don't eat or drink during use.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store under cover in the original container securely closed away from heat and sources of ignition. Do not store in the open air. Assure a correct ventilation of premises and the control of possible leak. Keep out of flame or spark and avoid the accumulation of electrostatic charges. Keep out of reach of children and away from food and drink.

Storage class (TRGS 510, Germany): 10

7.3. SPECIFIC END USE(S)

Refer to the uses listed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

OEL: oil mists - TLV/TWA (8 h) : 5 mg/m³ - TLV/STEL: 10 mg/m³

Community Occupational Exposure Limits (OEL)

	OEL TYPE	COUNTRY	LONG TERM MG/M3	LONG TERM PPM	SHORT TERM MG/M3	SHORT TERM PPM	NOTES
2,6-ditert-butyl-p-cresol CAS: 128-37-0	EU	ITALY	2.000				

Predicted No Effect Concentration (PNEC) values

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	PNEC LIMIT	EXPOSURE ROUTE	EXPOSURE FREQUENCY	REMARK
2,6-ditert-butyl-p-cresol CAS: 128-37-0	0.004 mg/l			

Derived No Effect Level (DNEL) values

	WORKER INDUSTRIAL	WORKER PROFESSIONAL	CONSUMER	EXPOSURE ROUTE	EXPOSURE FREQUENCY	REMARK
2,6-ditert-butyl-p-cresol CAS: 128-37-0	2			Human Inhalation		mg/m ³ inhalable particles / vapors

8.2. EXPOSURE CONTROLS

TECHNICAL PRECAUTIONS:

Avoid production and diffusion of mist and aerosol with utilization of localized ventilation/aspiration or other required precautions. Adopt all required precaution to avoid product immission in environment (e.g., blasting systems, catch basins, ...).

EYE PROTECTION:

Chemical goggles and face shield in case of oil splashes.

PROTECTION FOR SKIN:

Wear suitable protective clothing (for further information, refer to CEN-EN 14605); change it immediately in case of large contamination and wash it before subsequent use.

Practice reasonable personal cleanliness.

PROTECTION FOR HANDS:

Wear suitable gloves (i.e. neoprene, nitrile). Gloves should be changed when they show wear. The kind of gloves and the term of use must be decided from employer with regard to processing and to allow for DPI legislation and glove producer's indications. Wear gloves only with clean hands.

RESPIRATORY PROTECTION:

None required under normal conditions of use. Use approved full face respirator with organic vapour filter cartridge if the recommended exposure limits are exceeded.

ENVIRONMENTAL EXPOSURE CONTROLS:

Refer to technical precautions and also to sections 6.2, 6.3, 7.2, 12 and 13.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	LIQUID
APPEARANCE AND COLOUR:	VISCOUS AMBER
ODOUR:	NOT RELEVANT
ODOUR THRESHOLD:	NOT RELEVANT
PH:	N.A.

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MELTING POINT / FREEZING POINT: N.A.
INITIAL BOILING POINT AND BOILING RANGE: >300 °C (572 °F) (ASTM D2887)
FLASH POINT: >191.5 °C (376.7 °F) (ASTM D93)
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: N.A.
VAPOUR DENSITY: N.A.
VAPOUR PRESSURE: N.A.
DENSITY 0.88 G/CM3 (ASTM D4052)
SOLUBILITY IN WATER: IMMISCIBLE
SOLUBILITY IN OIL: N.A.
PARTITION COEFFICIENT (N-OCTANOL/WATER): N.A.
AUTO-IGNITION TEMPERATURE: N.A.
DECOMPOSITION TEMPERATURE: N.A.
KINEMATIC VISCOSITY AT 100°C N.A.
KINEMATIC VISCOSITY AT 40°C 58.73 CST
EXPLOSIVE PROPERTIES: N.A.
OXIDIZING PROPERTIES: N.A.
FLAMMABILITY: N.A.
VOLATILE ORGANIC COMPOUNDS - VOCS = N.A.
PARTICLE CHARACTERISTICS:
PARTICLE SIZE: N.A.

9.2. OTHER INFORMATION

FREEZING POINT N.A.
POUR POINT N.A.
DROPPING POINT N.A.
SUBSTANCE GROUPS RELEVANT PROPERTIES
MISCIBILITY: N.A.
CONDUCTIVITY: N.A.
NO OTHER RELEVANT INFORMATION

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Read carefully all information provided in other sections of heading 10.

10.2. CHEMICAL STABILITY

The product is stable under normal conditions of use.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Not expected under normal conditions of use.

10.4. CONDITIONS TO AVOID

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This product must be kept far from heat sources. In any case, avoid exposing product to temperatures above the flash point.

10.5. INCOMPATIBLE MATERIALS

Strong oxidizing agents, hard acids and bases.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of carbon, compounds of sulphur, phosphorus, nitrogen and hydrogen sulfide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON HAZARD CLASSES AS DEFINED IN REGULATION (EC) NO 1272/2008

ACUTE TOXICITY:

This product is not classified in this hazard class.

While to not cause harm if accidentally swallowed in small doses, ingestion of large quantities may cause gastro-intestinal effects.

SKIN CORROSION OR IRRITATION:

This product is not classified in this hazard class, but prolonged or repeated skin contact sometimes may cause irritations and dermatitis.

SERIOUS EYE DAMAGE OR EYE IRRITATION:

This product is not classified in this hazard class, but direct contact may cause slight irritations.

RESPIRATORY SENSITIZATION:

This product is not classified in this hazard class.

SKIN SENSITIZATION:

The product contains sensitizing substances, but is not classified in this way. Product is not an irritant, but prolonged or repeated contacts may cause irritations or dermatitis.

In a sensitized individual the allergic dermatitis may not appear until after several days or weeks of frequent and prolonged contact. Therefore, even though the skin irritation potential is slight, skin contact should be avoided.

Once sensitization has occurred, exposure of the skin to very small quantities of the material may cause erythema and edema.

GERM CELL MUTAGENICITY:

Based on available data, the classification criteria are not met.

CARCINOGENICITY:

Based on available data, the classification criteria are not met.

REPRODUCTIVE TOXICITY:

Based on available data, the classification criteria are not met.

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SPECIFIC TARGET ORGAN TOXICITY (STOT) – SINGLE EXPOSURE:

This product is not classified in this hazard class, but inhalation of mists and vapours generated at elevated temperatures sometimes may cause respiratory irritation.

SPECIFIC TARGET ORGAN TOXICITY (STOT) – REPEATED EXPOSURE:

This product is not classified in this hazard class.

ASPIRATION HAZARD:

This product is not classified in this hazard class.

Toxicological Information of the Preparation

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

2,6-ditert-butyl-p-cresol a) acute toxicity LD50 Oral Rat > 2000 mg/kg

LD50 Skin Rat > 2000 mg/kg

If not differently specified, the information required in Regulation (EU)2020/878 listed below must be considered as N.A.

- a) acute toxicity
- b) skin corrosion/irritation
- c) serious eye damage/irritation
- d) respiratory or skin sensitisation
- e) germ cell mutagenicity
- f) carcinogenicity
- g) reproductive toxicity
- h) STOT-single exposure
Toxicological kinetics, metabolism and distribution information
- i) STOT-repeated exposure
- j) aspiration hazard

11.2 INFORMATION ON OTHER HAZARDS

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration $\geq 0.1\%$

SECTION 12: ECOLOGICAL INFORMATION

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12.1. TOXICITY

Eco-Toxicological Information:

Harmful to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the components

COMPONENT	IDENT. NUMB.	ECOTOX DATA
2,6-ditert-butyl-p-cresol	CAS: 128-37-0 - EINECS: 204-881-4	a) Aquatic acute toxicity : LC50 Fish = 0.464 mg/L a) Aquatic acute toxicity : LC50 Algae green algae = 0.577 mg/L a) Aquatic acute toxicity : EC50 Daphnia = 0.84 mg/L

No endocrine disruptor substances present in concentration $\geq 0.1\%$

12.2. PERSISTENCE AND DEGRADABILITY

Data on biodegradability of product are not available.

12.3. BIOACCUMULATIVE POTENTIAL

Not available.

12.4. MOBILITY IN SOIL

As the dispersion in the environment may result in contamination of environmental matrix (soil, subsoil, surface water and groundwater), do not release in the environment.

12.5. RESULTS OF PBT AND VPVB ASSESSMENT

Not available.

12.6. ENDOCRINE DISRUPTING PROPERTIES

No effect known.

12.7 OTHER ADVERSE EFFECTS

No effect known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

Prevent contamination of soil, drains and surface waters. Do not discharge in sewers, tunnels or water

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courses. Dispose in accordance with local or national regulations via authorised person/licensed waste disposal contractor.

The used product has to be considered a special waste to be classified in accordance to Directive 2008/98/EC on waste and related legislation.

Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14: TRANSPORT INFORMATION

14.1. UN NUMBER OR ID NUMBER

N/A

14.2. UN PROPER SHIPPING NAME

ADR-Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical name: N/A

14.3. TRANSPORT HAZARD CLASS(ES)

ADR-Class: N/A

IATA-Class: N/A

IMDG-Class: N/A

14.4. PACKING GROUP

ADR-Packing Group: N/A

IATA-Packing group: N/A

IMDG-Packing group: N/A

14.5. ENVIRONMENTAL HAZARDS

Toxic Ingredients Qty: 0.00

High Toxicity Ingredients Qty: 0.00

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: N/A

14.6. SPECIAL PRECAUTIONS FOR USER

Road and Rail (ADR-RID) :

ADR-Label: N/A

ADR - Hazard identification number: N/A

ADR-Special Provisions: N/A

ADR-Transport category (Tunnel restriction code): N/A

Air (IATA) :

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IATA-Passenger Aircraft: N/A
IATA-Cargo Aircraft: N/A
IATA-Label: N/A
IATA-Subsidiary hazards: N/A
IATA-Erg: N/A
IATA-Special Provisioning: N/A

Sea (IMDG) :

IMDG-Stowage Code: N/A
IMDG-Stowage Note: N/A
IMDG-Subsidiary hazards: N/A
IMDG-Special Provisioning: N/A

14.7. MARITIME TRANSPORT IN BULK ACCORDING TO IMO INSTRUMENTS

N.A.

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS SPECIFIC FOR THE PRODUCT IN QUESTION

Regulation (EC) No 1272/2008, with all National and European related legislations - on classification, labelling and packaging of substances and mixtures - and following adjustments to technical and scientific progress.

Regulation (EC) No 790/2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures

Regulation (EC) No 1907/2006, with all National and European related legislations - concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Regulation (EU) No 878/2020 amending Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Directives 89/391/EC, 89/654/EC, 89/655/EC, 89/656/EC, 90/269/EC, 90/270/EC, 90/394/EC, 90/679/EC and all following updates, together with its national implementation about improvement of worker safety and health.

Directives 98/24/EC and all following updates, together with its national implementation about protection of worker safety and health against chemical agent risks.

Directive 1991/156/EC and all following updates, together with national waste legislation

EC directives and national environment protection legislation (air, water and soil)

Regulation 648/2004/EC on detergents

Directive 2012/18/UE, together with its national realization, on the control of major-accident hazards involving dangerous substances.

REGULATION (EU) N. 286/2011 (ATP 2 CLP)

REGULATION (EU) N. 618/2012 (ATP 3 CLP)

REGULATION (EU) N. 487/2013 (ATP 4 CLP)

REGULATION (EU) N. 944/2013 (ATP 5 CLP)

REGULATION (EU) N. 605/2014 (ATP 6 CLP)

REGULATION (EU) N. 2015/1221 (ATP 7 CLP)

REGULATION (EU) N. 2016/918 (ATP 8 CLP)

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REGULATION (EU) N. 2016/1179 (ATP 9 CLP)
REGULATION (EU) N. 2017/776 (ATP 10 CLP)
REGULATION (EU) N. 2018/669 (ATP 11 CLP)
REGULATION (EU) N. 2021/849 (ATP 17 CLP)

RESTRICTIONS RELATED TO THE PRODUCT OR THE SUBSTANCES CONTAINED ACCORDING TO ANNEX XVII REGULATION (EC) 1907/2006 (REACH) AND SUBSEQUENT MODIFICATIONS:

Restrictions related to the product: 3, 40

Restrictions related to the substances contained: NONE

PROVISIONS RELATED TO DIRECTIVE EU 2012/18 (SEVESO III):

N.A.

REGULATION (EU) NO 649/2012 (PIC REGULATION)

No substances listed

GERMAN WATER HAZARD CLASS.

Class 1: slightly hazardous for water.

SVHC SUBSTANCES:

No data available

15.2. CHEMICAL SAFETY ASSESSMENT

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: OTHER INFORMATION

Sheet complies with the criteria of Regulation (EU) No. 878/2020 as well as with Regulation (EC) No. 1272/2008 and following adjustments.

This document was prepared by a competent person who has received appropriate training.

This product must not be used in applications other than recommended without first seeking the advice of the Technical Department.

This SDS cancels and replaces any preceding release.

This product must be stored, handled and used according to correct industrial hygienic practices and in compliance with laws in force.

The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be considered as any guarantee of specific properties.

Caption about heading 3, H-statements:

CODE	DESCRIPTION
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.

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H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

CODE	HAZARD CLASS AND HAZARD CATEGORY	DESCRIPTION
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3
4.1/C4	Aquatic Chronic 4	Chronic (long term) aquatic hazard, category 4

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

CLASSIFICATION ACCORDING TO REGULATION (EC) NR. 1272/2008

4.1/C3	Calculation method
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Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

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DNEL: Derived No Effect Level.
DPD: Dangerous Preparations Directive
DSD: Dangerous Substances Directive
EC50: Half Maximal Effective Concentration
ECHA: European Chemicals Agency
EINECS: European Inventory of Existing Commercial Chemical Substances.
ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: Keep away from heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 8: Exposure controls/personal protection
- SECTION 15: Regulatory information

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PETRONAS

SAFETY DATA SHEET

1. Identification**Product identifier**All Purpose Cleaner
Uni-Weld Cleaner or Purple Primer**Other means of identification****Product code**

1401E

Synonyms

Part Numbers: 7366S, 7356S, 77346S, 7336S, 7324, 8836S, 8824

Recommended use

Joining PVC Pipes

Recommended restrictions.

None known.

Manufacturer/Importer/Supplier/Distributor information Company**Name**United Elchem Industries c/o Oatey Co**Address**4700 West 160th St.
Cleveland, OH 44135**Telephone**

216-267-7100

E-mail

info@oatey.com

Transport Emergency

Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid

1-877-740-5015

Contact person

MSDS Coordinator

2. Hazard(s) identification**Physical hazards**

Flammable liquids

Category 2

Health hazards

Serious eye damage/eye irritation

Category 2A

Specific target organ toxicity, single exposure

Category 3 respiratory tract irritation

Specific target organ toxicity, single exposure

Category 3 narcotic effects

Aspiration hazard

Category 1

OSHA defined hazards

Not classified.

Label elements**Signal word**

Danger

Hazard statement

Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement**Prevention**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear eye protection/face protection. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media 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 local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Supplemental information	
Not applicable.	

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Acetone	67-64-1	70-100
Cyclohexanone	108-94-1	1-5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. Aspiration may cause pulmonary edema and pneumonitis. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions**7. Handling and storage****Precautions for safe handling**

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection**Occupational exposure limits****US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m3 1000 ppm
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3 50 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3 250 ppm
		Cyclohexanone (CAS 108-94-1)

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. 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 wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. 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.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Translucent liquid.

Color Purple

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 133 °F (56.11 °C)

Flash point -4.0 °F (-20.0 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.79 +/- 0.02
Solubility(ies)	
Solubility (water)	Miscible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	< 10 cP
Other information	
Bulk density	7 lb/gal
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
VOC (Weight %)	<25 g/l SQACMD Method 24

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 heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. May cause redness and pain.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	20 ml/kg
<i>Inhalation</i>		
LC50	Rat	50 mg/l, 8 Hours

Components	Species	Test Results
<i>Oral</i> LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
<i>Dermal</i> LD50	Rabbit	948 mg/kg
<i>Inhalation</i> LC50	Rat	8000 ppm, 4 hours
<i>Oral</i> LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Partition coefficient n-octanol / water (log Kow)	
Acetone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
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 (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Acetone RQ = 5128 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)	6532
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Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
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DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
-----------------------	------

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	27-May-2015
Revision date	-
Version #	01
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

SAFETY DATA SHEET

Alloy SAC305 RA 312



Section 1. Identification

GHS product identifier : Alloy SAC305 RA 312
Reference number : GHS003
Other means of identification : Not available.
Product type : Solid. [Solder Paste]

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : AIM
9100 Henri Bourassa East
Montreal, QC
H1E 2S4
(514) 494-2000

In the United States:
AIM
25 Kenney Drive
Cranston, RI 02920
(800) CALL-AIM

In México
AIM Soldadura de México
Circuito Interior Norte # 460
Parque Industrial Salvarcar
Ciudad Juárez, Chih.
(656) 630-0032

Emergency telephone number (with hours of operation) : INFOTRAC
North America: (800) 535-5053
International: (352) 323-3500

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms :



Signal word : Warning
Hazard statements : May cause an allergic skin reaction.

Precautionary statements

Prevention : Wear protective gloves. Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace.
Response : IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.
Storage : Not applicable.

Section 2. Hazards identification

- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	%	CAS number
Tin	≥75 - ≤90	7440-31-5
rosin	≤5	8050-09-7
silver	≤3	7440-22-4
N-methyl-2-pyrrolidone	≤3	872-50-4
Amine Decanoic Acid Salt	≤1	-
copper	≤1	7440-50-8

Any concentration shown as a range is to protect confidentiality or is due to batch 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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.

Section 4. First aid measures

- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.
- Over-exposure signs/symptoms**
- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Tin	ACGIH TLV (United States, 3/2019). TWA: 2 mg/m ³ , (as Sn) 8 hours. Form: Inhalable fraction NIOSH REL (United States, 10/2016). TWA: 2 mg/m ³ 10 hours. OSHA PEL (United States, 5/2018). TWA: 2 mg/m ³ , (as Sn) 8 hours.
rosin	ACGIH TLV (United States, 3/2019). Skin sensitizer. Inhalation sensitizer.
silver	OSHA PEL 1989 (United States, 3/1989). TWA: 0.01 mg/m ³ , (as Ag) 8 hours. ACGIH TLV (United States, 3/2019). TWA: 0.1 mg/m ³ 8 hours. Form: Dust and fumes OSHA PEL (United States, 5/2018). TWA: 0.01 mg/m ³ , (as Ag) 8 hours. NIOSH REL (United States, 10/2016). TWA: 0.01 mg/m ³ , (as Ag) 10 hours. Form: METAL DUST AND SOLUBLE
N-methyl-2-pyrrolidone	AIHA WEEL (United States, 7/2018). Absorbed through skin.

Section 8. Exposure controls/personal protection

Amine Decanoic Acid Salt
copper

TWA: 10 ppm 8 hours.
None.
ACGIH TLV (United States, 3/2019).
TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dust and mist
TWA: 0.2 mg/m³ 8 hours. Form: Fume
OSHA PEL 1989 (United States, 3/1989).
TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists
TWA: 0.1 mg/m³, (as Cu) 8 hours. Form: Fume
NIOSH REL (United States, 10/2016).
TWA: 1 mg/m³, (as Cu) 10 hours. Form: Dusts and Mists
OSHA PEL (United States, 5/2018).
TWA: 1 mg/m³ 8 hours. Form: Dusts and Mists
TWA: 0.1 mg/m³ 8 hours. Form: Fume

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : 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.
- Other skin protection** : Appropriate footwear and any additional skin protection measures 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 protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state	: Solid. [Solder Paste]
Color	: Colorless.
Odor	: Odorless.
Odor threshold	: Not available.
pH	: Not available.
Melting point	: Not available
Boiling point	: Not available.
Flash point	: Not available.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Slightly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: Not available.
Solubility	: Not available.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
Flow time (ISO 2431)	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
rosin N-methyl-2-pyrrolidone	LD50 Oral	Rat	7600 mg/kg	-
	LD50 Dermal	Rabbit	8 g/kg	-
	LD50 Oral	Rat	3914 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
N-methyl-2-pyrrolidone	Eyes - Moderate irritant	Rabbit	-	100 mg	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
Amine Decanoic Acid Salt copper	None. -	4 -	- Known to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
N-methyl-2-pyrrolidone	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
irritation
redness
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	380487.8 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
silver	Acute EC50 1.4 µg/l Marine water	Algae - Chroomonas sp.	4 days
	Acute EC50 0.24 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 11 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata	48 hours
N-methyl-2-pyrrolidone	Acute LC50 2.13 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 5 mg/l Marine water	Algae - Glenodinium halli	72 hours
	Acute LC50 1.23 ppm Fresh water	Daphnia - Daphnia magna	48 hours
copper	Acute LC50 832 ppm Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days	
Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks	

Section 12. Ecological information

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
rosin	1.9 to 7.7	-	high
silver	-	70	low
N-methyl-2-pyrrolidone	-0.46	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	Reportable quantity 38095.2 lbs / 17295.2 kg. Package sizes shipped in quantities less than the product reportable quantity are	-	-	-	-	-

Section 14. Transport information

	not subject to the RQ (reportable quantity) transportation requirements.					
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Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

State regulations

Massachusetts : The following components are listed: TIN; SILVER; 1-METHYL-2-PYRROLIDONE

New York : The following components are listed: Silver

New Jersey : The following components are listed: TIN; SILVER; 1-METHYL-2-PYRROLIDONE; 2-PYRROLIDINONE, 1-METHYL-; bis(2-butoxyethyl) ether

Pennsylvania : The following components are listed: TIN; SILVER COMPOUNDS; 2-PYRROLIDINONE, 1-METHYL-; bis(2-butoxyethyl) ether; ROSIN CORE SOLDER PYROLYSIS PRODUCTS

California Prop. 65

WARNING: This product can expose you to N-methylpyrrolidone, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
N-methyl-2-pyrrolidone	No.	Yes.	-	Yes.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Ingredient name	List name	Status
Triethanolamine	Schedule III	Listed

Montreal Protocol

Not listed.

