1. Identification

Product identifier used on the label

MasterEmaco A 660 also ACRYL 60

Recommended use of the chemical and restriction on use
Recommended use*: for industrial and professional users

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification
Chemical family: No data available.

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

No need for classification according to GHS criteria for this product.

Label elements

The product does not require a hazard warning label in accordance with GHS criteria.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
1336-21-6	>= 0.0 - < 0.2%	Ammonium hydroxide

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.

If on skin:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
carbon dioxide, carbon monoxide, harmful vapours, nitrogen oxides, fumes/smoke, carbon black

Advice for fire-fighters
Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

Further information:
The degree of risk is governed by the burning substance and the fire conditions. If exposed to fire, keep containers cool by spraying with water. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Do not breathe vapour/aerosol/spray mists. Wear eye/face protection. If exposed to high vapour concentration, leave area immediately. Use personal protective clothing. Handle in accordance with good building materials hygiene and safety practice.

Environmental precautions
Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
For small amounts: Pick up with inert absorbent material (e.g. sand, earth etc.). Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

7. Handling and Storage

Precautions for safe handling
Avoid aerosol formation. Avoid inhalation of mists/vapours. Avoid skin contact. No special measures necessary provided product is used correctly.

Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect from direct sunlight.
Protect from temperatures below: 5 °C
The packed product must be protected from temperatures below the indicated one.
Protect from temperatures below: 40 °F
The packed product must be protected from temperatures below the indicated one.

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

Advice on system design:
No applicable information available.

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate.

Hand protection:
Wear chemical resistant protective gloves., Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields.

Body protection:
light protective clothing

General safety and hygiene measures:
Do not inhale gases/vapours/aerosols. Avoid contact with the skin, eyes and clothing. Avoid exposure - obtain special instructions before use. Handle in accordance with good building materials hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

9. Physical and Chemical Properties

Form:	liquid
Odour:	ammonia-like
Odour threshold:	No applicable information available.
Colour:	white
pH value:	10 (21 °C)
Melting point:	No applicable information available.
Boiling point:	100 °C
Sublimation temperature:	No applicable information available.
Flash point:	A flash point determination is unnecessary due to the high water content.
Flammability:	No applicable information available.
Lower explosion limit:	No applicable information available.
Upper explosion limit:	No applicable information available.
Vapour pressure:	No applicable information available.
Density:	1.03 g/cm3 (20 °C)
Relative density:	No applicable information available.
Vapour density:	Heavier than air.
Partitioning coefficient n-octanol/water (log Pow):	No data available.

Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	approx. 30 mPa.s (20 °C)
Viscosity, kinematic:	No applicable information available.
Miscibility with water:	(20 °C) miscible
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.
Evaporation rate:	not determined
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Not an oxidizer.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid
See MSDS section 7 - Handling and storage.

Incompatible materials
strong acids, strong bases, strong oxidizing agents, strong reducing agents

Hazardous decomposition products

Decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Based on available Data, the classification criteria are not met.

Oral
No applicable information available.

Inhalation
No applicable information available.

Dermal
No applicable information available.

Assessment other acute effects
No applicable information available.

Irritation / corrosion
Assessment of irritating effects: No irritation is expected under intended use and appropriate handling. Based on available Data, the classification criteria are not met.

Sensitization
Assessment of sensitization: Based on available Data, the classification criteria are not met.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No reliable data was available concerning repeated dose toxicity. Based on available Data, the classification criteria are not met.

Genetic toxicity
Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Carcinogenicity
Assessment of carcinogenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Reproductive toxicity
Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Teratogenicity
Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Other Information
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Based on available Data, the classification criteria are not met. There is a high probability that the product is not acutely harmful to aquatic organisms.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Inherently biodegradable. The insoluble fraction can be removed by mechanical means in suitable waste water treatment plants.
The polymer component of the product is poorly biodegradable.

Bioaccumulative potential

Assessment bioaccumulation potential
Discharge into the environment must be avoided.

Mobility in soil

Assessment transport between environmental compartments
No data available.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations. Residues should be disposed of in the same manner as the substance/product. Do not discharge into drains/surface waters/groundwater.