Section 15. Regulatory information

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Europe	: Not determined.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Turkey	: Not determined.

Section 16. Other information

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

Health	/	2
Flammability		0
Physical hazards		0

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



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
SKIN SENSITIZATION - Category 1	Calculation method

History

Date of printing	: 3/4/2020
	: 3/4/2020

Section 16. Other information

Date of issue/Date of revision	
Date of previous issue	: 3/3/2020
Version	: 0.05
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations
References	: -ACGIH, Threshold Limit Values, 1994-1995. -Canada Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List". -CFR29, OSHA's Permissible Exposure Limits, revision July, 1993. -CFR29, part 1910.1200, Hazard Communication. -CHEMTOX database -Components' manufacturer's Material Safety Data Sheet. -CRC Handbook of chemistry and physics, 67 th edition, CRC Press inc., Boca Raton, Florida. -CSST (Comission de Santé et Sécurité au Travail), document #RT-12: Classification of Certain Chemical Substances. -IATA, Dangerous Goods Regulations, 37th edition (January 1, 1996) -NFPA, Fire Protection Guide to Chemical Hazards, 11th edition. -NIOSH, Pocket Guide to Chemical Hazards, revision June 1994. Sigma-Alrich handbook of fine chemicals, 1998 -TSCA (Toxic Substance Central Act), Chemical Substance Inventory List, 1985.

✔ Indicates information that has changed from previously issued version.

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.

SAFETY DATA SHEET

Alloy SAC305 W20



Section 1. Identification

GHS product identifier : Alloy SAC305 W20
Reference number : GHS003
Other means of identification : Not available.
Product type : Solid. [Solder Paste]

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : AIM
9100 Henri Bourassa East
Montreal, QC
H1E 2S4
(514) 494-2000

In the United States:
AIM
25 Kenney Drive
Cranston, RI 02920
(800) CALL-AIM

In México
AIM Soldadura de México
Circuito Interior Norte # 460
Parque Industrial Salvarcar
Ciudad Juárez, Chih.
(656) 630-0032

Emergency telephone number (with hours of operation) : INFOTRAC
North America: (800) 535-5053
International: (352) 323-3500

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1

GHS label elements

Hazard pictograms :



Signal word : Warning
Hazard statements : May cause an allergic skin reaction.

Precautionary statements

Prevention : Wear protective gloves. Avoid breathing dust. Contaminated work clothing must not be allowed out of the workplace.

Response : IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.

Storage : Not applicable.

Section 2. Hazards identification

- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	%	CAS number
Tin	≥75 - ≤90	7440-31-5
silver	≤3	7440-22-4
Terpineol	≤3	8000-41-7
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	≤3	61790-85-0
rosin	≤1	8050-09-7
copper	≤1	7440-50-8

Any concentration shown as a range is to protect confidentiality or is due to batch 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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : May cause an allergic skin reaction.

Section 4. First aid measures

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Tin	ACGIH TLV (United States, 3/2020). TWA: 2 mg/m ³ , (as Sn) 8 hours. Form: Inhalable fraction NIOSH REL (United States, 10/2016). TWA: 2 mg/m ³ 10 hours. OSHA PEL (United States, 5/2018). TWA: 2 mg/m ³ , (as Sn) 8 hours.
silver	ACGIH TLV (United States, 3/2020). TWA: 0.1 mg/m ³ 8 hours. Form: Dust and fumes OSHA PEL 1989 (United States, 3/1989). TWA: 0.01 mg/m ³ , (as Ag) 8 hours. OSHA PEL (United States, 5/2018). TWA: 0.01 mg/m ³ , (as Ag) 8 hours. NIOSH REL (United States, 10/2016). TWA: 0.01 mg/m ³ , (as Ag) 10 hours. Form: METAL DUST AND SOLUBLE
Terpineol	None.
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	None.
rosin	ACGIH TLV (United States, 3/2020). Skin sensitizer. Inhalation sensitizer.
copper	ACGIH TLV (United States, 3/2020).

Section 8. Exposure controls/personal protection

TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dust and mist
 TWA: 0.2 mg/m³ 8 hours. Form: Fume
OSHA PEL 1989 (United States, 3/1989).
 TWA: 1 mg/m³, (as Cu) 8 hours. Form: Dusts and Mists
 TWA: 0.1 mg/m³, (as Cu) 8 hours. Form: Fume
NIOSH REL (United States, 10/2016).
 TWA: 1 mg/m³, (as Cu) 10 hours. Form: Dusts and Mists
OSHA PEL (United States, 5/2018).
 TWA: 1 mg/m³ 8 hours. Form: Dusts and Mists
 TWA: 0.1 mg/m³ 8 hours. Form: Fume

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : 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.
- Other skin protection** : Appropriate footwear and any additional skin protection measures 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 protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state	: Solid. [Solder Paste]
Color	: Not available.
Odor	: Not available.
Odor threshold	: Not available.
pH	: Not available.
Melting point	: Not available.
Boiling point	: Not available.
Flash point	: Not available.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: Not available.
Solubility	: Not available.
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
Flow time (ISO 2431)	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Terpineol	LD50 Oral	Rat	4300 mg/kg	-
Amines, N-tallow alkyltrimethylenedi-, ethoxylated	LD50 Oral	Rat	>500 mg/kg	-
rosin	LD50 Oral	Rat	7600 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Terpineol	Eyes - Mild irritant	Mammal - species unspecified	-	12.5 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
copper	-	-	Known to be a human carcinogen.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : May cause an allergic skin reaction.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
irritation
redness
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	19037.87 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
silver	Acute EC50 1.4 µg/l Marine water	Algae - Chroomonas sp.	4 days
	Acute EC50 0.24 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 11 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata	48 hours
copper	Acute LC50 2.13 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 5 mg/l Marine water	Algae - Glenodinium halli	72 hours
	Acute EC50 1100 µg/l Fresh water	Aquatic plants - Lemna minor	4 days
	Acute EC50 2.1 µg/l Fresh water	Daphnia - Daphnia longispina - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute IC50 13 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute IC50 5.4 mg/l Marine water	Aquatic plants - Plantae - Exponential growth phase	72 hours
	Acute LC50 0.072 µg/l Marine water	Crustaceans - Amphipoda - Adult	48 hours
	Acute LC50 7.56 µg/l Marine water	Fish - Periophthalmus waltoni - Adult	96 hours
	Chronic NOEC 2.5 µg/l Marine water	Algae - Nitzschia closterium - Exponential growth phase	72 hours
	Chronic NOEC 7 mg/l Fresh water	Aquatic plants - Ceratophyllum demersum	3 days
	Chronic NOEC 0.02 mg/l Fresh water	Crustaceans - Cambarus bartonii - Mature	21 days
Chronic NOEC 2 µg/l Fresh water	Daphnia - Daphnia magna	21 days	
Chronic NOEC 0.8 µg/l Fresh water	Fish - Oreochromis niloticus - Juvenile (Fledgling, Hatchling, Weanling)	6 weeks	

Persistence and degradability

Section 12. Ecological information

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
silver	-	70	low
Terpineol	2.6	24.13	low
rosin	1.9 to 7.7	-	high

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-	-
Packing group	-	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.	No.
Additional information	Reportable quantity 37664.8 lbs / 17099.8 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to	-	-	-	-	-

Section 14. Transport information

	the RQ (reportable quantity) transportation requirements.					
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Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

State regulations

Massachusetts : The following components are listed: TIN; SILVER

New York : The following components are listed: Silver

New Jersey : The following components are listed: TIN; SILVER

Pennsylvania : The following components are listed: TIN; SILVER COMPOUNDS

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Ingredient name	List name	Status
Triethanolamine	Schedule III	Listed

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Section 15. Regulatory information

Australia	: Not determined.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Europe	: Not determined.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: Not determined.

Section 16. Other information

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

Health	/	2
Flammability		1
Physical hazards		0

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



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
SKIN SENSITIZATION - Category 1	Calculation method

History

Date of printing	: 1/18/2021
Date of issue/Date of revision	: 1/18/2021
Date of previous issue	: 1/18/2021
Version	: 0.05

Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973
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Section 16. Other information

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

References

: Not available.

✔ Indicates information that has changed from previously issued version.

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SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Product name : ArmaFlex WB Finish

1.2. Recommended use and restrictions on use

Recommended use : Elastomeric coating

1.3. Supplier

Manufacturer

Armacell LLC
55 Vilcom Center Drive
Suite 200
27514 Chapel Hill, NC - USA
T +1 800 866 5638
info.sds.ai.usmca@armacell.com

Distributor

Armacell Canada
153 Van Kirk Drive
L7A 1A4 Brampton, Ontario - Canada
T (905) 846-3666

1.4. Emergency telephone number

Emergency number : +1 919 304 3846

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Carc. 2	H351	Suspected of causing cancer.
STOT RE 2	H373	May cause damage to organs (liver, kidneys) through prolonged or repeated exposure (oral).

2.2. GHS Label elements, including precautionary statements

GHS-CA labelling

Hazard pictograms (GHS-CA) :



Signal word (GHS CA) :

Warning

Hazard statements (GHS-CA) :

H351 - Suspected of causing cancer.
H373 - May cause damage to organs (liver, kidneys) through prolonged or repeated exposure (oral).

Precautionary statements (GHS-CA) :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Armaflex WB Finish

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%
Titanium Dioxide	C.I. 77891 / C.I. Pigment White 6 / Titanium oxide (TiO ₂) / CI 77891 / Titanium(IV) oxide / C.I. Pigment White 7 / Pigment White 6 / Titanium dioxide nanoparticles / Titanium oxide / Titanium dioxide(2)	CAS-No.: 13463-67-7	10 – 30
Benzophenone	Benzoylbenzene / Diphenyl ketone / Methanone, diphenyl- / BENZOPHENONE	CAS-No.: 119-61-9	0.5 – 1.5

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists.
First-aid measures after eye contact	: 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.
First-aid measures after ingestion	: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/effects after eye contact	: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: Suspected of causing cancer. May cause damage to organs (liver, kidneys) through prolonged or repeated exposure (oral).

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment	: Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
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Armaflex WB Finish

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use water jet.

5.3. Specific hazards arising from the hazardous product

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon.

Explosion hazard : Containers may rupture on heating.

5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. Methods and materials for containment and cleaning up

For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : 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 dust/fume/gas/mist/vapours/spray. Do not swallow. When using do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Handle and open container with care.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Take off immediately all contaminated clothing and wash it before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Store locked up. Keep away from food, drink and animal feedingstuffs. Do not expose to temperatures above 50 °C. Store always product in container of same material as original container. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store tightly closed in a dry, cool and well-ventilated place.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Titanium Dioxide (13463-67-7)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 mg/m ³
ACGIH chemical category	Not Classifiable as a Human Carcinogen

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear suitable gloves

Eye protection:
Safety glasses or goggles are recommended when using product.

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. 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.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available.
Colour	: No data available
Odour	: Faint odour of ammonia
Odour threshold	: No data available
pH	: 8.5 – 10
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 0 °C (32 °F)
Freezing point	: No data available
Boiling point	: 100 °C (212 °F)
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not flammable

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Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.34 g/cm ³
Solubility	: No data available
Partition coefficient n-octanol/water	: No data available
Viscosity, kinematic	: 100 - 130 KU
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: No dangerous reactions known under normal conditions of use.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Heat. Incompatible materials. Open flame. Sources of ignition.
Incompatible materials	: Strong oxidizing agents.
Hazardous decomposition products	: May include, and are not limited to: oxides of carbon.
Hardening time:	: No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not classified.
Acute toxicity (inhalation)	: Not classified.

Titanium Dioxide (13463-67-7)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity)
LC50 inhalation rat	5.09 mg/l/4h

Benzophenone (119-61-9)	
LD50 oral	≈ 2895 mg/kg bodyweight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 2441 - 3434
LD50 dermal rabbit	3535 mg/kg

Skin corrosion/irritation	: Not classified. pH: 8.5 – 10
Serious eye damage/irritation	: Not classified. pH: 8.5 – 10
Respiratory or skin sensitization	: Not classified.
Germ cell mutagenicity	: Not classified.
Carcinogenicity	: Suspected of causing cancer.

Titanium Dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans

Benzophenone (119-61-9)	
IARC group	2B - Possibly carcinogenic to humans

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Benzophenone (119-61-9)	
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity

Reproductive toxicity : Not classified.
STOT-single exposure : Not classified.
STOT-repeated exposure : May cause damage to organs (liver, kidneys) through prolonged or repeated exposure (oral).

Benzophenone (119-61-9)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified.

Armaflex WB Finish	
Viscosity, kinematic	100 - 130 KU

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
Symptoms/effects after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms : Suspected of causing cancer. May cause damage to organs (liver, kidneys) through prolonged or repeated exposure (oral).
Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified.
Hazardous to the aquatic environment, long-term (chronic) : Not classified.

Titanium Dioxide (13463-67-7)	
LC50 - Fish [1]	155 mg/l Test organisms (species): other:Japanese Medaka
EC50 - Crustacea [1]	19.3 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	27.8 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	> 100 mg/l Test organisms (species):
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	≥ 2.92 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
LOEC (chronic)	5 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

Benzophenone (119-61-9)	
LC50 - Fish [1]	13.2 – 15.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	14.2 mg/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	6784 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	3.5 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

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Benzophenone (119-61-9)	
EC50 72h - Algae [2]	1.8 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	0.2 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
BCF - Fish [1]	3.4 – 9.2
Partition coefficient n-octanol/water	3.2

12.2. Persistence and degradability

Armaflex WB Finish	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Armaflex WB Finish	
Bioaccumulative potential	Not established.

Benzophenone (119-61-9)	
BCF - Fish [1]	3.4 – 9.2
Partition coefficient n-octanol/water	3.2

12.4. Mobility in soil

Benzophenone (119-61-9)	
Partition coefficient n-octanol/water	3.2

12.5. Other adverse effects

Ozone : Not classified.
Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. The generation of waste should be avoided or minimized wherever possible.
Additional information : Empty containers may contain residues which are hazardous.

SECTION 14: Transport information

In accordance with TDG

14.1. UN number

UN-No. (TDG) : UN3077

14.2. UN proper shipping name

Proper Shipping Name (TDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

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14.3. Transport hazard class(es)

TDG

Transport hazard class(es) (TDG)

: 9

Hazard labels (TDG)

: 9

:



14.4. Packing group

Packing group (TDG)

: III

14.5. Environmental hazards

Marine pollutant

: Yes (IMDG only)



Other information

: No supplementary information available.

14.6. Special precautions for user

Special transport precautions

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

TDG

UN-No. (TDG)

: UN3077

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TDG Special Provisions	: 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS, 99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and during transport. (2) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.
Explosive Limit and Limited Quantity Index	: 5 kg
Excepted quantities (TDG)	: E1

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. National regulations

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

15.2. International regulations

No additional information available

SECTION 16: Other information

Issue date	: 07/27/2021
Revision date	: 02/23/2022
Other information	: None.

Armaflex WB Finish

Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)

Prepared by

: Nexreg Compliance Inc.

www.Nexreg.com



Safety Data Sheet (SDS), Canada - Nexreg 2021

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Technical Data Sheet

3M™ Venture Tape™ Facing Tape 1540CW

ASJ



Product Details



Regulatory Info/SDS

Product Description

3M™ Venture Tape™ 1540CW is a kraft/scrim/foil (ASJ) laminate coated with a cold weather acrylic pressure sensitive adhesive.

Product Features

- Cold weather adhesive performs well over a wide temperature range
- Mold inhibitor helps maintain adhesive strength and effectiveness
- High puncture and tear resistance ensures long life and durability.
- Conforms well to curved and irregular surfaces

Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Physical Properties

Attribute Name	Test Method	Value
Color		White
Adhesive Type		Acrylic
Backing		ASJ
Backing Thickness	ASTM D3652	0.16 mm (6.5 mil)
Total Tape Thickness	ASTM D3652	0.19 mm (7.5 mil)
Liner		Release Liner
Water Vapor Transmission	ASTM E96	0.02 US Perms

Typical Performance Characteristics

Attribute Name	Test Method	Temperature	Value
180° Peel Adhesion	ASTM D3330	22 °C (72 °F)	Exceeds the strength of tape backing oz/in ¹
Elongation at Break	ASTM D3759		2 %
Tensile Strength	ASTM D3759		70.1 N/cm (40 lb/in)

¹ 12 in/min (300 mm/min)

Attribute Name	Value
Long Term Temperature Resistance	116 °C (240 °F) ¹
Minimum Long Term Temperature Resistance	-40 °C (-40 °F) ¹

¹ Long Term (day, weeks)

Handling/Application Information

Application Examples

- Closure system on ASJ faced duct piping systems
- Vapor seal on ASJ faced ductboard and pipe insulation

Certifications/Standards

Certifications

- UL723 Classified (15/10 Flame/Smoke Rating) [UL file #R10984]
- CAN/ULC Classified (15/10 Flame/Smoke Rating) [UL file #R10984]

Codes & Test Standards

Meets ASTM C1136, Type 1, II, III, IV. *ASTM C1136 testing based in part on third party test data of the product backing

Storage and Shelf Life

Store in a clean, dry place. Temperature of 40-80°F (4-26°C) and 40 to 50% relative humidity are recommended. To obtain best performance, use this product within 24 months from date of manufacture.

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ISO Statement

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

3M
Industrial Adhesives and Tapes Division
3M Center, Building 225-35-06
St. Paul, MN 55144-1000
800-362-3550

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Hercules Breakthru R-D Root Destroyer

HCC Holdings, Inc. an Oatey Affiliate

Version No: 1,4

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: 02/11/2022

Print Date: 02/11/2022

S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Hercules Breakthru R-D Root Destroyer
ProductRegistration Number	7687-1
Proper shipping name	Environmentally hazardous substance, solid, n.o.s. (contains copper sulfate, pentahydrate)
Other means of identification	20602, 20610

Recommended use of the chemical and restrictions on use

Relevant identified uses	Drain opener. Never pour product into sinks or tub drains
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	HCC Holdings, Inc. an Oatey Affiliate
Address	4700 West 160th Street Cleveland, OH 44135 United States
Telephone	216-267-7100
Fax	Not Available
Website	Not Available
Email	info@oatey.com

Emergency phone number

Association / Organisation	Chemtrec
Emergency telephone numbers	1-800-424-9300 (Outside the US 1-703-527-3887)
Other emergency telephone numbers	Emergency First Aid: 1-877-740-5015

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Classification	Serious Eye Damage/Eye Irritation Category 2A, Hazardous to the Aquatic Environment Acute Hazard Category 1, Acute Toxicity (Oral) Category 4, Hazardous to the Aquatic Environment Long-Term Hazard Category 1
----------------	---

Label elements

Hercules Breakthru R-D Root Destroyer

Hazard pictogram(s)

Signal word **Warning**

Hazard statement(s)

Causes serious eye irritation.
 Harmful if swallowed.
 Very toxic to aquatic life with long lasting effects.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Wash all exposed external body areas thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Wear protective gloves, eye protection and face protection.
 Avoid release to the environment.

Precautionary statement(s) 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/physician/first aider/If you feel unwell.
 IF ON SKIN: Wash with plenty of water.
 Rinse mouth.
 If skin irritation occurs: Get medical advice/attention.
 Take off contaminated clothing and wash it before reuse.
 Collect spillage.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7758-99-8	99	<u>copper sulfate, pentahydrate</u>

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact

Rinse hands thoroughly before touching eyes Hold eyes open and rinse slowly and gently with water for 15-20 minutes. After the first five minutes, remove contact lenses if present and easy to do, and continue rinsing. Call poison control center or doctor for treatment advice.

Skin Contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

Continued...

Hercules Breakthru R-D Root Destroyer

Inhalation	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then, give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
Ingestion	Immediately call a poison control center or doctor for treatment advice. A person should sip a glass of water if able to swallow. Do not induce vomiting unless directed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsions may be needed.

SECTION 5 Fire-fighting measures**Extinguishing media**

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
-----------------------------	-------------

Special protective equipment and precautions for fire-fighters

- | | |
|----------------------|---|
| Fire Fighting | <ul style="list-style-type: none"> ▸ Alert Fire Department and tell them location and nature of hazard. ▸ Wear breathing apparatus plus protective gloves. ▸ Prevent, by any means available, spillage from entering drains or water courses. ▸ Use water delivered as a fine spray to control fire and cool adjacent area. ▸ DO NOT approach containers suspected to be hot. ▸ Cool fire exposed containers with water spray from a protected location. ▸ If safe to do so, remove containers from path of fire. ▸ Equipment should be thoroughly decontaminated after use. |
|----------------------|---|

Fire/Explosion Hazard	sulfur oxides (SOx) metal oxides
------------------------------	-------------------------------------

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

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

- | | |
|---------------------|---|
| Minor Spills | Sweep up into dustpan and then refer to Pesticide Disposal section. |
| Major Spills | Sweep up into dustpan and then refer to Pesticide Disposal section. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage**Precautions for safe handling**

- | | |
|----------------------|---|
| Safe handling | <ul style="list-style-type: none"> ▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. |
|----------------------|---|

Continued...

Hercules Breakthru R-D Root Destroyer

- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- **DO NOT** enter confined spaces until atmosphere has been checked.
- **DO NOT** allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, **DO NOT** eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Other information

Store in original container and keep in a locked storage area.
Do not contaminate water, food, or feed by storage or disposal.

Conditions for safe storage, including any incompatibilities**Suitable container**

Container Handling: Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Then offer for recycling, if available or puncture and dispose of it in a sanitary landfill.

Store in original container and keep in a locked storage area.

Copper sulfate:**Storage incompatibility**

- reacts violently with strong bases, hydroxylamine.(with ignition), magnesium (producing hydrogen gas)
- in contact with potassium chlorate is potentially explosive
- solutions are acidic and can react with metals to evolve flammable hydrogen gas. - corrosive to some metals including steel.
- is incompatible with sulfuric acid, caustics, ammonia, aliphatic amines, alkanolamines, amides, alkylene oxides, epichlorohydrin, organic anhydrides, isocyanates, vinyl acetate
- dusts or mists may react with acetylene to form shock-sensitive copper acetylides
- Avoid strong bases.

SECTION 8 Exposure controls / personal protection**Control parameters****Occupational Exposure Limits (OEL)****INGREDIENT DATA**

Not Available

Exposure controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:

(a): particle dust respirators, if necessary, combined with an absorption cartridge;

(b): filter respirators with absorption cartridge or canister of the right type;

(c): fresh-air hoods or masks

- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.

- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.

Air contaminants generated in the workplace possess varying 'escape' velocities which, in turn, determine the 'capture velocities' of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant:

Air Speed:

Continued...

Hercules Breakthru R-D Root Destroyer

direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 ft/min)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 ft/min)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 ft/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Personal protection



Eye and face protection

Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

See Hand protection below

Hands/feet protection

Wear appropriate chemical resistant gloves.

Body protection

See Other protection below

Other protection

Wear appropriate chemical resistant clothing.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

Class P2 particulate filters are used for protection against mechanically and thermally generated particulates or both.

P2 is a respiratory filter rating under various international standards, Filters at least 94% of airborne particles

Suitable for:

- Relatively small particles generated by mechanical processes eg. grinding, cutting, sanding, drilling, sawing.
- Sub-micron thermally generated particles e.g. welding fumes, fertilizer and bushfire smoke.
- Biologically active airborne particles under specified infection control applications e.g. viruses, bacteria, COVID-19, SARS

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Blue Solid Flakes		
Physical state	Solid	Relative density (Water = 1)	Not Available
Odour	None	Partition coefficient n-octanol / water	Not Available

Continued...

Hercules Breakthru R-D Root Destroyer

Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH	4 (10% solution)	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	>100	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (%) (Not Available%) (Not Available%) (Not Available%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	0

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	The product is hygroscopic and will absorb water by contact with the moisture in the air.
Possibility of hazardous reactions	None expected under normal conditions of storage and use.
Conditions to avoid	Avoid contact with water and moisture. Contact with incompatible materials.
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.
Ingestion	Harmful if swallowed.
Skin Contact	May cause redness and pain. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. This material can cause inflammation of the skin on contact in some persons.
Eye	Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Chronic	Prolonged inhalation may be harmful. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Acute Toxicity	✓
Skin Irritation/Corrosion	✗
Carcinogenicity	✗
Reproductivity	✗

Continued...

Hercules Breakthru R-D Root Destroyer

Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ - Data either not available or does not fill the criteria for classification
 ✓ - Data available to make classification

SECTION 12 Ecological information

Toxicity

Hercules Breakthru R-D Root Destroyer	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
copper sulfate, pentahydrate	EC50(ECx)	96h	Crustacea	0.001mg/L	5
	LC50	96h	Fish	0.073mg/L	4
	EC50	72h	Algae or other aquatic plants	0.8mg/L	5
	EC50	48h	Crustacea	0.003mg/L	5

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water except as specified on the labeling. **DO NOT** discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
copper sulfate, pentahydrate	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
copper sulfate, pentahydrate	LOW (LogKOW = -2.2002)

Mobility in soil

Ingredient	Mobility
copper sulfate, pentahydrate	LOW (KOC = 6,124)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

Pesticide Disposal: Pesticides waste may be hazardous. Improper disposal of excess pesticide is a violation of Federal Law. If this waste cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or Hazardous Waste Representative at the nearest EPA Regional Office for guidance. If partially filled: call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain except as specified by the label.

Container Handling: Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Then offer for recycling, if available or puncture and dispose of it in a sanitary landfill.

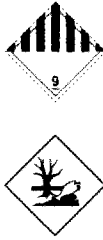
SECTION 14 Transport information

Labels Required

Continued...

Hercules Breakthru R-D Root Destroyer

Marine Pollutant



Land transport (DOT)

UN number	3077		
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (contains copper sulfate, pentahydrate)		
Transport hazard class(es)	Class	9	
	Subrisk	Not Applicable	
Packing group	III		
Environmental hazard	Yes		
Special precautions for user	Hazard Label	9	
	Special provisions	8, 146, 335, 384, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33	

For Individual Packages of Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 that contain LESS THAN the reportable quantity (5000 lbs) - Not Regulated

For Individual Packages of Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 that contain MORE THAN the reportable quantity (5000 lbs) - Regulated and classified as below:

Air transport (ICAO-IATA / DGR)

UN number	3077		
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. * (contains copper sulfate, pentahydrate)		
Transport hazard class(es)	ICAO/IATA Class	9	
	ICAO / IATA Subrisk	Not Applicable	
	ERG Code	9L	
Packing group	III		
Environmental hazard	Yes		
Special precautions for user	Special provisions	A97 A158 A179 A197 A215	
	Cargo Only Packing Instructions	956	
	Cargo Only Maximum Qty / Pack	400 kg	
	Passenger and Cargo Packing Instructions	956	
	Passenger and Cargo Maximum Qty / Pack	400 kg	
	Passenger and Cargo Limited Quantity Packing Instructions	Y956	
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G	

Sea transport (IMDG-Code / GGVSee)

UN number	3077		
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (contains copper sulfate, pentahydrate)		
Transport hazard class(es)	IMDG Class	9	
	IMDG Subrisk	Not Applicable	
Packing group	III		
Environmental hazard	Yes		
Special precautions for user	EMS Number	F-A , S-F	
	Special provisions	274 335 966 967 969	
	Limited Quantities	5 kg	

Continued...

Hercules Breakthru R-D Root Destroyer

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
copper sulfate, pentahydrate	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
copper sulfate, pentahydrate	Not Available

SECTION 15 Regulatory information**Safety, health and environmental regulations / legislation specific for the substance or mixture****copper sulfate, pentahydrate is found on the following regulatory lists**

US - Massachusetts - Right To Know Listed Chemicals	US DOE Temporary Emergency Exposure Limits (TEELs)
US CWA (Clean Water Act) - List of Hazardous Substances	US EPCRA Section 313 Chemical List
US CWA (Clean Water Act) - Priority Pollutants	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US CWA (Clean Water Act) - Toxic Pollutants	US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations**Superfund Amendments and Reauthorization Act of 1986 (SARA)****Section 311/312 hazard categories**

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	Yes
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
copper sulfate, pentahydrate	10	4.54

FIFRA Information:**This chemical is a pesticide product registered by the Environmental Protection Agency and is**

Continued...

Hercules Breakthru R-D Root Destroyer

subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

Signal Word: Danger

Hazard Statement: KEEP OUT OF REACH OF CHILDREN.

PRECAUTIONARY STATEMENTS - HAZARDS TO HUMAN AND DOMESTIC ANIMALS

Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Do not get in eyes, on skin or clothing. Wear goggles or face shield. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water except as specified on the labeling.

State Regulations

US. California Proposition 65

None Reported

National Inventory Status

National Inventory Status

USA - TSCA Yes

Yes = All CAS declared ingredients are on the inventory

Legend: *No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.*

SECTION 16 Other information

Revision Date | 02/11/2022

Initial Date | 01/28/2022

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average

PC—STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

ES: Exposure Standard

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

AiIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

Continued...

Hercules Breakthru R-D Root Destroyer

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances



Hercules Cesspool Cleaner

HCC Holdings, Inc. an Oatey Affiliate

Version No: 1.2
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Issue Date: 01/07/2022
Print Date: 01/07/2022
S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Hercules Cesspool Cleaner
Synonyms	Not Available
Proper shipping name	Sodium hydroxide, solid
Other means of identification	20715

Recommended use of the chemical and restrictions on use

Relevant identified uses	Drain opener,
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	HCC Holdings, Inc. an Oatey Affiliate
Address	4700 West 160th Street Cleveland, OH 44135 United States
Telephone	216-267-7100
Fax	Not Available
Website	Not Available
Email	info@oatey.com

Emergency phone number

Association / Organisation	Chemtrec
Emergency telephone numbers	1-800-424-9300 (Outside the US 1-703-527-3887)
Other emergency telephone numbers	Emergency First Aid: 1-877-740-5015

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Classification	Corrosive to Metals Category 1, Serious Eye Damage/Eye Irritation Category 1, Skin Corrosion/Irritation Category 1A
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Label elements

Hercules Cesspool Cleaner

Hazard pictogram(s)

Signal word **Danger**

Hazard statement(s)

May be corrosive to metals.
Causes severe skin burns and eye damage.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Do not breathe dust/fume.
Wash all exposed external body areas thoroughly after handling.
Wear protective gloves, protective clothing, eye protection and face protection.
Keep only in original container.

Precautionary statement(s) Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
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/physician/first aider.
Wash contaminated clothing before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Absorb spillage to prevent material damage.

Precautionary statement(s) Storage

Store locked up.
Store in corrosive resistant/ container with a resistant inner liner.

Precautionary statement(s) Disposal

Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1310-73-2	95-100	<u>sodium hydroxide</u>

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▸ Immediately hold eyelids apart and flush the eye continuously with running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▸ Transport to hospital or doctor without delay. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
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Continued...

Hercules Cesspool Cleaner

Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▸ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▸ Quickly remove all contaminated clothing, including footwear. ▸ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▸ Transport to hospital, or doctor.
Inhalation	<ul style="list-style-type: none"> ▸ If fumes or combustion products are inhaled remove from contaminated area. ▸ Lay patient down. Keep warm and rested. ▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▸ Transport to hospital, or doctor, without delay. ▸ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. ▸ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). ▸ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. ▸ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. <p>This must definitely be left to a doctor or person authorised by him/her. (ICSC13719)</p> <ul style="list-style-type: none"> ▸ IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. ▸ For advice, contact a Poisons Information Centre or a doctor. ▸ Urgent hospital treatment is likely to be needed. ▸ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. ▸ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. ▸ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.
Ingestion	<p>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</p> <ul style="list-style-type: none"> ▸ INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. <p>NOTE: Wear a protective glove when inducing vomiting by mechanical means.</p>

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

For acute or short-term repeated exposures to highly alkaline materials:

- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- Oxygen is given as indicated.
- The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
- Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure.

INGESTION:

- Milk and water are the preferred diluents

No more than 2 glasses of water should be given to an adult.

- Neutralising agents should never be given since exothermic heat reaction may compound injury.

* Catharsis and emesis are absolutely contra-indicated.

* Activated charcoal does not absorb alkali.

* Gastric lavage should not be used.

Supportive care involves the following:

- Withhold oral feedings initially.
- If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

- Injury should be irrigated for 20-30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]

SECTION 5 Fire-fighting measures

Continued...

Hercules Cesspool Cleaner

Extinguishing media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
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Special protective equipment and precautions for fire-fighters

Fire Fighting	Wear positive pressure self-contained breathing apparatus (SCBA).
Fire/Explosion Hazard	May emit corrosive fumes.

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

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▸ Remove all ignition sources. ▸ Clean up all spills immediately. ▸ Avoid contact with skin and eyes. ▸ Control personal contact with the substance, by using protective equipment. ▸ Use dry clean up procedures and avoid generating dust. ▸ Place in a suitable, labelled container for waste disposal. ▸ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. ▸ Check regularly for spills and leaks.
Major Spills	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▸ Clear area of personnel and move upwind. ▸ Alert Fire Department and tell them location and nature of hazard. ▸ May be violently or explosively reactive. ▸ Wear full body protective clothing with breathing apparatus. ▸ Prevent, by any means available, spillage from entering drains or water course. ▸ Consider evacuation (or protect in place). ▸ Stop leak if safe to do so. ▸ Contain spill with sand, earth or vermiculite. ▸ Collect recoverable product into labelled containers for recycling. ▸ Neutralise/decontaminate residue (see Section 13 for specific agent). ▸ Collect solid residues and seal in labelled drums for disposal. ▸ Wash area and prevent runoff into drains. ▸ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. ▸ If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage**Precautions for safe handling**

Safe handling	<ul style="list-style-type: none"> ▸ Avoid all personal contact, including inhalation. ▸ Wear protective clothing when risk of exposure occurs. ▸ Use in a well-ventilated area. ▸ WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material. ▸ Avoid smoking, naked lights or ignition sources. ▸ Avoid contact with incompatible materials. ▸ When handling, DO NOT eat, drink or smoke. ▸ Keep containers securely sealed when not in use.
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Continued...

Hercules Cesspool Cleaner

Other information

- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storage and handling recommendations contained within this SDS.
- **DO NOT** store near acids, or oxidising agents
- No smoking, naked lights, heat or ignition sources.

Conditions for safe storage, including any incompatibilities

Suitable container

- Glass container is suitable for laboratory quantities
- **DO NOT** use aluminium, galvanised or tin-plated containers
- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

Storage incompatibility

Sodium hydroxide/ potassium hydroxide:

- reacts with water evolving heat and corrosive fumes
- reacts violently with acids, trans-acetylene dichloride, aminotetrazole, p-bis(1,3-dibromoethyl), benzene, bromoform, halogenated compounds, nitrogen-containing compounds, organic halogens, chlorine dioxide ((explodes), chloroform, cresols, cyclopentadiene, 4-chloro-2-methylphenol, cis-dichloroethylene, 2,2-dichloro-3,3-dimethylbutane, ethylene chlorohydrin, germanium, iodine pentafluoride, maleic anhydride, p-nitrotoluene, nitrogen trichloride, o-nitrophenol, phosphonium iodide, potassium peroxydisulfate, propylene oxide, 1,2,4,5-tetrachlorobenzene (highly toxic substance is forme), 2,2,3,3-tetrafluoro-1-propanol, tetrahydrofuran, thorium dicarbide, trichloroethanol, 2,4,6-trinitrotoluene, vinyl acetate
- reacts with fluorine, nitroalkanes, (forming explosive compounds)
- incompatible with acetic acid, acetaldehyde, acetic anhydride, acrolein, acrylonitrile, allyl chloride, organic anhydride, acrylates, alcohols, aldehydes, alkylene oxides, substituted allyls, ammonium chloroplatinate, benzanthrone, bromine, benzene-1,4-diol, carbon dioxide, cellulose nitrate, chlorine trifluoride, 4-chlorobutyronitrile, chlorohydrin, chloronitroloenes, chlorosulfonic acid, cinnamaldehyde, caprolactam solution, chlorocresols, 1,2-dichloroethylene, epichlorohydrin, ethylene cyanohydrin, formaldehyde (forms formic acid and flammable hydrogen gas), glycols, glyoxal, hexachloroplatinate, hydrogen sulfide, hydroquinone, iron-silicon, isocyanates, ketones, methyl azide, 4-methyl-2-nitrophenol, mineral acids (forming corresponding salt), nitrobenzene, N-nitrosohydroxylamine, nitrates pentol, phenols, phosphorus, phosphorus pentaoxide, beta-propiolactone, sodium, sulfur dioxide, tetrahydroborate, 1,1,1,2-tetrachloroethane, 2,2,2-trichloroethanol, trichloronitromethane, zirconium
- ignites on contact with cinnamaldehyde or zinc and reacts explosively with a mixture of chloroform and methane
- forms heat-, friction-, and/ or shock-sensitive- explosive salts with nitro-compounds, cyanogen azide, 3-ethyl-4-hydroxy-1,2,5-oxadiazole, 3-methyl-2-penten-4-yn-1-ol, N,N'-bis(2,2,2-trinitroethyl)urea, trichloroethylene (forms dichloroacetylene)
- increase the explosive sensitivity of nitromethane
- attacks some plastics, rubber, coatings and metals: aluminium, tin, zinc, etc, and their alloys, producing flammable hydrogen gas
- In presence of moisture, the material is corrosive to aluminium, zinc and tin producing highly flammable hydrogen gas.
- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.
- Avoid contact with copper, aluminium and their alloys.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-1	sodium hydroxide	Sodium hydroxide	2 mg/m ³	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	sodium hydroxide	Sodium hydroxide	Not Available	Not Available	2 mg/m ³	Not Available

Continued...

Hercules Cesspool Cleaner

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US ACGIH Threshold Limit Values (TLV)	sodium hydroxide	Sodium hydroxide	Not Available	Not Available	2 mg/m3	Not Available

Exposure controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying 'escape' velocities which, in turn, determine the 'capture velocities' of fresh circulating air required to effectively remove the contaminant.

Appropriate engineering controls

Type of Contaminant:

solvent, vapours, degreasing etc., evaporating from tank (in still air).

aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)

direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)

grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)

Air Speed:

0.25-0.5 m/s
(50-100 f/min)

0.5-1 m/s (100-200 f/min.)

1-2.5 m/s (200-500 f/min.)

2.5-10 m/s
(500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

1: Room air currents minimal or favourable to capture

2: Contaminants of low toxicity or of nuisance value only

3: Intermittent, low production.

4: Large hood or large air mass in motion

Upper end of the range

1: Disturbing room air currents

2: Contaminants of high toxicity

3: High production, heavy use

4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Personal protection



Eye and face protection

- Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.
- Chemical goggles, whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.
- Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively a gas mask may replace splash goggles and face shields.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly, [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Continued...

Hercules Cesspool Cleaner

Skin protection	See Hand protection below
Hands/feet protection	▸ Elbow length PVC gloves
Body protection	See Other protection below
Other protection	▸ Overalls. ▸ PVC Apron. ▸ PVC protective suit may be required if exposure severe. ▸ Eyewash unit. ▸ Ensure there is ready access to a safety shower.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

Class P2 particulate filters are used for protection against mechanically and thermally generated particulates or both.

P2 is a respiratory filter rating under various international standards, Filters at least 94% of airborne particles

Suitable for:

- Relatively small particles generated by mechanical processes eg. grinding, cutting, sanding, drilling, sawing.
- Sub-micron thermally generated particles e.g. welding fumes, fertilizer and bushfire smoke.
- Biologically active airborne particles under specified infection control applications e.g. viruses, bacteria, COVID-19, SARS

SECTION 9 Physical and chemical properties**Information on basic physical and chemical properties**

Appearance	Solid Flake		
Physical state	Solid	Relative density (Water = 1)	Not Available
Odour	No odour	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	13-14	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	>100	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (%)	Not Available
Vapour density (Air = 1)	>2.13	VOC g/L	0

Continued...

Hercules Cesspool Cleaner

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▸ Unstable in the presence of incompatible materials. ▸ Product is considered stable. ▸ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information**Information on toxicological effects**

Inhaled	<p>Inhaling corrosive bases may irritate the respiratory tract. Symptoms include cough, choking, pain and damage to the mucous membrane.</p> <p>There is strong evidence to suggest that this material can cause, if inhaled once, serious, irreversible damage of organs. Sudden inhalation of sodium hydroxide dust may produce fatal outcome such as spasm, inflammation of the throat and airway, burns, severe lung inflammation and fluid accumulated in the lungs. These manifest as coughing, wheezing, shortness of breath, headache, nausea and vomiting.</p> <p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>There is strong evidence to suggest that this material, on a single contact with skin, can cause serious, irreversible damage of organs.</p>
Ingestion	<p>Strong evidence exists that exposure to the material may cause irreversible damage (other than cancer, mutations and birth defects) following a single exposure by swallowing.</p> <p>Ingestion of alkaline corrosives may produce burns around the mouth, ulcerations and swellings of the mucous membranes, profuse saliva production, with an inability to speak or swallow. Both the oesophagus and stomach may experience burning pain; vomiting and diarrhoea may follow.</p> <p>The material is not thought to produce adverse health effects following ingestion. Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.</p> <p>Ingestion of sodium hydroxide may result in severe pain, burns to the mouth, throat, stomach, nausea and vomiting, swelling of the throat and subsequent perforation of the gastro-intestinal tract and suffocation but a 1% solution (pH 13.4) of sodium hydroxide in water failed to cause any damage of the stomach or gullet in rabbits.</p> <p>Accidental ingestion of the material may be damaging to the health of the individual.</p>
Skin Contact	<p>Skin contact with the material may be harmful; systemic effects may result following absorption.</p> <p>The material can produce severe chemical burns following direct contact with the skin.</p> <p>There is strong evidence to suggest that this material, on a single contact with skin, can cause serious, irreversible damage of organs.</p> <p>Sodium hydroxide causes burns which may take time to manifest and cause pain, thus care should be taken to avoid contamination of gloves and boots.</p> <p>A 5% aqueous solution of it produces tissue death on rabbit skin while 1% solution caused no effect on irrigated rabbit eye.</p> <p>Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
Eye	<p>If applied to the eyes, this material causes severe eye damage.</p> <p>Direct eye contact with corrosive bases can cause pain and burns. There may be swelling, epithelium destruction, clouding of the cornea and inflammation of the iris. Mild cases often resolve; severe cases can be prolonged with complications such as persistent swelling, scarring, permanent cloudiness, bulging of the eye, cataracts, eyelids glued to the eyeball and blindness.</p>
Chronic	<p>Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue.</p>
Acute Toxicity	✘
Skin Irritation/Corrosion	✔
Carcinogenicity	✘
Reproductivity	✘

Continued...

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Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ - Data either not available or does not fill the criteria for classification
 ✓ - Data available to make classification

SECTION 12 Ecological information

Toxicity

Hercules Cesspool Cleaner	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
sodium hydroxide	EC50(ECx)	48h	Crustacea	34.59-47.13mg/l	4
	LC50	96h	Fish	144-267mg/l	4
	EC50	48h	Crustacea	34.59-47.13mg/l	4

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms.

For Metal:

Atmospheric Fate - Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air.

Environmental Fate: Environmental processes, such as oxidation, the presence of acids or bases and microbiological processes, may transform insoluble metals to more soluble ionic forms. Environmental processes may enhance bioavailability and may also be important in changing solubilities.

Aquatic/Terrestrial Fate: When released to dry soil, most metals will exhibit limited mobility and remain in the upper layer; some will leach locally into ground water and/ or surface water ecosystems when soaked by rain or melt ice. A metal ion is considered infinitely persistent because it cannot degrade further. Once released to surface waters and moist soils their fate depends on solubility and dissociation in water. A significant proportion of dissolved/ sorbed metals will end up in sediments through the settling of suspended particles. The remaining metal ions can then be taken up by aquatic organisms. Ionic species may bind to dissolved ligands or sorb to solid particles in water.

Ecotoxicity: Even though many metals show few toxic effects at physiological pH levels, transformation may introduce new or magnified effects.

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
sodium hydroxide	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
sodium hydroxide	LOW (LogKOW = -3.8796)

Mobility in soil

Ingredient	Mobility
sodium hydroxide	LOW (KOC = 14.3)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- * Containers may still present a chemical hazard/ danger when empty.
- * Return to supplier for reuse/ recycling if possible.
- Otherwise
 - * If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to

Continued...

Hercules Cesspool Cleaner

- store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and SDS and observe all notices pertaining to the product.
 - **DO NOT** allow wash water from cleaning or process equipment to enter drains.
 - It may be necessary to collect all wash water for treatment before disposal.
 - In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
 - Where in doubt contact the responsible authority.
 - Recycle wherever possible.
 - Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
 - Treat and neutralise at an approved treatment plant.
 - Treatment should involve: Mixing or slurring in water; Neutralisation with suitable dilute acid followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).
 - Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 Transport information

Labels Required



Marine Pollutant NO

Land transport (DOT)

UN number 1823
 UN proper shipping name Sodium hydroxide, solid
 Transport hazard class(es) Class 8
 Subrisk Not Applicable
 Packing group II
 Environmental hazard Not Applicable
 Special precautions for user Hazard Label 8
 Special provisions IB8, IP2, IP4, T3, TP33

Air transport (ICAO-IATA / DGR)

UN number 1823
 UN proper shipping name Sodium hydroxide, solid
 Transport hazard class(es) ICAO/IATA Class 8
 ICAO / IATA Subrisk Not Applicable
 ERG Code 8L
 Packing group II
 Environmental hazard Not Applicable
 Special precautions for user Special provisions Not Applicable
 Cargo Only Packing Instructions 863
 Cargo Only Maximum Qty / Pack 50 kg
 Passenger and Cargo Packing Instructions 859
 Passenger and Cargo Maximum Qty / Pack 15 kg
 Passenger and Cargo Limited Quantity Packing Instructions Y844
 Passenger and Cargo Limited Maximum Qty / Pack 5 kg

Sea transport (IMDG-Code / GGVSee)

UN number 1823
 UN proper shipping name SODIUM HYDROXIDE, SOLID

Continued...

Hercules Cesspool Cleaner

Transport hazard class(es)	IMDG Class	8
	IMDG Subrisk	Not Applicable
Packing group	II	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-A , S-B
	Special provisions	Not Applicable
	Limited Quantities	1 kg

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
sodium hydroxide	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
sodium hydroxide	Not Available

SECTION 15 Regulatory information**Safety, health and environmental regulations / legislation specific for the substance or mixture****sodium hydroxide is found on the following regulatory lists**

US - Massachusetts - Right To Know Listed Chemicals	US NIOSH Recommended Exposure Limits (RELs)
US ACGIH Threshold Limit Values (TLV)	US OSHA Permissible Exposure Limits (PELs) Table Z-1
US CWA (Clean Water Act) - List of Hazardous Substances	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US DOE Temporary Emergency Exposure Limits (TEELs)	US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations**Superfund Amendments and Reauthorization Act of 1986 (SARA)****Section 311/312 hazard categories**

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	Yes
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No

Continued...

Hercules Cesspool Cleaner

Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
sodium hydroxide	1000	454

State Regulations**US. California Proposition 65**

None Reported

National Inventory Status

National Inventory	Status
USA - TSCA	Yes

*Yes = All CAS declared ingredients are on the inventory**Legend: No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.***SECTION 16 Other information**

Revision Date	01/07/2022
Initial Date	12/19/2021

Other information

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
 IDLH: Immediately Dangerous to Life or Health Concentrations
 ES: Exposure Standard
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index
 AIIC: Australian Inventory of Industrial Chemicals
 DSL: Domestic Substances List
 NDSL: Non-Domestic Substances List
 IECSC: Inventory of Existing Chemical Substance in China
 EINECS: European INventory of Existing Commercial chemical Substances
 ELINCS: European List of Notified Chemical Substances
 NLP: No-Longer Polymers
 ENCS: Existing and New Chemical Substances Inventory
 KECI: Korea Existing Chemicals Inventory
 NZIoC: New Zealand Inventory of Chemicals
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 TSCA: Toxic Substances Control Act
 TCSI: Taiwan Chemical Substance Inventory
 INSQ: Inventario Nacional de Sustancias Químicas
 NCI: National Chemical Inventory

Continued...

Hercules Cesspool Cleaner

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

SAFETY DATA SHEET

1. Identification of the substance/mixture and of the company

1.1 Product identifier

Product Name:
Type HP™ Cleaner/Degreaser
Saturated Towel/Wipe Package

Product ID numbers: HP-1, HP-1B, HP-1M,
HP-P158ID, HP-P158IDB, HP-P158IDM, HP-3P158IDS, HP-6P158ID,
HP-P1K, HP-P63
HP-D72, HP-D72E,
HP-P31212, HP-P369,
HP-T369, HP-T369/S, HP-T369/SH, HP-T369/SH48, HP-T369/S-D

1.2 Relevant identified uses of the mixture and uses advised against

Identified uses: Electrical cleaning

List of advices against: Not applicable.

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer:

American Polywater Corporation

11222 - 60th Street North
Stillwater, MN 55082 USA
Tel: 1-651-430-2270
Email: sds@polywater.com

1.4 Emergency telephone numbers

INFOTRAC: 1-800-535-5053 (USA) 1-352-323-3500 (INT'L)

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to USA OSHA 29 CFR 1910.1200 (2012) and Canada HPR (SOR/2015-17; WHMIS 2015).

Skin Sens 1 H317

Flam Liq 4 H227

2.2 Label elements

Contains: Petroleum distillates, hydrotreated light; d-Limonene



Pictograms:

Signal word: Warning

Hazard Statements:

H227 Combustible liquid

H317 May cause an allergic skin reaction.

Precautionary Statements:

P210 Keep away from flames and hot surfaces. No smoking.
P261 Avoid breathing fumes.
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P333 + P313 If skin irritation or rash occurs: Get medical advice.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use water fog, foam, dry chemical or carbon dioxide for extinction.
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with local and national regulations.

Notes: Aspiration classification not applied due to the physical form of the product.

2.3 Other hazards: No information available.

3. Composition/Information on Ingredients

<u>Component</u>	<u>CAS #</u>	<u>EC #</u>	<u>Wt. %</u>
Petroleum distillates, hydrotreated light	64742-47-8	265-149-8	< 100
d-Limonene	5989-27-5	227-813-5	< 10

4. First Aid Measures

4.1 Description of first aid measures

Eye Contact: If eye irritation from exposure to vapors develops, move to fresh air. Flush eyes with clean water. If irritation persists, seek medical attention. For direct eye contact, flush with large quantity of water for 15 minutes. Seek medical attention.

Skin Contact: Remove contaminated clothing; flush skin thoroughly with water. If irritation occurs, seek medical attention.

Inhalation (Breathing): If irritation of nose or throat develops, move to fresh air. If irritation persists, seek medical attention. If breathing is difficult, provide oxygen. If not breathing, give artificial respiration. Seek immediate medical attention.

Ingestion (Swallowing): Do not induce vomiting or give anything by mouth. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Refer to Section 11 for more information.

4.3 Indication of immediate medical attention and special treatment needed.

No information available.

5. Firefighting Measures

5.1 Extinguishing media:

Carbon dioxide, water fog, dry chemical or foam.

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition and by-products:

Burning generates CO, CO₂ and smoke. Smoke may be acrid and fumes irritating.

5.3 Advice for firefighters

Wear full protective clothing, including self-contained, positive pressure or pressure-demand breathing apparatus. Sealed container can build up pressure when exposed to high heat. Use water spray to cool fire exposed containers.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Limited spill hazard with saturated towel package.

6.2 Environmental precautions:

Avoid release to the environment.

6.3 Methods materials for containment and cleaning up:

Collect towel and absorb any excess material with sand or absorbents.

6.4 Reference to other sections:

Refer to Sections 4, 5, 8, and 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing vapors or 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. Wash contaminated clothing before reuse. For industrial or professional use only. Avoid contact with oxidizing agents (e.g. chlorine, chromic acid etc.)

7.2 Conditions for safe storage, including incompatibilities

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

7.3 Specific end uses

See technical data sheet on this product for further information.

8. Exposure Controls / Personal Protection

8.1 Control parameters

Exposure limits and recommendations:

Petroleum Distillates, hydrotreated light (64742-47-8)

Country/Source	Long-term exposure limit – 8 hr. TWA	Short-term exposure limit – 15 min
Manufacturer, RCP* TWA	1200 mg/m ³	--
USA, ACGIH TWA	Not established	Not established
USA, OSHA PEL	2000 mg/m ³ , 500 ppm (as petroleum distillates (naphtha))	--
British Columbia	200 mg/m ³	--
Alberta, Quebec, Yukon, Saskatchewan, Ontario*	Not established	--

D-Limonene (5989-27-5)

Country/Source	Long-term exposure limit – 8 hr. TWA	Short-term exposure limit – 15 min
USA ACGIH TWA	Not established	Not established
USA OSHA PEL	Not established	Not established
Alberta, Quebec, Yukon, British Columbia, Saskatchewan, Ontario*	Not established	Not established

* reciprocal calculation procedure for total hydrocarbons

** Manitoba, Newfoundland and Labrador, Nova Scotia, and Prince Edward Island are all based on the current ACGIH TLVs. New Brunswick is based on an older version ACGIH. Nunavet and Northwest Territories are based heavily on current ACGIH TLVs.

8.2 Exposure controls

Respiratory protection:

Normal ventilation is adequate. Towelette limits solvent vapor exposure. If exposure exceeds recommended limits, respirator protection is recommended. Use a respirator or gas mask with cartridges for organic vapors (NIOSH or CE approved) with particulate pre-filter, P100 or AP2.

Protective gloves:

For repeated or prolonged skin contact, the use of impermeable gloves is recommended to prevent drying and possible irritation.

Suggested Material: Nitrile Rubber
Suggested Thickness: For short term contact (<15 minutes), splashes use 0.2 mm. For full contact use 0.4 mm

Exact break-through time has not been determined. Guidance is based on similar chemistry/material. Maximum wearing time should be determined based on 50 % of the penetration time determined by EN 374 part III.

Eye protection:

None necessary. Wipe package eliminates splash hazard. Do not allow wipe/towel to directly contact eyes.

Other protective equipment:

It is suggested that a source of clean water be available in work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. Physical and Chemical

9.1 Information of basic physical and chemical properties (bulk liquid)

Appearance: Clear, colorless liquid with a very light citrus scent.
Odor threshold: Not available
pH: Does not apply
Freezing point: <-58°F (<-50°C)
Boiling point: 365°F (185°C) Initial
Flash point: >140°F (>60.5°C), Closed Cup (PMCC)
Evaporation rate: <0.1 (n-butyl acetate = 1)
Flammability (solid, gas): Not applicable to liquids
Upper/lower flammability or explosive limits: LEL = 0.7% UEL = 6.1%-7.0%
Vapor pressure: <1 mm Hg < 134 Pa @ 20°C
Vapor density (Air = 1): > 1.0
Specific gravity (H₂O = 1): 0.79
Solubility in water: Nil
Partition coefficient: n-octanol/water: Not available
Auto-ignition temperature: Not available
Decomposition temperature: Not available
Viscosity: Not available

9.2 Other Information

Volatiles (Weight %): 100%
VOC Content: 790 g/l

10. Stability and Reactivity

10.1 Reactivity:

See remaining headings in Section 10.

10.2 Chemical stability:

Stable

10.3 Possibility of hazardous reactions:

None known.

10.4 Conditions to avoid:

Avoid heat, flame, and sparks.

10.5 Incompatible materials :

Strong oxidizing agents.

10.6 Hazardous decomposition products:

Carbon dioxide, carbon monoxide.

11. Toxicological Information

11.1 Information on toxicological effects:

Acute toxicity

Eye contact:

Direct eye contact may cause eye irritation. This irritation is minimal and expected to be transient.

Skin contact:

Prolonged or repeated skin exposure can remove oils, causing redness, drying and cracking. Persons with pre-existing skin disorders may be more susceptible to skin irritation from this material.

Irritation and Sensitization Potential:

Product may be irritating to skin and eyes. It may cause an allergic skin reaction.

Inhalation (Breathing):

Concentrated petroleum solvent vapors may cause irritation of the nose and throat. Prolonged exposure to excessively high vapor concentrations can result in central nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue). Persons with impaired lung function may experience additional breathing difficulties due to the irritant properties of this material.

Ingestion:

Ingestion of large quantities may cause irritation of the digestive tract, nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue).

Toxicity to Animals:

Petroleum distillates, hydrotreated light:	LD ₅₀ (oral rat) >5000 mg/kg LD ₅₀ (dermal rabbit) >2000 mg/kg LC ₅₀ (inhl rat) >4.3mg/L, 4 hours
d-Limonene:	LD ₅₀ (oral rat) >5000 mg/kg LD ₅₀ (dermal rabbit) 5000 mg/kg RD ₅₀ 1000 ppm

Aspiration hazard

Liquid solvent has an aspiration hazard. This route of exposure is not expected for towelette form.

Chronic Exposure:

Reproductive Toxicity: Not available.

Mutagenicity: Not available.

Teratogenicity: Not available.

Specific Target Organ Toxicity (STOT) No end point data.

Toxicologically Synergistic Products: Not available.

Carcinogenic Status: This substance has not been identified as a carcinogen or probable carcinogen by NTP, IARC, or OSHA, nor have any of its components.

12. Ecological Information

12.1 Toxicity:

Ecotoxicity:	No information available.
Aquatic Toxicity:	No information available.
12.2 Persistence and degradability:	Expected to be biodegradable.
12.3 Bioaccumulation potential:	No information available
12.4 Mobility in soil:	No information available.
12.5 Results of PBT and vPvB Assessment:	This product is not, nor does it contain a substance that is a PBT or vPvB.
12.6 Other adverse effects:	None known.

13. Disposal Considerations

Dispose of product in accordance with National and Local Regulations.

14. Transport Information

UN Number:	Not Listed
UN Proper shipping name:	Not Applicable
Transport hazard class(es):	Not Applicable
Packing group:	Not Applicable
Environmental hazards:	None known
Special precautions:	None known
TDG:	Not Regulated
ICAO/IATA-DGR:	Not Regulated
IMDG:	Not Regulated
ADR/RID:	Not Regulated

15. Regulatory Information

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

USA Federal and State

All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	<u>Acute</u> No	<u>Chronic</u> No	<u>Fire</u> Yes	<u>Pressure</u> No	<u>Reactive</u> No
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Components	CERCLA/SARA Sec 302 Hazardous Substance RQ	EHS TPQ	SARA Sec. 313 Toxic Release
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Components are not affected by these Superfund regulations.

NFPA Ratings:	Health:	1
	Fire:	2
	Reactivity:	0

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

California Proposition 65

WARNING: This product can expose you to benzene, ethylbenzene, cumene, and naphthalene which are known to the state of California to cause cancer, and toluene and benzene which are known to the State of California to cause birth defects and/or other reproductive harm. For more information, go to www.p65warnings.ca.gov.

European Union

Product Name: Type HP™ Cleaner/Degreaser, Saturated Towelette Package **Revision Date:** September 21, 2018

Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006. All components are listed on the European Inventory of Existing Chemical Substances (EINECS). Contains no substance on the REACH candidate list $\geq 0.1\%$ SCL. Does not contain notified substances from the ELINCS List, Directive 92/32/EEC. Contains no REACH substances with Annex XVII restrictions.

Canada

All components are listed on the DSL inventory.

This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

Australia

All components are listed on the AICS.

Hazardous according to criteria of NOHSC Australia. Product classified as harmful (Xn).

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for the mixture by the supplier.

16. Other Information

Abbreviations and acronyms:

OSHA = Occupational Safety and Health Administration

CLP = Classification, Labeling and Packaging Regulation

STOT = Specific Target Organ Toxicity

LD₅₀ = Median Lethal Dose

DNEL = Derived No Effect Level

ACGIH = American Conference of Governmental Industrial Hygienists

TSCA = Toxic Substances Control Act (USA)

DSL = Domestic Substances List (Canada)

AICS = Australian Inventory of Chemical Substances

Mixture classification according to Regulation (EC) No 1272/2008:

H227 Combustible liquid

H317 May cause an allergic skin reaction.

Classification Procedure

Physical Testing

Calculation method.

Revision Date: September 21, 2018

Revision Number: 6 NA

Supersedes: July 31, 2017

Other: Not Applicable

Indication of Changes: Section 3, 15 updated; format updates and additional California Proposition 65 information. Written in accordance with the provisions of OSHA 1910.1200 App D (2012) and Canada HPR (SOR/2015-17) (WHMIS 2015). (GHS format)

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.

SAFETY DATA SHEET

1. Identification of the substance/mixture and of the company

1.1 Product identifier

**Product Name: Type TR™
Cleaner/Degreaser
Saturated Wipe Package**

Product ID numbers: TR-1, TR-1L

1.2 Relevant identified uses of the mixture and uses advised against

Identified uses: Electrical Cleaner/Degreaser

List of advices against: Not applicable.

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer:

American Polywater Corporation

11222 - 60th Street North
Stillwater, MN 55082 USA
Tel: 1-651-430-2270
Email: sds@polywater.com

1.4 Emergency telephone numbers

INFOTRAC 1-352-323-3500 (USA)

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to OSHA 29 CFR 1910.1200 and Regulation (EC) No 1272/2008.

Flam Liq 2	H225
Skin Irrit. 2	H315
Eye Dam 1	H318
Carc 2	H351
Rep. Tox. 1B	H360
STOT RE 2 (Liver, Central Nervous System)	H373
STOT SE 3 (Respiratory system, Central Nervous System)	H335, H336

2.2 Label elements

Contains: 1-bromopropane, n-propyl alcohol, ,2-epoxybutane



Pictograms:

Signal word: Danger

Hazard Statements:

H225	Extremely flammable liquid and vapor.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H360 May damage fertility or the unborn child.
- H373 May cause damage to the liver and central nervous system through prolonged or repeated exposure

Precautionary Statements:

- P210 Keep away from sparks, flames and hot surfaces. No smoking.
- P242 Use only non-sparking tools.
- P260 Do not breathe vapor.
- P264 Wash hands thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves and eye protection.
- P303 + P361 + P353 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water.
- P332 + P313 If skin irritation occurs: Get medical attention.
- P304 + P340 IF INHALED: Remove victim 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.
- P308 + P313 If exposed or concerned: Get medical advice.
- P370 + P378 In case of fire: Use water fog, foam, dry chemical or carbon dioxide for extinction.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local and national regulations.

2.3 Other hazards: No information available.

3. Composition/Information on Ingredients

<u>Component</u>	<u>CAS #</u>	<u>Wt. %</u>	<u>GHS/CLP Classification</u>
1-bromopropane	106-94-5	95-100%	Flam Liq 2; H225; Skin and Eye Irrit 2; H315, H319; Rep Tox 1B; H360; STOT RE 2, H373; STOT SE 3, H335, H336; Chronic Aquatic Tox 3; H412
n-propyl alcohol	71-23-8	2.5 - 10%	Flam Liq 2, H225; Eye Dam 1, H318; STOT SE 3; H336, (narcotic effects);
1,2 epoxy butane	106-88-7	<1%	Flam Liq 2; H225; Acute Tox 4; H302, H312, H332 Skin and Eye Irrit 2; H315, H319; STOT SE 3; H335; Carc. 2; H351 Chronic Aquatic Tox 3; H412

4. First Aid Measures

4.1 Description of first aid measures

- Eye Contact:** If eye irritation from exposure to vapors develops, move to fresh air. Flush eyes with clean water. If irritation persists, seek medical attention. For direct eye contact, flush with large quantity of water for 15 minutes. Seek medical attention.
- Skin Contact:** Remove contaminated clothing; flush skin thoroughly with water. If irritation occurs, seek medical attention.

Inhalation (Breathing): If irritation of nose or throat develops, move to fresh air. If irritation persists, seek medical attention. If breathing is difficult, provide oxygen. If not breathing, give artificial respiration. Seek immediate medical attention.

Ingestion (Swallowing): Less than 30 grams solvent per package. Rinse mouth. Do not induce vomiting. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Refer to Section 11 for more information.

4.3 Indication of immediate medical attention and special treatment needed.

No data available

5. Firefighting Measures

5.1 Extinguishing media:

Carbon dioxide, water fog, dry chemical or foam.

5.2 Special hazards arising from the substance or mixture

Vapors are heavier than air and may travel considerable distances.

Hazardous decomposition and by-products:

Include hydrogen bromide, bromine, oxides of carbon

5.3 Advice for firefighters

Wear appropriate, protective clothing, including self-contained, positive pressure or pressure-demand breathing apparatus. Sealed container can build up pressure when exposed to high heat. Use water spray to cool fire exposed containers.

Special Note:

Many data bases (OSHA, DOT, EPA, ESIS) list 1-bromopropane as highly flammable. Flash point testing has produced variable results, including no flashpoint to boiling.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Keep away from heat/sparks/open flames/hot surfaces. No smoking. For a spill in a confined space, provide mechanical ventilation to disperse or exhaust vapors. For emergency responders: use respiratory protection: half-face or full-face respirator with filter(s) for organic vapor for spills in a confined space. Chemical goggles are recommended if splashes or contact with eyes is possible. For small spills: normal antistatic work clothes are usually adequate.

6.2 Environmental precautions:

Avoid release to the environment.

6.3 Methods materials for containment and cleaning up:

Limited spill hazard with towelette package. Collect towel and absorb any excess material with sand or absorbents. Transfer to a container and seal. Remember, adding an absorbent material does not change the toxicity or flammability hazard.

6.4 Reference to other sections:

Refer to Sections 4, 5, 8, and 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing vapors or 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. Wash contaminated clothing before reuse. Use only outdoors or in a well-ventilated area. For industrial or professional use only.

7.2 Conditions for safe storage, including incompatibilities

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

7.3 Specific end uses

See technical data sheet on this product for further information.

8. Exposure Controls / Personal Protection**8.1 Control parameters****Exposure limits and recommendations:**

Component Name	Limit	Standard	Source/Note
1-bromopropane	0.1 ppm	ACGIH, TWA	Liver & embryo/fetal dam. A3
1-bromopropane	Not Established	OSHA, OEL	
n-propanol	100 ppm	ACGIH TWA	
n-propanol	500 mg/m ³	OSHA PEL	
n-propanol	200 ppm	OSHA PEL	
n-propanol	250 ppm	OSHA STEL	
1,2-epoxybutane	Not Established	OSHA, OEL	
1,2-epoxybutane	Not Established	OSHA, OEL	

8.2 Exposure controls**Respiratory protection:**

Towelette limits solvent vapor exposure. Ventilation or respirator protection is recommended. Use a respirator or gas mask with cartridges for organic vapors (NIOSH-US or EN 166-EU approved) or use supplied air equipment.

Protective gloves:

The use of impermeable gloves is recommended to prevent drying and possible irritation. Use of chemically resistant gloves such as Nitrile for short-term exposure, or Viton or Silvershield for extended exposures is suggested.

Splash contact:

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Breakthrough time: 467 min

Material test: Vitoject® (viton)

Eye protection:

Safety glasses recommended. Wipe package eliminates splash hazard. Do not allow wipe/towel to directly contact eyes.

Other protective equipment:

It is suggested that a source of clean water be available in work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. Physical and Chemical**9.1 Information of basic physical and chemical properties**

Appearance:	A non-linting towel, lightly saturated with clear, colorless liquid.
Odor threshold:	Very low
pH:	Does not apply
Freezing point:	Not available
Boiling point:	160°F / 71°C
Flash point:	Not available (See Section 5)
Evaporation rate:	>2 (n-butyl acetate = 1)
Flammability (solid, gas):	Not applicable to liquids Approximately 3.5 - 9% in air.
Flammability limits:	LEL: 4.6%
Vapor pressure:	>140 mm Hg @ 20°C
Vapor density (Air = 1):	4.3

Specific gravity (H₂O = 1):	1.33
Solubility in water:	2.5 grams per liter
Coefficient of Water/Oil Distribution:	Not available
Auto-ignition temperature:	Approximately 3-8% in air.
Decomposition temperature:	Not available
Viscosity:	Not available

9.2 Other Information

Volatiles (Weight %):	100%
VOC Content:	1330 g/l

10. Stability and Reactivity**10.1 Reactivity:**

See remaining headings in Section 10.

10.2 Chemical stability:

Stable

10.3 Possibility of hazardous reactions:

None known.

10.4 Conditions to avoid:

Avoid heat, flame or other hot surfaces that could cause thermal decomposition.

10.5 Incompatible materials :

Strong alkalis, oxidizers and reactive metals (i.e. potassium, sodium, etc.).

10.6 Hazardous decomposition products:

Thermal decomposition products include hydrogen bromide, bromine and oxides of carbon as well as oxides of nitrogen.

11. Toxicological Information**11.1 Information on toxicological effects:****Acute toxicity****Eye contact:**

Direct eye contact may cause eye damage.

Skin contact:

Prolonged or repeated skin exposure can remove oils, causing redness, drying and cracking. Persons with pre-existing skin disorders may be more susceptible to skin irritation from this material.

Irritation and Sensitization Potential:

Product may be irritating to skin and eyes. It is not a sensitizer.

Inhalation (Breathing):

Concentrated solvent vapors may cause irritation of the nose and throat. Prolonged exposure to excessively high vapor concentrations can result in central nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue).

Ingestion:

Ingestion of large quantities may cause irritation of the digestive tract, nervous system depression (e.g., drowsiness, dizziness, loss of coordination, and fatigue).

Toxicity to Animals:

1-Bromopropane	LD ₅₀ (oral rat) 4,260 mg/kg
	LC ₅₀ (inhl rat) 253,000 mg/m ³ , 30 min
1,2 epoxy butane	LD ₅₀ (oral rat) 1,600 mg/kg
	LC ₅₀ (inhl rat) 8,800 mg/m ³ , 30 min

Aspiration hazard

No data available. This route of exposure is not expected for towelette form.

Chronic Exposure:

Reproductive Toxicity: May cause congenital malformation in the fetus. May damage the unborn child. Presumed human reproductive toxicant.

May cause reproductive disorders. May damage fertility.

Mutagenicity: No data available

Teratogenicity: No data available

Specific Target Organ Toxicity (STOT)
 Single exposure: May cause damage to organs.
 May cause respiratory irritation.
 May cause drowsiness or dizziness.

Repeated exposure: No data available.

Toxicologically Synergistic Products: Not available.

Carcinogenic Status: This mixture contains n-propyl bromide which the NTP has classified as "Reasonable anticipated to be (a) human carcinogen." This mixture contains less than 1% 1,2 epoxy butane listed as IARC 2B, "Possibly carcinogenic to humans".

12. Ecological Information

12.1 Toxicity:

Ecotoxicity: Large volumes may penetrate soil and contaminate groundwater. (Unlikely in towelette package.)
 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic Toxicity:
 1-Bromopropane 96 h LC₅₀ Fathead Minnow (fish) 67.3 mg/l
 48 h EC₅₀ Daphnia magna (water flea) 208.9 mg/l

12.2 Persistence and degradability: Not readily biodegradable, result: 19.20%

12.3 Bioaccumulation potential: No information available

12.4 Mobility in soil: No information available

12.5 Results of PBT and vPvB Assessment: This product is not, nor does it contain a substance that is a PBT or vPvB.

12.6 Other adverse effects: None known.

13. Disposal Considerations

Dispose of product in accordance with National and Local Regulations.

14. Transport Information

US DOT Domestic Ground Transportation: Not Regulated (See Special Provision 47).
UN Number: 3175
UN Proper shipping name: Solids Containing Flammable Liquid, N.O.S., (Contains: 1-Bromopropane)
Transport hazard class(es): Class 4.1
Packing group: II
Environmental hazards: None known
Special precautions: None known
ICAO/IATA-DGR: Not Regulated (See Special Provision A46)
IMDG: Not Regulated (See Special Provision 216)

15. Regulatory Information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****USA Federal and State**

All components are listed on the TSCA inventory.

Hazard Categories for SARA Section 311/312 Reporting	<u>Acute</u> Yes	<u>Chronic</u> Yes	<u>Fire</u> Yes	<u>Pressure</u> No	<u>Reactive</u> No
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<u>Components</u>	<u>CERCLA/SARA Sec 302 Hazardous Substance RQ</u>	<u>EHS TPQ</u>	<u>SARA Sec. 313 Toxic Release</u>
1,2 epoxy butane (CAS# 106-88-7)	100 lbs	No	1%

Type TR™ Cleaner/Degreaser Solvent Wipes contain less than 1% 1,2 epoxy butane as a stabilizer. Any release of 100 lbs or greater must be reported (over 1 million TR-1 Solvent Wipes).

NFPA Ratings:

Health:	2
Fire:	2
Reactivity:	0

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel during spill, fire or similar emergencies. Hazard ratings are based on physical and toxic properties of combustion or decomposition.

California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

European Union

All components are listed on the European Inventory of Existing Chemical Substances (EINECS). Product complies with the communication requirements of REACH Regulation (EC) No. 1907/2006.

This material is on the Substances of Very High Concern (SVHC) list.

Canada

All components are listed on the DSL inventory.

This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for the mixture by the supplier

16. Other Information**Abbreviations and acronyms:**

OSHA = Occupational Safety and Health Administration
 CLP = Classification, Labeling and Packaging Regulation
 STOT = Specific Target Organ Toxicity
 LD₅₀ = Median Lethal Dose
 DNEL = Derived No Effect Level
 ACGIH = American Conference of Governmental Industrial Hygienists
 TSCA = Toxic Substances Control Act (USA)
 DSL = Domestic Substances List (Canada)
 AICS = Australian Inventory of Chemical Substances

Revision Date:	May 18, 2016
Revision Number:	5
Supersedes:	July 22, 2015
Other:	Not Applicable

Indication of Changes: Sections 2.1, 2.1, 3, 8.1, 8.2, 11.1, 15 additional hazards and precautions included. SDS is updated in accordance with the provisions of OSHA 1910.1200 App D and REACH Annex II (EU No 453/2010). (GHS format)

The information and recommendations contained herein are believed to be reliable. However, the supplier makes no warranties, express or implied, concerning the use of this product. The buyer must determine conditions of safe usage and assumes all risk and liability in handling this product.



SAFETY DATA SHEET

1. Identification

Product identifier Regular Clear Advanced PVC Cement

Other means of identification

Product code 1107E

Synonyms Part Numbers: 30881, 31925, 31926, 31927, 31928, 31929, 31958, 31959, 31960, 31961

Recommended use Joining PVC Pipes

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Oatey Co.

Address 4700 West 160th St.
Cleveland, OH 44135

Telephone 216-267-7100

E-mail info@oatey.com

Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid 1-877-740-5015

Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards Flammable liquids Category 2

Health hazards

Acute toxicity, oral Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2A

Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

Specific target organ toxicity, single exposure Category 3 narcotic effects

Aspiration hazard Category 1

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media 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 local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Methyl ethyl ketone	78-93-3	30-45
Cyclohexanone	108-94-1	10-25
Furan, Tetrahydro-	109-99-9	10-25
Acetone	67-64-1	5-15
Polyvinyl chloride	9002-86-2	5-15

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Polyvinyl chloride (CAS 9002-86-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	PEL	2400 mg/m ³	
		1000 ppm	
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m ³	
		50 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m ³	
		200 ppm	
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m ³	
		200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	PEL	5 mg/m ³	Respirable fraction.
		15 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	TWA	1 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3 250 ppm
	TWA	100 mg/m3
Cyclohexanone (CAS 108-94-1)	STEL	25 ppm 735 mg/m3
	TWA	250 ppm 590 mg/m3 200 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
	TWA	300 ppm 590 mg/m3 200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
		Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls	Explosion-proof general and local exhaust ventilation. 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 wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Face shield is recommended. Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. 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.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Translucent liquid.
Color	Clear.
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	151 °F (66.11 °C)
Flash point	-4.0 °F (-20.0 °C)
Evaporation rate	5.5 - 8
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	1.8
Flammability limit - upper (%)	11.8
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.9 +/- 0.02
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	80 - 500 cP
Other information	
VOC (Weight %)	< 510 g/l SCAQMD 1168/M316A

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
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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 heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	20 ml/kg
<i>Inhalation</i>		
LC50	Rat	50 mg/l, 8 Hours
<i>Oral</i>		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	948 mg/kg
<i>Inhalation</i>		
LC50	Rat	8000 ppm, 4 hours
<i>Oral</i>		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.
Polyvinyl chloride (CAS 9002-86-2) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2) Cancer

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.
Specific target organ toxicity - repeated exposure Not classified.
Aspiration hazard May be fatal if swallowed and enters airways.
Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1) -0.24
Cyclohexanone (CAS 108-94-1) 0.81
Furan, Tetrahydro- (CAS 109-99-9) 0.46
Methyl ethyl ketone (CAS 78-93-3) 0.29

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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 (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	T11, TP1, TP8, TP27
Packaging exceptions	150
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1133
UN proper shipping name	ADHESIVES
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2)	Cancer Central nervous system Liver Blood Flammability
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CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
Methyl ethyl ketone (CAS 78-93-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

US state regulations**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)
 Polyvinyl chloride (CAS 9002-86-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	05-28-2015
Revision date	-
Version #	01
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0

NFPA ratings



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.



Safety Data Sheet

**24 Hour Emergency Phone Numbers
Medical/Poison Control:**
In U.S.: Call 1-800-222-1222

Outside U.S.: Call your local poison control center

Transportation/National Response Center:

1-800-535-5053
1-352-323-3500

NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this SDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this SDS are further described in Section 16.

1. Identification

Product Name:	Ultra Clear Flexible All Purpose Waterproof Sealant	Revision Date:	4/12/2022
Product UPC Number:	070798183872	Supersedes Date:	12/29/2021
Manufacturer:	DAP Global Inc. 2400 Boston Street Suite 200 Baltimore, MD 21224-4723 888-327-8477 (non - emergency matters)	Product Use/Class:	Caulking Compound
		SDS No:	1032601
		Preparer:	Regulatory and Environmental Affairs
	SDS Coordinator: MSDS@dap.com		
	Emergency Telephone: Transportation: 1-800-535 -5053 1-352-323-3500 Poison Control: 1-800-222-1222		

2. Hazards Identification

EMERGENCY OVERVIEW: DANGER! Flammable liquid and vapor. Vapors may cause flash fire or explosion. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Keep container closed and away from heat, sparks, and open flame. Store away from caustics and oxidizers. Avoid breathing vapor. Avoid skin and eye contact. Use only with adequate ventilation. Prevent build-up of vapors by opening all windows and doors to achieve cross-ventilation. Harmful or fatal if swallowed. May affect the brain or nervous system causing dizziness, headache or nausea.

GHS Classification

Acute Tox. 4 Inhalation, Flam. Liq. 3, Skin Irrit. 2

Symbol(s) of Product**Signal Word**

Warning

Possible Hazards

38% of the mixture consists of ingredients of unknown acute toxicity

GHS HAZARD STATEMENTS

Flammable Liquid, category 3	H226	Flammable liquid and vapour.
Skin Irritation, category 2	H315	Causes skin irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.

GHS LABEL PRECAUTIONARY STATEMENTS

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
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 comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing.
P370+P378	In case of fire: Use... to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container.

GHS SDS PRECAUTIONARY STATEMENTS

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.

3. Composition/Information on Ingredients

<u>Chemical Name</u>	<u>CAS-No.</u>	<u>Wt. %</u>	<u>GHS Symbols</u>	<u>GHS Statements</u>
Hydrogenated petroleum resin	69430-35-9	15-40	No Information	No Information
Xylenes	1330-20-7	10-30	GHS02-GHS07	H226-312-315-332
Ethyl benzene	100-41-4	5-10	GHS02-GHS07-GHS08	H225-304-332-373
Bis(1,2,2,6,6-pentamethyl)seb	41556-26-7	1-5	No Information	No Information
Methyl(1,2,2,6,6-penta...)seb	82919-37-7	0.5-1.5	No Information	No Information

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

4. First-aid Measures

FIRST AID - INHALATION: If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If continued breathing difficulty is experienced, get medical attention immediately. NOTE: Only trained personnel should administer artificial respiration or give oxygen.

FIRST AID - SKIN CONTACT: Wash skin with soap and water for 15 minutes. Get medical aid if symptoms persist. Remove and

wash contaminated clothing.

FIRST AID - EYE CONTACT: If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

FIRST AID - INGESTION: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

5. Fire-fighting Measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: Eliminate sources of ignition: heat, electrical equipment, sparks and flames. Vapors can form an ignitable mixture with air. Vapors can flow along surfaces to a distant ignition source and flash back. Vapors may form explosive mixtures with air. Containers may explode if exposed to extreme heat. Empty containers retain product residue (liquid and/or vapor). Vapor can ignite potentially causing an explosion.

SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

EXTINGUISHING MEDIA: Alcohol Foam, Carbon Dioxide, Dry Chemical, Foam, Water Spray or Fog, Water

6. Accidental Release Measures

ENVIRONMENTAL MEASURES: No Information

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: NOTE: Review fire hazards before proceeding with clean up. Immediately eliminate sources of ignition. Keep people away from and upwind of spill/leak. Prevent product from entering drains. Soak up with inert absorbent material and dispose of as hazardous waste. Read all product instructions before using. Personal protective equipment should include impervious gloves, protective eye wear, and suitable work clothes. Scrape up dried material and place into containers.

7. Handling and Storage

HANDLING: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Remove all sources of ignition. Keep away from open flames, hot surfaces and sources of ignition. Provide adequate ventilation. Avoid heat, sparks and open flames. Wear appropriate personal protection. Avoid breathing vapor and contact with eyes, skin and clothing. Use in well ventilated area. Open all windows and doors or use other means to ensure cross-ventilation and fresh air entry during application and drying. Odor is not an adequate warning for hazardous conditions. Empty containers retain product residue (liquid and/or vapor). Vapor can ignite potentially causing an explosion. Wash thoroughly after handling. Do not use in areas where static sparks may be generated.

STORAGE: Store away from sources of ignition and heat. Do not store at temperatures above 120 °F (49 °C). Store containers away from excessive heat and freezing. Store away from caustics and oxidizers. Keep containers tightly closed.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

<u>Chemical Name</u>	<u>ACGIH TLV-TWA</u>	<u>ACGIH-TLV STEL</u>	<u>OSHA PEL-TWA</u>	<u>OSHA PEL-CEILING</u>
Hydrogenated petroleum resin	N.E.	N.E.	N.E.	N.E.
Xylenes	20 ppm TWA	N.E.	100 ppm TWA, 435 N.E. mg/m ³ TWA	
Ethyl benzene	20 ppm TWA	N.E.	100 ppm TWA, 435 N.E. mg/m ³ TWA	
Bis(1,2,2,6,6-pentamethyl)seb	N.E.	N.E.	N.E.	N.E.
Methyl(1,2,2,6,6-penta...)seb	N.E.	N.E.	N.E.	N.E.

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation
Sk = Skin Sensitizer N.E. = Not Established

Personal Protection



RESPIRATORY PROTECTION: A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. If concentrations exceed the exposure limits specified, use of a NIOSH-approved supplied air respirator is recommended. Where the protection factor is exceeded, use of a Self Contained Breathing Apparatus (SCBA) may be necessary. If you experience eye watering, headache or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear and appropriate, properly fitted respirator (NIOSH approved) during and after application. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.



SKIN PROTECTION: Solvent-resistant gloves.



EYE PROTECTION: Goggles or safety glasses with side shields.



OTHER PROTECTIVE EQUIPMENT: Provide eyewash and solvent impervious apron if body contact may occur.



HYGIENIC PRACTICES: Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Appearance:	Clear	Physical State:	Paste
Odor:	Strong Solvent	Odor Threshold:	Not Established
Density, g/cm ³ :	0.89 - 0.89	pH:	Not Applicable
Freeze Point, °C:	Not Established	Viscosity (mPa.s):	Not Established
Solubility in Water:	Not Established	Partition Coeff., n-octanol/water:	Not Established
Decomposition Temperature, °C:	Not Established	Explosive Limits, %:	N.E. - N.E.
Boiling Range, °C:	N.A. - N.A.	Auto-Ignition Temperature, °C:	Not Established
Minimum Flash Point, °C:	27.2	Vapor Pressure, mmHg:	Not Established
Evaporation Rate:	Faster Than n-Butyl Acetate	Flash Method:	Pensky-Martens Closed Cup
Vapor Density:	Heavier Than Air	Flammability, NFPA:	Flammable Liquid Class IC
Combustible Dust:	Does not support combustion		

(See "Other information" Section for abbreviation legend)

(If product is an aerosol, the flash point stated above is that of the propellant.)

10. Stability and Reactivity

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID: Keep away from open flames, hot surfaces and sources of ignition. Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Do not smoke.

INCOMPATIBILITY: Open flames, hot surfaces and sources of ignition. Keep away from strong oxidizing agents, heat and open flames. Strong acids and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Normal decomposition products, i.e., CO_x, NO_x.

11. Toxicological Information

EFFECT OF OVEREXPOSURE - INHALATION: Inhalation of vapors may cause irritation of the nose, throat, lungs and respiratory tract. Inhalation of vapors in high concentration may cause shortness of breath (lung edema). Prolonged, repeated or high exposures may cause central nervous system depression leading to headaches, nausea, drowsiness, dizziness, and possibly narcosis. In extreme cases, may cause loss of consciousness.

EFFECT OF OVEREXPOSURE - SKIN CONTACT: May cause skin irritation. Prolonged and repeated skin contact may cause dermatitis, drying and defatting due to the solvent properties.

EFFECT OF OVEREXPOSURE - EYE CONTACT: May cause eye irritation.

EFFECT OF OVEREXPOSURE - INGESTION: Harmful or fatal if swallowed. May cause gastrointestinal disturbances with dizziness and central nervous system depression. If ingested, may cause depressed respiration. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

CARCINOGENICITY: No information

EFFECT OF OVEREXPOSURE - CHRONIC HAZARDS: Prolonged or repeated contact with skin can cause defatting of the skin, which may lead to dermatitis. Prolonged or repeated inhalation of solvent vapors may cause irregular heartbeat. **NOTICE:** Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

Symptoms include: loss of memory, loss of intellectual ability and loss of coordination. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

PRIMARY ROUTE(S) OF ENTRY: Skin Contact, Skin Absorption, Inhalation

Acute Toxicity Values

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>
69430-35-9	Hydrogenated petroleum resin	N.I.	N.I.	N.I.
1330-20-7	Xylenes	3500 mg/kg Rat	1700 mg/kg Rabbit	29.08 mg/L Rat
100-41-4	Ethyl benzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
41556-26-7	Bis(1,2,2,6,6-pentamethyl).seb	2615 mg/kg Rat	N.I.	N.I.
82919-37-7	Methyl(1,2,2,6,6-penta...)seb	N.I.	N.I.	N.I.

N.I. = No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Ecological injuries are not known or expected under normal use.

13. Disposal Information

DISPOSAL INFORMATION: Residues and spilled material are hazardous waste due to ignitability. Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste. Liquids cannot be disposed of in a landfill. Do not flush into surface water or sanitary sewer system. Do not empty into drains. Do not re-use empty containers. The container for this product can present explosion or fire hazards, even when emptied. To avoid risk of injury, do not cut, puncture, or weld on or near this container.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: NOTE: Review fire hazards before proceeding with clean up. Immediately eliminate sources of ignition. Keep people away from and upwind of spill/leak. Prevent product from entering drains. Soak up with inert absorbent material and dispose of as hazardous waste. Read all product instructions before using. Personal protective equipment should include impervious gloves, protective eye wear, and suitable work clothes. Scrape up dried material and place into containers.

14. Transport Information

DOT UN/NA Number: UN1133
 DOT Proper Shipping Name: Adhesives, containing a flammable liquid
 DOT Technical Name: N.A.
 DOT Hazard Class: 3 Flammable liquid
 Hazard SubClass: N.A.
 Packing Group: III

15. Regulatory Information

U.S. Federal Regulations:

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:

Flammable (gases, aerosols, liquids, or solids), Acute Toxicity (any route of exposure), Skin Corrosion or Irritation

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>
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Xylenes
Ethyl benzene

1330-20-7
100-41-4

TOXIC SUBSTANCES CONTROL ACT:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

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

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

16. Other Information

Revision Date: 4/11/2022 Supersedes Date: 12/29/2021

Reason for revision: Substance Hazard Threshold % Changed
Substance and/or Product Properties Changed in Section(s):
01 - Product Information
08 - Exposure Controls/Personal Protection

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	Flammability:	Reactivity:	Personal Protection:
2*	3	0	X

VOC Less Water Less Exempt Solvent, g/L: 331.9

VOC Material, g/L: 332

VOC as Defined by California Consumer Product Regulation, Wt/Wt%: 37.00

VOC Actual, Wt/Wt%: 37.0

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

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H332 Harmful if inhaled.
- H373 May cause damage to organs through prolonged or repeated exposure.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

- GHS02 
- GHS07 
- GHS08 


Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

1. Identification

Product identifier	Oatey Clear Primer - NSF Listed for CPVC and PVC
Other means of identification	
SDS number	1402E
Recommended use	Joining PVC Pipes
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company Name	Oatey Co.
Address	4700 West 160th St. Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport Emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid	1-877-740-5015
Contact person	MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media 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 local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Supplemental information

Not applicable.

3. Composition/information on ingredients**Mixtures**

Chemical name	CAS number	%
Acetone	67-64-1	30-60
Cyclohexanone	108-94-1	15-40
Furan, Tetrahydro-	109-99-9	10-30
Methyl ethyl ketone	78-93-3	10-30

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m3 1000 ppm
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3 50 ppm
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3 200 ppm
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3 200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm
	TWA	50 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m ³ 250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m ³ 25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m ³ 250 ppm
	TWA	590 mg/m ³ 200 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m ³ 300 ppm
	TWA	590 mg/m ³ 200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. 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 wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. 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.

9. Physical and chemical properties

Appearance	Translucent.
Physical state	Liquid.
Form	Liquid.
Color	Clear.
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	151 °F (66.11 °C)
Flash point	14.0 - 23.0 °F (-10.0 - -5.0 °C)
Evaporation rate	5.5 - 8
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.82 - 0.86
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	< 100 cP
Other information	
Bulk density	7 lb/gal
VOC (Weight %)	< 550 g/l SQACMD Method 304

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 heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	20 ml/kg
<i>Inhalation</i>		
LC50	Rat	50 mg/l, 8 Hours
<i>Oral</i>		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	948 mg/kg
<i>Inhalation</i>		
LC50	Rat	8000 ppm, 4 hours
<i>Oral</i>		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
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 (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Methyl ethyl ketone RQ = 25063 LBS, Acetone RQ = 12522 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28

Packaging exceptions 150
Packaging non bulk 202
Packaging bulk 242

IATA

UN number UN1993
UN proper shipping name Flammable liquid, n.o.s. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)
 Class 3
 Subsidiary risk -
Packing group II
Environmental hazards No.
ERG Code 3H
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1993
UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)
 Class 3
 Subsidiary risk -
Packing group II
Environmental hazards
 Marine pollutant No.
EmS F-E, S-E
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
Methyl ethyl ketone (CAS 78-93-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

US state regulations**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 14-August-2014
Revision date 17-December-2014
Version # 02
HMIS® ratings Health: 2
Flammability: 3
Physical hazard: 0

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

1. Identification

Product identifier	PVC Regular Clear Cement
Other means of identification	
Product code	1100E
Synonyms	Part Numbers: 31012, 31013, 31014, 31015, 31016, 31958, 31959, 31960, 31961
Recommended use	Joining PVC Pipes
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company Name	Oatey Co.
Address	4700 West 160th St. Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport Emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid	1-877-740-5015
Contact person	MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
OSHA defined hazards	Not classified.	

Label elements



Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media 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 local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Supplemental information
Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Methyl ethyl ketone	78-93-3	25-40
Cyclohexanone	108-94-1	10-25
Furan, Tetrahydro-	109-99-9	10-25
Acetone	67-64-1	5-15
Polyvinyl chloride	9002-86-2	5-15

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Polyvinyl chloride (CAS 9002-86-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	PEL	2400 mg/m3 1000 ppm	
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3 50 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3 200 ppm	
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3 200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	TWA	1 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
Methyl ethyl ketone (CAS 78-93-3)	TWA	590 mg/m3
		200 ppm
	STEL	885 mg/m3
		300 ppm
TWA	590 mg/m3	
	200 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
		Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls	Explosion-proof general and local exhaust ventilation. 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 wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Face shield is recommended. Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. 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.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Translucent liquid.
Color	Clear.
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	151 °F (66.11 °C)
Flash point	-4.0 °F (-20.0 °C)
Evaporation rate	5.5 - 8
Flammability (solid, gas)	Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	1.8
Flammability limit - upper (%)	11.8
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.9 +/- 0.02
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	80 - 500 cP
Other information	
VOC (Weight %)	<510 g/l SCAQMD 1168/M316A

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
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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 heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	20 ml/kg
<i>Inhalation</i>		
LC50	Rat	50 mg/l, 8 Hours
<i>Oral</i>		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	948 mg/kg
<i>Inhalation</i>		
LC50	Rat	8000 ppm, 4 hours
<i>Oral</i>		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.
 Polyvinyl chloride (CAS 9002-86-2) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2) Cancer

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.
Specific target organ toxicity - repeated exposure Not classified.
Aspiration hazard May be fatal if swallowed and enters airways.
Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) > 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1) -0.24
 Cyclohexanone (CAS 108-94-1) 0.81
 Furan, Tetrahydro- (CAS 109-99-9) 0.46
 Methyl ethyl ketone (CAS 78-93-3) 0.29

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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 (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	T11, TP1, TP8, TP27
Packaging exceptions	150
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1133
UN proper shipping name	ADHESIVES
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2)	Cancer
	Central nervous system
	Liver
	Blood
	Flammability

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	05-27-2015
Revision date	-
Version #	01
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0

NFPA ratings



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.



Air, compressed

Safety Data Sheet LIND-P002

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

Issue date: 02/24/2015 Revision date: 03/24/2022 Supersedes: 01/20/2021 Version: 1.4

SECTION 1: Product and company identification

1.1. Product identifier

Product form : Substance
Substance name : Air, compressed
Formula : Air: mixture of 19.5 to 23.5 percent oxygen, balance nitrogen; or air compressed from the atmosphere
Other means of identification : Compressed Oxygen and Nitrogen mixture; Synthetic air; Reconstituted air; Medical air; Medical air, USP

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial and professional use
Medical applications.

1.3. Details of the supplier of the safety data sheet

Linde Inc.
10 Riverview Drive
Danbury, CT 06810-6268, USA
www.lindeus.com

Electronics gas products 1-800-932-0624 or 1-908-329-9700
Linde Inc. 1-844-44LINDE (1-844-445-4633)

For additional product information contact your local customer service.

1.4. Emergency telephone number

Emergency number : Onsite Emergency: 1-800-645-4633

CHEMTREC, 24 hr/day 7 days/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

Press. Gas (Comp.) H280

2.2. Label elements

GHS US labelling

Hazard pictograms (GHS US)



GHS04

Signal word (GHS US) : Warning
Hazard statements (GHS US) : H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
CGA-HG24 - SUPPORTS COMBUSTION.
Precautionary statements (GHS US) : P202 - Do not handle until all safety precautions have been read and understood.
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).

2.3. Other hazards

No additional information available



Air, compressed

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2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : Air, compressed

Name	Product identifier	%
Air	(CAS-No.) 132259-10-0	99.5 – 100

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Adverse effects not expected from this product.
- First-aid measures after skin contact : Adverse effects not expected from this product.
- First-aid measures after eye contact : Adverse effects not expected from this product. In case of eye irritation: Rinse immediately with plenty of water. Consult an ophthalmologist if irritation persists.
- 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

No additional information available

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.
- 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 : 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



Air, compressed

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- 6.1.2. For emergency responders No additional information available
- 6.2. Environmental precautions No additional information available
- 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

For cylinders with a permanently attached, durable plastic housing which doubles as a carrying handle: Refer to the user operating instructions (e.g., Grab 'n Go medical gas delivery systems user operating instructions).

For all other valve protection caps or guards:

Wear leather safety gloves and safety shoes when handling cylinders. Protect containers 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.

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 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. 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

No additional information available

8.2. Exposure controls

Eye protection

Wear safety glasses with side shields.



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Skin and body protection	: Wear work gloves and metatarsal shoes for cylinder handling. Protective equipment where needed. Select in accordance with OSHA 29 CFR 1910.132, 1910.136, and 1910.138.
Respiratory protection	: When workplace conditions warrant respirator use, follow a respiratory protection program that meets or exceeds the requirements of the appropriate Health and Safety Regulations. 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).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colourless gas.
Molecular mass	: 28.975 g/mol
Colour	: Colourless
Odour	: Odourless.
Odour threshold	: No data available
pH	: Not applicable.
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: No data available
Freezing point	: -216.2 °C
Boiling point	: -194.3 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: Not applicable.
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.2 kg/m ³
Relative gas density	: 1
Solubility	: Water: 0.0292 %
Partition coefficient n-octanol/water (Log Pow)	: Not applicable.
Partition coefficient n-octanol/water (Log Kow)	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Explosive limits	: No data available

9.2. Other information

No additional information 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

No additional information available



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10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

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) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Skin corrosion/irritation : Not classified
pH: Not applicable.
Serious eye damage/irritation : Not classified
pH: Not applicable.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-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

Air, compressed	
Persistence and degradability	No ecological damage caused by this product.
Air (132259-10-0)	
Persistence and degradability	No ecological damage caused by this product.

12.3. Bioaccumulative potential

Air, compressed	
Partition coefficient n-octanol/water (Log Pow)	Not applicable.
Partition coefficient n-octanol/water (Log Kow)	Not applicable.
Bioaccumulative potential	No ecological damage caused by this product.
Air (132259-10-0)	
Partition coefficient n-octanol/water (Log Pow)	Not applicable for inorganic products.
Bioaccumulative potential	No ecological damage caused by this product.



Air, compressed

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12.4. Mobility in soil

Air, compressed	
Mobility in soil	No data available.
Air (132259-10-0)	
Ecology - soil	No ecological damage caused by this product.

12.5. Other adverse effects

Effect on the ozone layer : None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging 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 (DOT) : UN1002 Air, compressed, 2.2
UN-No.(DOT) : UN1002
Proper Shipping Name (DOT) : Air, compressed
Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Hazard labels (DOT) : 2.2 - Non-flammable gas



DOT Special Provisions (49 CFR 172.102) : 78 - This entry may not be used to describe compressed air which contains more than 23.5 percent oxygen. An oxidizer label is not required for any oxygen concentration of 23.5 percent or less.

Additional information

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 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) : 1002
Proper Shipping Name (IMDG) : AIR, COMPRESSED
Class (IMDG) : 2 - Gases
Division (IMDG) : 2.2 - Non-flammable, non-toxic gases
EmS-No. (1) : F-C
EmS-No. (2) : S-V

Air transport

UN-No. (IATA) : 1002
Proper Shipping Name (IATA) : Air, compressed
Class (IATA) : 2 - Gases



Air, compressed

Safety Data Sheet LIND-P002

This SDS conforms to U.S. Code of Federal Regulations 29 CFR 1910.1200, Hazard Communication.

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SECTION 15: Regulatory information

15.1. US Federal regulations

Air, compressed

Listed on the United States TSCA (Toxic Substances Control Act) inventory

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

15.2. International regulations

CANADA

Air (132259-10-0)

EU-Regulations

15.2.2. National regulations

No additional information available

15.3. US State regulations

Air, compressed()

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

Air (132259-10-0)

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	No significant risk level (NSRL)
No	No	No	No	



Air, compressed

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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.

Linde 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 Linde 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 Linde Inc, it is the user's obligation to determine the conditions of safe use of the product.

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Revision date

: 03/24/2022

NFPA health hazard

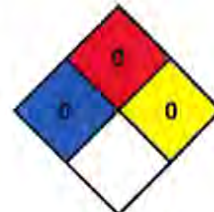
: 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA instability

: 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012) - Linde 2022

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.



SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

Copper Tubing (all sizes and wall thicknesses)

Cerro Flow Products LLC
PO Box 66800, St Louis, MO 63166-6800 Telephone number 618-337-6000

Recommended use: Plumbing and industrial copper tubing. Restricted use: None known

SECTION 2. HAZARD IDENTIFICATION

CAUTION

Inhalation Hazard Fumes are created by heating copper past its melting point. Proper soldering or sweating copper tubes will not produce fumes. Brazing of copper tube may produce fumes. Consult the Copper Development Association Inc. (CDA) "The Copper Tube Handbook" for proper joining methods, and recommended solders, fluxes and filler metals (see CDA link on www.cerroflow.com to obtain handbook).

Ingestion Hazard Ingestion of metallic copper is not a primary route of exposure. Metallic copper may be moderately irritating to the gastrointestinal tract.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL OR COMPONENT	C.A.S. No.	WT. %
Copper	7440-50-8	99.9+

SECTION 4. FIRST AID MEASURES

Inhalation: Remove from exposure; place individual under care of a physician.
Ingestion: Induce vomiting in conscious individual and call a physician.
Skin or Eyes: Flush with plenty of water. If symptoms develop, consult a physician.

SECTION 5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS	FIRE EXTINGUISHING AGENTS RECOMMENDED	FIRE EXTINGUISHING AGENTS TO AVOID
Not Applicable	No specific agents recommended	No specific agents recommended

SPECIAL FIRE FIGHTING PRECAUTIONS

Copper tube will not burn or give off toxic gases in normal fires Use fire fighting methods compatible with surrounding materials.

SECTION 6. RELEASE MEASURES

SPILLS OR LEAKS

Proper installation of copper tubing will not produce dust. Consult Copper Development Association, Inc (CDA)"The Copper Tube Handbook" for proper joining methods (See CDA link on <http://www.cerroflow.com> to obtain handbook) Vacuuming is preferred for dust. Do not use compressed air for cleaning. Recycle unused or scrap copper tube at a local scrap metal dealer.

SECTION 7. HANDLING AND STORAGE

NORMAL HANDLING

Avoid conditions which create fumes or fine dust. Use of approved respirators is required where adequate ventilation cannot be provided. Do not use copper tubing where incompatible materials may be present, (see section X).

STORAGE

Avoid storage near incompatible materials, see Section 10.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Permissible Air Conc. (mg/m3)			
	OSHA		ACGIH
Dust	1.0		1.0
Fume	0.1		0.2

ENGINEERING CONTROLS

Local exhaust is recommended for dust and/or fume generating operations where airborne exposure may exceed permissible air concentrations.

PERSONAL HYGIENE

Avoid inhalation or ingestion. Practice good housekeeping and personal hygiene procedures. Showering is recommended if significant dust exposure occurs.

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

No special precautions.

LABEL SIGNAL WORD:

NOT APPLICABLE

RESPIRATORY PROTECTION

Where airborne exposures may exceed OSHA/ACGIH permissible air concentrations, the minimum respiratory protection recommended is a negative pressure air purifying respirator with cartridges that are NIOSH/MSHA approved against dust, fumes, and mists having a TWA not less than 0.05 mg/m3

EYES AND FACE

Safety glasses recommended when dust or shavings may exist.

OTHER CLOTHING AND EQUIPMENT

Protective clothing is recommended to prevent burns during installation of tube or splattering of fluxes, solder or filler metals.

SECTION 9. PHYSICAL/CHEMICAL PROPERTIES

MATERIAL IS (AT NORMAL CONDITIONS)

Solid

APPEARANCE AND ODOR

Yellow-red metal, various shapes and sizes.

MELTING POINT (DEGREES C)

1083

BOILING POINT (DEGREES C)

2595

SPECIFIC GRAVITY (H2O = 1)

8.96

VAPOR DENSITY (AIR = 1)

Not applicable

SOLUBILITY IN WATER (% BY WT.)

Insoluble

pH

Not Applicable

VAPOR PRESSURE (mm Hg)

Not Applicable

EVAPORATION RATE

Not Applicable

SECTION 10. STABILITY AND REACTIVITY

STABILITY

Stable

CONDITIONS TO AVOID

Not Applicable

INCOMPATIBILITY (MATERIALS TO AVOID)

Reacts violently with acetylene, hydrogen peroxides, gaseous chlorine, ammonia nitrate, bromates, chlorates, hydrogen sulfide, lead azide, and hydrazine.

HAZARDOUS DECOMPOSITION PRODUCTS

Copper does not decompose

HAZARDOUS POLYMERIZATION

Will not occur

CONDITIONS TO AVOID

Not Applicable

WHMIS (Canada): CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

SECTION 16. OTHER INFORMATION

<u>ISSUED DATE</u>	<u>SUPERSEDES</u>
October 1, 2016	August 15, 2013

PERMISSIBLE CONCENTRATION REFERENCE
OSHA regulations for airborne contaminants 29 CFR 1910.1000 and 1018; ACGIH Threshold Limit Values for Chemical Substances

HAZARD INFORMATION REFERENCES
Documentation Up to date, curated data provided by Mathematica's ElementData function from Wolfram Research, Inc

GENERAL
Copper Development Association, The Copper Tube Handbook, 2016

Notes

No additional information.

THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE TAKEN FROM SOURCES BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF; HOWEVER, CERRO FLOW PRODUCTS LLC MAKES NO WARRANTY WITH RESPECT TO THE ACCURACY OF THE INFORMATION OR THE SUITABILITY OF THE RECOMMENDATIONS, AND ASSUMES NO LIABILITY TO ANY USER THEREOF.

CP 637

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 10/12/2022

Issue date: 10/12/2022

Supersedes: 2/18/2020

Version: 2.3

SECTION 1: Identification

1.1. Identification

Product form	Mixture
Trade name	CP 637
Product code	BU Fire Protection



1.2. Recommended use and restrictions on use

Use of the substance/mixture	Firestop mortar
------------------------------	-----------------

1.3. Supplier

Supplier
Hilti, Inc.
Legacy Tower, Suite 1000
7250 Dallas Parkway
Plano, TX 75024
USA
T +1 9724035800
1-800-879-8000 toll free - F +1 918 254 0522

Department issuing data specification sheet
Hilti AG
Feldkircherstraße 100
Schaan, 9494
Liechtenstein
T +423 234 2111
chemicals.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Chem-Trec Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada) Tel.: 703 527 3887 (Other countries) +1 918 8723000 1-800-879-8000 toll free
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labelling

No labelling applicable

2.3. Other hazards which do not result in classification

No additional information available

CP 637

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

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	Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	Wash skin with plenty of water. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	Call a poison center or a doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Potential adverse human health effects and symptoms	Based on available data, the classification criteria are not met.
Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

CP 637

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Avoid dust formation.
6.1.1. For non-emergency personnel	
Emergency procedures	Ventilate spillage area. Evacuate unnecessary personnel.
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". Equip cleanup crew with proper protection.
Emergency procedures	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Mechanically recover the product. On land, sweep or shovel into suitable containers. Minimise generation of dust. Store away from other materials.
-------------------------	--

6.4. Reference to other sections

For further information refer to section 13. See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	Ensure good ventilation of the work station. Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.
Hygiene measures	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	Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
Incompatible products	Strong acids. Strong bases.
Incompatible materials	Moisture. Sources of ignition. Direct sunlight.
Storage temperature	41 – 95 °F

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

CP 637

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	Ensure good ventilation of the work station.
----------------------------------	--

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Protective goggles. Protective clothing. Gloves.

CP 637

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hand protection:				
Wear protective gloves.				
Type	Material	Permeation	Thickness (mm)	Penetration
Disposable gloves	Nitrile rubber (NBR)	3 (> 60 minutes)	>0.4	
Eye protection:				
Safety glasses				
Type	Field of application		Characteristics	
Safety glasses				
Skin and body protection:				
Wear suitable protective clothing				
Respiratory protection:				
In case of dust formation use respirator with filter:				
Device	Filter type		Condition	
Dust mask	Type P2			

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder.
Colour	light red white
Odour	odourless
Odour threshold	No data available
pH	No data available
Melting point	Not determined
Freezing point	Not applicable
Boiling point	No data available
Flash point	Not applicable
Relative evaporation rate (butylacetate=1)	No data available
Flammability (solid, gas)	Non flammable.
Vapour pressure	No data available
Relative vapour density at 20 °C	No data available
Relative density	Not applicable
Density	Not determined
Solubility	insoluble in water.

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Partition coefficient n-octanol/water (Log Pow)	No data available
Auto-ignition temperature	Not applicable
Decomposition temperature	No data available
Viscosity, kinematic	Not applicable
Viscosity, dynamic	No data available
Explosive limits	Not applicable
Explosive properties	Product is not explosive.
Oxidising properties	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. Not established.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	Not classified
Acute toxicity (inhalation)	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/irritation	Not classified
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Aspiration hazard	Not classified
Viscosity, kinematic	Not applicable
Potential adverse human health effects and symptoms	Based on available data, the classification criteria are not met.
Symptoms/effects	Not expected to present a significant hazard under anticipated conditions of normal use.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general

The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

12.2. Persistence and degradability

CP 637	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.

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. Disposal methods

Waste treatment methods

Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations

Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials

Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / RID /

ADR	IMDG	IATA	RID
14.1. UN number or ID number			
Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

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14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Rail transport

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

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All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.3. US State regulations

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

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date

10/12/2022

Data sources

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information

None.

NFPA health hazard

1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

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Health	1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	0 Minimal Hazard - Materials that will not burn
Physical	0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
Personal protection	E - Safety glasses, Gloves, Dust respirator

Indication of changes:			
Section	Changed item	Change	Comments
			general update

SDS_US_H111

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

Product identifier	Oatey CPVC Flowguard Gold UVI One-Step Yellow Cement
Other means of identification	
Product code	1203E
Synonyms	Part Numbers: 31910(TV), 31911(TV), 31912, 31913, 31914, 31656, 31657, 32200, 32201, 32202, 32203, 31660, 31661, 31662, 31663, 31917, 31918, 31919
Recommended use	Joining CPVC Pipes
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company Name	Oatey Co.
Address	4700 West 160th St. Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport Emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid	1-877-740-5015
Contact person	MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1
OSHA defined hazards	Not classified.	
Label elements		



Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media 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 local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Furan, Tetrahydro-	109-99-9	30-60
Methyl ethyl ketone	78-93-3	10-30
Ethene, chloro-, homopolymer, chlorinated	68648-82-8	10-20
Acetone	67-64-1	5-15
Cyclohexanone	108-94-1	5-15
Silica, amorphous, fumed	112945-52-5	1-5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m3 1000 ppm
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3 50 ppm
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3 200 ppm
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3 200 ppm

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Silica, amorphous, fumed (CAS 112945-52-5)	TWA	0.8 mg/m3

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
		20 mppcf

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm
	TWA	50 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
	TWA	590 mg/m3
		200 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
		200 ppm
Silica, amorphous, fumed (CAS 112945-52-5)	TWA	6 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

Furan, Tetrahydro- (CAS 109-99-9)

Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. 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 wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. 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.

9. Physical and chemical properties**Appearance****Physical state**

Liquid.

Form

Translucent liquid.

Color

Yellow / Gold

Odor

Solvent.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

151 °F (66.11 °C)

Flash point

14.0 - 23.0 °F (-10.0 - -5.0 °C)

Evaporation rate

5.5 - 8

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

1.8

Flammability limit - upper (%)

11.8

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

145 mm Hg @ 20 C

Vapor density

2.5

Relative density

0.94 +/- 0.02

Solubility(ies)**Solubility (water)**

Negligible

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature	Not available.
Viscosity	500 - 1500 cP
Other information	
Bulk density	7.8 lb/gal
VOC (Weight %)	470 g/l SQACMD 1168/M316A

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 heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	20 ml/kg
<i>Inhalation</i>		
LC50	Rat	50 mg/l, 8 Hours
<i>Oral</i>		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	948 mg/kg
<i>Inhalation</i>		
LC50	Rat	8000 ppm, 4 hours
<i>Oral</i>		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization**Respiratory sensitization** Not available.**Skin sensitization** This product is not expected to cause skin sensitization.**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.**Carcinogenicity** In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.**IARC Monographs. Overall Evaluation of Carcinogenicity**

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.

Silica, amorphous, fumed (CAS 112945-52-5) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.**Specific target organ toxicity - single exposure** Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.**Specific target organ toxicity - repeated exposure** Not classified.**Aspiration hazard** May be fatal if swallowed and enters airways.**Chronic effects** Prolonged inhalation may be harmful.**12. Ecological information****Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.**Bioaccumulative potential** No data available.**Partition coefficient n-octanol / water (log Kow)**

Acetone (CAS 67-64-1) -0.24

Cyclohexanone (CAS 108-94-1) 0.81

Furan, Tetrahydro- (CAS 109-99-9) 0.46

Methyl ethyl ketone (CAS 78-93-3) 0.29

Mobility in soil No data available.**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.**13. Disposal considerations****Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.**Local disposal regulations** Dispose in accordance with all applicable regulations.**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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 (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Methyl ethyl ketone RQ = 23310 LBS, Acetone RQ = 50000 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1) 6532
Methyl ethyl ketone (CAS 78-93-3) 6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1) 35 %WV
Methyl ethyl ketone (CAS 78-93-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1) 6532
Methyl ethyl ketone (CAS 78-93-3) 6714

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)
Silica, amorphous, fumed (CAS 112945-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)
Silica, amorphous, fumed (CAS 112945-52-5)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	27-May-2015
Revision date	-
Version #	01
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0

NFPA ratings



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

1. Identification

Product identifier Oatey CPVC Medium Orange Cement
Other means of identification
Product code 1301E
Recommended use Joining PVC Pipes
Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Oatey Co.
Address 4700 West 160th St.
Cleveland, OH 44135
Telephone 216-267-7100
E-mail info@oatey.com
Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid 1-877-740-5015
Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards Flammable liquids Category 2
Health hazards Acute toxicity, oral Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Specific target organ toxicity, single exposure Category 3 narcotic effects
Aspiration hazard Category 1
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media 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 local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Furan, Tetrahydro-	109-99-9	30-60
Methyl ethyl ketone	78-93-3	10-30
Ethene, chloro-, homopolymer, chlorinated	68648-82-8	10-20
Acetone	67-64-1	5-15
Cyclohexanone	108-94-1	5-15
Silica, amorphous, fumed	112945-52-5	1-5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Acetone (CAS 67-64-1)	PEL	2400 mg/m ³ 1000 ppm
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m ³ 50 ppm
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m ³ 200 ppm
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m ³ 200 ppm

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Silica, amorphous, fumed (CAS 112945-52-5)	TWA	0.8 mg/m ³

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
		20 mppcf

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm
	TWA	20 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm
	TWA	50 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
		200 ppm
Silica, amorphous, fumed (CAS 112945-52-5)	TWA	300 ppm
		590 mg/m3
		200 ppm
		6 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
		Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

Furan, Tetrahydro- (CAS 109-99-9)

Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1)

Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. 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 wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. 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.

9. Physical and chemical properties**Appearance****Physical state**

Liquid.

Form

Translucent liquid.

Color

Orange

Odor

Solvent.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

151 °F (66.11 °C)

Flash point

14.0 - 23.0 °F (-10.0 - -5.0 °C)

Evaporation rate

5.5 - 8

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

1.8

Flammability limit - upper (%)

11.8

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

145 mm Hg @ 20 C

Vapor density

2.5

Relative density

0.94 +/- 0.02

Solubility(ies)**Solubility (water)**

Negligible

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature	Not available.
Viscosity	500 - 1500 cP
Other information	
Bulk density	7.8 lb/gal
VOC (Weight %)	< 490 g/l SQACMD 1168/M316A

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 heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	20 ml/kg
<i>Inhalation</i>		
LC50	Rat	50 mg/l, 8 Hours
<i>Oral</i>		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	948 mg/kg
<i>Inhalation</i>		
LC50	Rat	8000 ppm, 4 hours
<i>Oral</i>		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization
Respiratory sensitization Not available.
Skin sensitization This product is not expected to cause skin sensitization.
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1) 3 Not classifiable as to carcinogenicity to humans.
 Silica, amorphous, fumed (CAS 112945-52-5) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.
Specific target organ toxicity - repeated exposure Not classified.
Aspiration hazard May be fatal if swallowed and enters airways.
Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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 (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN1133
UN proper shipping name Adhesives
Transport hazard class(es)
 Class 3
 Subsidiary risk -
 Label(s) 3
Packing group II
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions T11, TP1, TP8, TP27
Packaging exceptions 150
Packaging non bulk 201
Packaging bulk 243

IATA

UN number UN1133
UN proper shipping name Adhesives
Transport hazard class(es)
 Class 3
 Subsidiary risk -
Packing group II
Environmental hazards No.
ERG Code 3L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1133
UN proper shipping name ADHESIVES
Transport hazard class(es)
 Class 3
 Subsidiary risk -
Packing group II
Environmental hazards
 Marine pollutant No.
EmS F-E, S-D
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1) 6532
 Methyl ethyl ketone (CAS 78-93-3) 6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1) 35 %WV
 Methyl ethyl ketone (CAS 78-93-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1) 6532
 Methyl ethyl ketone (CAS 78-93-3) 6714

US state regulations**US. Massachusetts RTK - Substance List**

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)
 Silica, amorphous, fumed (CAS 112945-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)
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US. Rhode Island RTK

Acetone (CAS 67-64-1)
 Cyclohexanone (CAS 108-94-1)
 Furan, Tetrahydro- (CAS 109-99-9)
 Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	27-May-2015
Revision date	-
Version #	01
HMIS® ratings	Health: 2 Flammability: 3 Physical hazard: 0

NFPA ratings



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Version: Jan 30, 2023

REGULATORY DATASHEET DECLARATION (RDS) (For the SABIC Petrochemicals Polymers Business Unit)

Dear Most Valued Customer

Thank you for using SABIC products.

SABIC has manufacturing facilities in about 60 locations across 35 countries in the world. We manufacture and/or sell,

- (i) CYCOLAC™, CYCOLOY™, GELOY™, LEXAN™, VALOX™, XENOY™, XYLEX™ resins, and
- (ii) LEXAN™ film/sheet, LEXAN™ EXELL™ D sheet, NORYL™ film, ULTEM™ film/sheet, VALOX™ film, GEPAX™ sheet, MARGARD™ sheet, PLASTECH™ sheet, SOUNDGLAZE™ sheet, CLINIWALL™ sheet, SUNXP™ sheet, VEROLITE™ sheet, ILLUMINEX™ film, CARBORON™ sheet, THERMOCLICK™ sheet, THERMOCLEAR™ sheet, THERMOCLEAR-PLUS™ sheet, STADECK™ panel, LEXAPANEL™ building system, and
- (iii) SABIC@PC.

All existing grade-colour combinations of the above mentioned Resins / Films / Sheets /Compounds belonging to the SABIC Petrochemicals Polymers Business Unit, except products which are designed to consume Post Consumer Recycle (PCR), are referred to in this document as 'SABIC Product(s)' here after.

This Regulatory Datasheet (RDS) covers the following content in this order:

- RoHS/ELV
- Packaging Directive
- Phthalate Directive
- ODS and Greenhouse Gas substances
- REACH-SVHC/EU Waste Framework Directive (WFD) and REACH Annex XIV
- REACH Registration
- VOC
- Natural Rubber and Natural Rubber Latex
- TSE/BSE/GMO
- PFOA, its salts and related compounds; PFCAs, its salts and related compounds
- PAH/PAK
- POPs
- Conflict Minerals
- TSCA Section 6(h) PBT Chemicals, and Certain other Restricted Substances

Status of SABIC Product(s) with respect to RoHS/ELV

The SABIC Products do not contain restricted substances mentioned below as intentionally added components or as expected process impurities [above the threshold limit of 0.1% w/w

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(each) except Cadmium, which has a threshold limit of 0.01% w/w], which refers to Directive 2011/65/EU, 2015/863/EU, 2017/2102/EU and amendments for Restriction of Hazardous Substances (RoHS), and Directive 2000/53/EC, 2016/774/EC and their amendments for End-of-Life Vehicles (ELV),

- Lead and its compounds
- Mercury and its compounds
- Hexavalent Chromium compounds
- Cadmium and its compounds
- Polybrominated biphenyls (PBBs)
- Polybrominated diphenyl ethers (PBDEs)
- Bis(2-ethylhexyl) phthalate (DEHP)
- Butyl benzyl phthalate (BBP)
- Dibutyl phthalate (DBP)
- Diisobutyl phthalate (DIBP)

Status of SABIC Product(s) with respect to Packaging Directive

The SABIC Product's packaging does not contain restricted substances mentioned below as intentionally added components [above 0.01% w/w (sum of concentration levels, if applicable)], which refers to Packaging Directive 94/62/EC as amended by 2004/12/EC:

- Lead and its compounds
- Mercury and its compounds
- Hexavalent Chromium compounds
- Cadmium and its compounds

Status of our product(s) with respect to Phthalate Directive

The SABIC Products do not contain restricted substances mentioned below as intentionally added components or as expected process impurities [above 0.1% w/w (each) threshold limits], which refers to Phthalates Regulation (Ref: EU Directive 2005/84/EC, US EPA-Phthalates Action Plan 2012).

- Butyl benzyl phthalate (BBP, CAS# 85-68-7)
- Di-n-butyl phthalate (DBP, CAS# 84-74-2)
- Di(2-ethylhexyl)phthalate (DEHP, CAS# 117-81- 7)
- Di-isononyl phthalate (DINP, CAS# 28553-12-0)
- Di-isodecyl phthalate (DIDP, CAS# 26761-40-0)
- Di-n-octyl phthalate (DNOP, CAS# 117-84-0)
- Diisobutyl phthalate (DIBP, CAS# 84-69-5)
- Di-n-pentyl phthalate (DNPP, CAS# 131-18-0)
- Di-n-hexyl phthalate (DNHP, CAS# 84-75-3)

Status of SABIC Product(s) with respect to ODS and Greenhouse Gas substances

The SABIC Products do not contain restricted substances mentioned below as intentionally added components [above 0.1% w/w (each) threshold limits, if applicable], which refers to Ozone layer-Depleting Substances (ODS) on Annex A, B, C, E and F to the MONTREAL PROTOCOL and listed as class I & II of US Clean Air Act, and EC Regulation 1005/2009 Annex I and Annex II.

- As defined by Annex A, B, C, E and F to the MONTREAL PROTOCOL at <https://ozone.unep.org/treaties/montreal-protocol/montreal-protocol-substances-deplete-ozone-layer>
- As listed as class I & II substances by the US Clean Air Act at <https://www.epa.gov/ozone-layer-protection/ozone-depleting-substances>
- As defined by Annex I and Annex II to Regulation (EC) No 1005/2009 at <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009R1005> (published 16 Sept. 2009)

The SABIC Products do not contain restricted substances mentioned below as intentionally added components [above 0.1% w/w (each) threshold limits, if applicable], which refers to Fluorinated greenhouse gases on REGULATION (EU) No 517/2014.

- As defined by REGULATION (EU) No 517/2014, subject to Emission Limits/ Reporting (Annexes I,II) at <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32014R0517> (issued on 16 April 2014)

Status of SABIC Product(s) with respect to REACH SVHC/EU Waste Framework Directive (WFD) and REACH Annex XIV

The SABIC Products do not contain restricted substances mentioned below as intentionally added components [above 0.1%^[a]^[b]^[c]^[d] w/w (each) threshold limits, if applicable], which refers to Registration, Evaluation, Authorization and Restriction of Chemical (EU REACH) Substances of Very High Concern (SVHC) on Regulation EC 1907/2006).

- Registration, Evaluation, Authorization and Restriction of Chemical (REACH) Substances of Very High Concern (SVHC) Ref : Regulation EC 1907/2006), as defined at: <https://echa.europa.eu/candidate-list-table> (Number of substances on the Candidate List: 233 as of Jan 17th, 2023)

[a] Except Grade RL6724, which contain UV-328, CAS RN 25973-55-1, respectively at over 0.5% w/w, Products manufactured from the material should be assessed and follow EU REACH SVHC obligation guideline for article notification.

[b] Except Grade AD143,ER010707,EXRL0707,EXRL0708,EXRL0709,LUX2489D,ML9655,SD1426, which contain Tetrabutylphosphonium Perfluorobutane Sulfonate (C₂₀H₃₆F₉O₃PS), CAS RN 220689-12-3, at over 0.1–1.5%. Products manufactured from these materials should be assessed and follow EU REACH SVHC obligation guidelines for article notification.

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[c] Except Grade: 1000B,515RU,EFR535,EFR535A,EFR535AC,EFR565,EFR565A,EFR65, EFR65A, EFR65AC, EFR65CS,EFR75A,EFR75AC,EFR85,EFR85CS,EFR95,EFR95A,EFR95AC,EFR95CK,ES001818,ES002223,ES002224,EXRL0940,EXRL2154,EXRL2388,EXSP982,H6700, H6700N11, LUX7169, ML9624, ML9696, ML9696A, ML9696RC3, ML9696RC3A, ML9696RC6, ML9696RC6A, which contain **Potassium Perfluorobutane Sulfonate (KPFBS) (C₄F₉O₃SK)**, CAS RN **29420-49-3**, at over 0.1~5%. Products manufactured from these material should be assessed and follow EU REACH SVHC obligation guideline for article notification.

[d] Except Grade: FR15, FR23, FR15C, FR23C, which contain 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol (**TBBPA**), CAS RN 79-94-7, at over 0.1~20%. Products manufactured from these material should be assessed and follow EU REACH SVHC obligation guideline for article notification.

For the grade/products listed in [a][b][c][d], the customer may contact the respective SABIC business representative to obtain an updated version of the GHS/CLP SDS, which will disclose any REACH SVHC listed substances in section 3 or section 15 if it contains over 0.1% w/w within the product formulation.

Customers supplying articles manufactured from the above materials, when the concentration in these articles exceed 0.1% w/w, have to submit information on these articles to ECHA, as from 5 January 2021, according to art.9(1) of the **EU Waste Framework Directive (WFD)** (<https://echa.europa.eu/scip-database>)

SABIC Film and Sheet are considered articles under REACH. SABIC Film and Sheet manufactured from these materials and supplied by **SABIC Innovative Plastics B.V.** on the EU market are compliant with art.9(1) of the **EU Waste Framework Directive (WFD)** (<https://echa.europa.eu/scip-database>) for declared SVHCs in articles requirements.

SABIC Products do not contain substances mentioned below as intentionally added components or potential process impurities [above 0.1% w/w (each) threshold limit, if applicable], which refers to **Annex XIV of EU REACH**, amended through Regulation No 2022/586 of 8 April 2022.

- Substances listed in Annex XIV of REACH ("Authorization List"), as defined at <https://echa.europa.eu/authorisation-list> (59 substance/substance groups) on the date of this letter.

Status of SABIC Product(s) with respect to REACH Registration

Please note carefully that this declaration ONLY applies to customers that have purchased a product from SABIC Innovative Plastics B.V. SABIC customers that ship SABIC products into the European Union (EU) as importer of record are themselves responsible for any obligations under REACH. SABIC will not act as or appoint an Only Representative.

REACH Regulation EC 1907/2006 is the European legislation aimed to regulate the **Registration, Evaluation, Authorization and Restriction of Chemical Substances**. Under REACH chemical substances produced in the EU or imported into the EU at a volume >1000 kg per year need to be registered with ECHA, the European Chemicals Agency. The purpose of this Regulation is to ensure a high level of protection of human health and the environment, including the promotion of alternative methods for assessment of hazards of substances, as well as the free circulation of substances on the internal market while enhancing competitiveness and innovation.

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The SABIC REACH program is designed to support continued availability of finished goods (polymer preparations, film, and sheet) for SABIC customers in Europe.

- (i) Main focus of our REACH program is on the registration of substances, such as intermediates and monomers, for the manufacture of resins and compounded polymer mixtures, of which SABIC is the producer or the importer of record.
- (ii) SABIC is pleased to inform you that SABIC has successfully completed the registration of those substances for which SABIC had a registration deadline of November 30, 2010, May 31, 2013, and May 31, 2018. For selected substances SABIC took the initiative to act as Lead Registrant.
- (iii) SABIC will continue to work closely with external REACH experts to ensure registration dossier accuracy and completeness. These resources will not only facilitate timely dossier availability and submission but will also provide additional REACH legislative expertise.
- (iv) SABIC will extend its global vendor collaboration program to make certain that also for sourced substances timely REACH compliance is ensured so that SABIC as a downstream user in future will have continued access to compliant sourced raw materials.
- (v) SABIC committed to the CEFIC REACH Action Plan for Review/Improvement of Registration Dossiers. The Action plan will encourage and support companies in evaluating existing registration dossiers and implement follow up actions, while keeping close contact with ECHA and its strategy.
- (vi) Unfortunately SABIC is not in a position to communicate registration program details at a substance level since this potentially could imply revealing business confidential details of SABIC material technology.
- (vii) Should a SABIC customer ship a SABIC product into the EU as importer of record, the customer will have to fulfil its own REACH obligations. SABIC will not act as nor will it appoint an Only Representative.
- (viii) SABIC has meanwhile completed a CLP (Classification, Labelling and Packaging, Regulation EC 1272/2008) notification to ECHA for those substances from its raw material portfolio to date impacted by the CLP regulation.

While SABIC will continue to update its customers regarding implementation of our REACH program throughout future registration phases, our customers remain responsible for complying with their own REACH obligations.

Additional information and guidance regarding your potential obligations under REACH is available at <http://echa.europa.eu/>.

In summary, SABIC considers itself in compliance with both the REACH Regulation EC 1907/2006 as well as the CLP Regulation EC 1272/2008. This will enable continued availability of compliant SABIC products for its customers.

Status of SABIC Product(s) with respect to VOC

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The SABIC Products may contain volatile organic compounds (VOC) < 3% w/w and the SABIC Products may be called "VOC-duty free" with reference to the definition given in the Swiss VOC Verordnung (issued on November 12, 1997 and effective from January 1, 1998).

Status of SABIC Product(s) with respect to Natural Rubber and Natural Rubber Latex

Neither the SABIC Products nor the process equipment coming in direct contact with them during manufacturing contain Natural Rubber Latex (NRL) or Natural rubber (ref: Latex-MEDDEV. 2.5/9 rev.1) as intentionally added components or as expected process impurities [above the threshold limits of 0.1% w/w].

Status of SABIC Product(s) with respect to TSE/BSE/GMO

The SABIC Products are mainly of petrochemical origin. Some of our above products contain additives, or their raw material based on materials of animal (ovine or bovine tissue) origin. These additives or their raw materials extracted from ovine or bovine origin (fatty acids, fatty alcohols, metallic soaps, fatty amines, fatty amides, fatty acid esters, glycerin etc) are normally incorporated into plastics as lubricants, slip agents, anti-static agents, emulsifiers, anti-oxidants or corrosion inhibitors as an important component to achieve certain functional properties required for the end use.

As informed by our suppliers, during manufacturing process of these additives the ovine or bovine originated material is exposed to high temperatures and undergoes rigorous chemical reactions exceeding the stringent requirements mentioned in the "Opinion of the Scientific Steering Committee of Feb. 19-20, 1998" or "Note for Guidance on Minimizing the Risk of Transmitting Animal Spongiform Encephalopathy Agents via Medicinal Products" of March 25 1999 (CPMP/BWP/1230/98) respectively and in the document WHO/CDS/VPH/95.145. These conditions are considered to be sufficient to inactivate Genetically Modified Organisms (GMO) &/or Transmissible Spongiform Encephalopathies (TSE) &/or Bovine Spongiform Encephalopathy (BSE) transmitters.

Further, during the manufacturing process of these resins, compounds and sheets at SABIC, the ovine or bovine material is further exposed to high temperature/pressure, which is considered (the fact of being exposed) to be sufficient to inactivate any active prions present.

In view of the repeated chemical/heat/pressure treatments that the additives undergo in the various successive process steps of manufacturing of the SABIC Products, it is considered that the SABIC Products do not pose any threat in the context of GMO and/or TSE/BSE. Furthermore, we believe that SABIC Products do not pose any risk of transmitting animal spongiform encephalopathy agents via human and veterinary medicinal products (per the Note on Guidance EMA/410/01 rev.3) (2011/C 73/01).

Status of SABIC Product(s) with respect to Commission Regulation (EU) 2020/784 amending Annex I to Regulation (EU) 2019/1021 as regards the listing of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds, and COMMISSION REGULATION (EU) 2021/1297 of 4 August 2021 amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council as regards perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C₉-C₁₄ PFCAs), their salts and C₉-C₁₄ PFCA-related substances

On Commission Regulation (EU) 2020/784 amending Annex I to Regulation (EU) 2019/1021 regarding the listing of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds (EU POP Regulation for PFOA), effective July 4, 2020, SABIC provides the following information:

The SABIC Products do not contain perfluorooctanoic acid (PFOA), PFOA salts, or PFOA-related substances as intentionally added components.

To the extent the SABIC Products may contain any PFOA, PFOA salts, or PFOA-related compounds as impurities, such substances are present at (i) less than 0,025 mg/kg (0,000025 % w/w) of PFOA and PFOA salts, and (ii) less than 1 mg/kg (0,0001 % w/w) of any individual PFOA-related compound or a combination of PFOA-related compounds.

On COMMISSION REGULATION (EU) 2021/1297 of 4 August 2021 amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council as regards perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C₉-C₁₄ PFCAs), their salts and C₉-C₁₄ PFCA-related substances, SABIC can provide the following information: :

Based on SABIC current product's formulation, the SABIC Products do not contain perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C₉-C₁₄ PFCAs) and their salts and C₉-C₁₄ PFCA -related substances as intentionally added components. Here PFCAs defined scope includes: (i) Linear and branched perfluorocarboxylic acids of the formula C_nF_{2n+1}-C(=O)OH where n = 8, 9, 10, 11, 12, or 13 (C₉-C₁₄ PFCAs), including their salts, and any combinations thereof, (ii) Any C₉-C₁₄ PFCA -related substance having a perfluoro group with the formula C_nF_{2n+1}- directly attached to another carbon atom, where n = 8, 9, 10, 11, 12, or 13, including their salts and any combinations thereof, (iii) Any C₉-C₁₄ PFCA -related substance having a perfluoro group with the formula C_nF_{2n+1}- that it is not directly attached to another carbon atom, where n = 9, 10, 11, 12, 13 or 14 as one of the structural elements, including their salts and any combinations thereof.

To the extent the SABIC Products may contain any chain (C₉-C₁₄ PFCAs) and their salts and C₉-C₁₄ PFCA-related substances as impurities, such substances are present at (i) less than 25ppb (0,000025 %by weight) for the sum of C₉-C₁₄ PFCAs and their salts, and (ii) less than 260 ppb (0,000026 %by weight) for the sum of C₉-C₁₄ PFCA-related substances.

Status of SABIC Product(s) with respect to PAH/PAK

The SABIC Products do not contain restricted Polycyclic Aromatic Hydrocarbons (PAHs) mentioned below as intentionally added components [above 0.1% w/w (each) threshold limits, if applicable], which refers to Entry 50 of Annex XVII to Regulation EC 1907/2006 and AfPS GS 2019:01 PAK related Restriction of PAHs Hazardous Substances requirements.

- Anthracene (CAS# 120-12-7)
- Benzo(a)anthracene (CAS# 56-55-3)
- Benzo(a)pyrene (CAS# 50-32-8)
- Benzo(e)pyrene (CAS# 192-97-2)
- Benzo(b)fluoranthene (CAS# 205-99-2)
- Benzo(g,h,i)perylene (CAS# 191-24-2)
- Benzo(j)fluoranthene (CAS# 205-82-3)
- Benzo(k)fluoranthene (CAS# 207-08-9)
- Chrysene (CAS# 218-01-9)
- Dibenzo(a,h)anthracene (CAS# 53-70-3)
- Fluoranthene (CAS# 206-44-0)
- Indeno(1,2,3-c,d)pyrene (CAS# 193-39-5)
- Naphthalene (CAS# 91-20-3)
- Phenanthrene (CAS# 85-01-8)
- Pyrene (CAS# 129-00-0)

Status of SABIC Product(s) with respect to POPs

The SABIC Products do not contain restricted substances mentioned below as intentionally added components or as expected process impurities [above corresponding threshold limits mentioned below, if applicable], which refers to those substances listed on Annex A, B and C of the Stockholm Convention on Persistent Organic Pollutants (POPs) and Annex I, II and III to REGULATION (EU) 2019/1021 and its amendments,

- DDT (1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane) (CAS# 50-29-3, 8017-34-3, 50 mg/kg)
- Chlordane (CAS# 57-74-9, 50mg/kg)
- Dieldrin (CAS# 60-57-1, 50mg/kg)
- Endrin (CAS# 72-20-8, 50mg/kg)
- Heptachlor (CAS# 76-44-8, 50mg/kg)
- Hexachlorobutadiene (CAS# 87-68-3, 100mg/kg)
- Technical endosulfan, and its related isomers (CAS# 115-29-7, 959-98-8, 33213-65-9, 1031-07-8, 50mg/kg)
- Hexachlorobenzene (HCB) (CAS# 118-74-1, 50mg/kg)
- Chlordecone (CAS# 143-50-0, 50mg/kg)
- Polychlorinated biphenyls (PCB) (CAS# 1336-36-3, 50mg/kg)
- Perfluorooctane sulfonic acid (PFOS), its derivatives (C₈F₁₇SO₂X) (CAS# 1763-23-1, 2795-39-3, 29457-72-5, 29081-56-9, 70225-14-8, 56773-42-3, 251099-16-8, 4151-50-2, 31506-32-8, 1691-99-2, 24448-09-7, 307-35-7, total 10mg/kg)

- Aldrin (CAS# 309-00-2, 50mg/kg)
- Hexachlorocyclohexanes, including lindane (CAS# 58-89-9, 319-84-6, 319-85-7, 608-73-1, 50mg/kg)
- Pentachlorobenzene (PECB) (CAS# 608-93-5, 50mg/kg)
- Polychlorinated naphthalenes (1 or more chlorine atoms) (CAS# 28699-88-9, 1321-65-9, 1335-88-2, 1321-64-8, 32241-08-0, 1335-87-1, 2234-13-1, 70776-03-3, 90-13-1, 91-58-7, 10mg/kg)
- Mirex (Perchlordecone); Dodecachlorooctahydro-1,3,4-metheno-2H-cycrobuta(cd)pentalene (CAS# 2385-85-5, 50mg/kg)
- Polybromodiphenyl ethers (Br=4-7) (PBDEs) (CAS# 40088-47-9, 32534-81-9, 36483-60-0, 68928-80-3, Total 500mg/kg)
- Toxaphene (CAS# 8001-35-2, 50mg/kg)
- Hexabromobiphenyl (CAS# 36355-01-8, 50 mg/kg)
- Polychlorinated dibenzofurans (PCDF) (15 ug/kg)
- Polychlorinated dibenzo-p-dioxins (PCDD) (15 ug/kg)
- Hexabromocyclododecane (HBCDD) (CAS# 3194-55-6, 25637-99-4, 134237-50-6, 134237-51-7, 134237-52-8, 100mg/kg)
- Short-chained chlorinated paraffins-C10-13 (SCCP) (CAS# 85535-84-8, 0.1% w/w)
- Decabromodiphenyl ether (decaBDE) (CAS# 1163-19-5, 10mg/kg)
- Pentachlorophenol (CAS# 87-86-5, 5 mg/kg)
- Pentachloroanisole (CAS# 1825-21-4, 0.1% w/w)
- Sodium pentachlorophenate (CAS# 131-52-2, 0.1 % w/w)
- Pentachlorophenyl laurate (CAS# 3772-94-9, 0.1 % w/w)
- Sodium pentachlorophenate monohydrate (CAS# 27735-64-4, 0.1% w/w)
- Dicofof (CAS# 115-32-2, 0.1% w/w)

Status of SABIC Product(s) with respect to Title XV, Section 1502 "Conflict Minerals" of the Dodd-Frank Wall Street Reform and Consumer Protection Act

Title XV section 1502 "Conflict Minerals" of the Dodd-Frank Wall Street Reform and Consumer Protection Act requires U.S. and foreign publicly-traded companies to report to the Securities and Exchange Commission whether their products may contain certain metals (tungsten, tin, tantalum and gold) which are considered "conflict minerals" because they are mined in the Democratic Republic of the Congo (DRC) or adjoining countries. Companies subject to the law are required to file their annual reports by May 31, 2022.

The vast majority of the "SABIC Products" do not contain tungsten, tin, tantalum or gold.

If you are buying a "SABIC Products" other than those listed below ^[1], this letter certifies that the product(s) you are buying do not contain tungsten, tin, tantalum, or gold necessary to the functionality or production of the product.

Note ^[1] Requiring Further Conflict Minerals Certification from SABIC for below products

- CYCOLOY™ resin:
C2100HF-GY8761L, C2100HF-WH6207L, C2100HF-YW7A253L,
C2100-YW7A253L, C2950-WH7A291L
- GELOY™ resin: XP4025-BK2101S

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- LEXAN™ resins: IFX3420Z-GN2D042T, IFX5420Z-GN1D070T
- PLASTECH™ sheet: PTS2RS830-SR8532M
- XYLEX™ resin:
 - FXY310DM-BK1A220, FXY310DM-BL3A444G,
 - FXY310DM-BL3B228G, FXY310DM-GY7D420G

Status of SABIC Product(s) with respect to TSCA Section 6(h) PBT Chemicals and certain restricted substances

The SABIC Products do not contain substances mentioned below as intentionally added components, which are required under the Toxic Substances Control Act (TSCA), as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act (five final rules issued by EPA on January 6, 2021) (Persistent, Bio-accumulative, and Toxic (**PBT**) Chemicals under **TSCA Section 6(h)**).

- Phenol, isopropylated, phosphate (3:1) (CAS# 68937-41-7)
- DecaBDE (decabromodiphenyl ether (CAS# 1163-19-5)
- HCBd (hexachlorobutadiene (CAS# 87-68-3)
- 2,4,6-Tris(tert-butyl)phenol (2,4,6-TTBP) (CAS# 732-26-3)
- Pentachlorothiophenol (PCTP) (CAS# 133-49-3)

The SABIC Products do not **Contain Restricted Substances** mentioned below as intentionally added components or as expected process impurities [above corresponding threshold limits mentioned below, if applicable]:

- Dimethyl fumarate (CAS# 624-49-7, 0.1mg/kg)
- Polychlorinated terphenyls (PCTs) (CAS# 61788-33-8, 50mg/kg)
- Tri(1,3-dichloro-2-propyl)phosphate (TDCPP) (CAS# 13674-87-8, 0.1% w/w)
- Tris(2-chloroethyl)phosphate (TCEP) (CAS# 115-96-8, 0.1% w/w)
- Tris(1-chloro-2-propyl)phosphate (TCPP) (CAS# 13674-84-5, 0.1% w/w)
- 1,1,1-Trichloroethane (CAS# 71-55-6, 0.1% w/w)
- Trichloroethylene (CAS# 79-01-6, 0.1% w/w)
- 4-Aminodiphenyl (0.1% w/w)
- 4-Nitrodiphenyl (0.1% w/w)
- Asbestos (CAS# 1332-21-4, 0.1% w/w)
- Azo colourants, releasing certain carcinogenic aromatic amines (0.1% w/w)
- Benzene (CAS# 71-43-2, 0.1% w/w)
- Formaldehyde (CAS# 50-00-0, 0.1% w/w)
- Picric acid (CAS# 88-89-1, 0.1% w/w)
- Radio-active substances (Uranium, Plutonium, Radon, Americium, Thorium) (0.1% w/w)
- Short-chain chlorinated paraffin-C10-13, Medium-chained chlorinated paraffin-C14-C17 (0.1% w/w)
- Dibutyltin compounds, Dioctyltin compounds (0.1% w/w)

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- Tributyl tin and triphenyl tin compounds (0.1% w/w)
- Halon group including dibromotetrafluoroethane (0.1% w/w)
- Red Phosphorus (CAS# 7723-14-0, 0.1% w/w)
- Beryllium oxide (0.1% w/w)
- Bis(2-ethylhexyl) phthalate (DEHP), Dibutyl phthalate (DBP), Benzyl butyl phthalate (BBP), Diisobutyl phthalate (DIBP), (CAS# 117-81-7, 84-74-2, 85-68-7, 84-69-5, Total 0.1wt%)
- Phenol, isopropylated phosphate (3:1) (PIP (3:1)) (CAS# 68937-41-7, 0.1% w/w)
- 2,4,6-tris(tert-butyl)phenol (2,4,6-TTBP) (CAS# 732-26-3, 0.1% w/w)
- Pentachlorothiophenol (PCTP) (CAS# 133-49-3, 0.1% w/w)
- 1,4:7,10-Dimethanodibenzo[a,e]cyclooctene, 1,2,3,4,7,8,9,10,13,13,14,14-dodecachloro-1,4,4a,5,6,6a,7,10,10a,11,12,12a-dodecahydro- (DP) (CAS# 13560-89-9, 0.1% w/w)
- 1,2-Bis(pentabromophenyl) ethane (DBDPE) (CAS# 84852-53-9, 0.1% w/w)

Although the above-mentioned substances as such are not intentionally added to SABIC Product(s) above their regulatory de minimis (if one exists). This does not exclude the presence of negligible traces amounts due to, for example, impurities in the components made by our raw material suppliers or manufacture.

We are disclosing above information, to the best of our knowledge, based upon data from our raw material suppliers or manufacturers. Please note that analysis of the raw materials and/or SABIC Product/s for presence of the above-mentioned substances on a routine basis neither is a part of our quality control plan, nor is a part of the SABIC Product specifications, and hence it shall not be construed as any warranty, expressed or implied.

We recommend that users take appropriate precaution during storage, transportation and use of SABIC Products to avoid contamination and deterioration. Please refer to the SABIC Product's Safety Data Sheet (SDS) before use and consult SABIC representative, if there are further needs.

This declaration applies to the material as it leaves its production facilities. It does not cover any substance(s) or preparation(s) subsequently added and/or improper material processing or article fabrication further down the supply chain.

Please be informed that certain products are designed to consume Post Consumer Recycle (PCR) for environmental waste reduction. The details about use of the PCR, if any, are stated in the respective SDS. Please contact our Customer Service or Product Stewardship team representative to request information regarding the chemical compliance attributes of these PCR-containing products, which may differ from those referred to in this letter.

Do note that the information above is current as of the date of this letter. This declaration replaces all previous ones relating to this subject matter and is, unless revoked in writing, valid for a period of one year as of the date of issuance, after which it will automatically expire. Should you have further questions about SABIC products, please contact your SABIC commercial representative, or customer services. You may also contact us on our website at <https://www.sabic.com/en/contact>, after selecting the option "Products" and your product, choose "Regulatory" as option under "What is the nature of your inquiry".

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In the name of the manufacturer, for SABIC

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