Container disposal:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:
Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Not hazardous;

CA Prop. 65:
WARNING: THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

NFPA Hazard codes:
Health : 0 Fire: 0 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2015/08/11

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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END OF DATA SHEET

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product: CS-309™-25 OTC
Part Number: 3515000
Manufacturer: W. R. Meadows®, Inc.
Address: 300 Industrial Drive, Hampshire, Illinois 60140
Telephone: (847) 214-2100
In case of emergency, dial (800) 424-9300 (CHEMTREC)
Revision Date: 9/9/2014
Product Use: Concrete Cure/Sealer

SECTION 2: HAZARDS IDENTIFICATION/EXPOSURE LIMITS

HMIS	
|Health|	|1|
|Flammability|	|3|
|Reactivity|	|0|
|Personal Protection|	| |

HAZARD STATEMENTS

Danger!
Highly flammable liquid and vapor.
Harmful if Inhaled. Causes skin/eye/respiratory irritation.
Prolonged/repeated exposure may cause organ damage.
May be fatal if ingested and enters airways.

PRECAUTIONARY STATEMENTS

Keep containers closed when not in use/avoid ignition sources.
Avoid breathing vapors and direct contact.
Store in well-ventilated location.
Wear appropriate Personal Protective Equipment.
Use only outdoors or in well-ventilated areas.

SECTION 3: HAZARDS COMPONENTS

Chemical Name:	CAS Number	% by Weight	SARA 313	Vapor Pressure (mm Hg@20°C)	LEL (@25°C)
1. Acetone	67-64-1	25-30	No	24 kPa	2.6
2. Proprietary Solvent Blend	N/E	45-50	No	N/E	N/E

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1966 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313." *N/E: Not Established*

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: If irritation or redness develops, move victim from exposure source and into fresh air. Flush eyes with water for fifteen (15) minutes. If symptoms persist, seek medical attention.

SKIN CONTACT: Wash affected areas with mild soap and water; remove contaminated shoes/clothing. If symptoms persist, seek medical attention.

INHALATION: If respiratory symptoms develop, move victim from exposure source and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel.

INGESTION: Dilute with liquid unless the victim is unconscious or very drowsy. Do not induce vomiting. If vomiting spontaneously occurs, prevent lung aspiration. Seek immediate medical attention.

SECTION 5: FIRE AND EXPLOSIVES HAZARDS

FLASHPOINT: -4 degrees F (For Acetone)

EXTINGUISHING MEDIA: Water fog, foam, dry chemical, or carbon dioxide.

CHEMICAL/COMBUSTION HAZARDS: Carbon monoxide, carbon dioxide, and incomplete combustion products.

PRECAUTIONS/PERSONAL PROTECTIVE EQUIPMENT: Avoid smoke inhalation. Personal protective equipment should include helmet, face shield, bunker coat, gloves, rubber boots, and a positive-pressure NIOSH-approved self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Avoid direct contact. Dike and contain spilled material. Remove source of spill if safe to do so. Evacuate all non-essential personnel from immediate area. Remove/extinguish ignition sources. A vapor-suppressing foam may be used to reduce vapor generation. Absorb with non-combustible absorbent and place in sealed containers for disposal. Control run-off and prevent from entering waterways, sewers, etc…Use non-sparking tools to collect spilled material as well as contaminated absorbent.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES: Avoid direct contact. Use adequate grounding when decanting.

SAFE STORAGE: Keep containers closed when not in use. Keep away from ignition sources.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

	OSHA				ACGIH			
Chemical Name:	PEL	PEL/CEILING	PEL/STEL	SKIN	TWA	TLV/CEILING	TLV/STEL	SKIN
1. Acetone	1000 ppm	N/E	N/E	Yes	500 ppm	N/E	750 ppm	Yes
2. Proprietary Solvent Blend	N/E	N/E	N/E	N/E	N/E	N/E	N/E	N/E

SAFETY DATA SHEET

SECTION 8 continued

N/E: Not Established

ENGINEERING CONTROLS: Use with adequate ventilation. Use explosion-proof equipment.
PERSONAL PROTECTIVE EQUIPMENT: Safety glasses, chemical-resistant gloves.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/E	**VAPOR DENSITY:** >1 (Air=1)	**% VOLATILE BY VOLUME:** N/E
EVAPORATION RATE: <1 (Ether=1)	**pH LEVEL:** N/A	**% VOLATILE BY WEIGHT:** 75
WEIGHT PER GALLON: 7.43	**PRODUCT APPEARANCE:** Clear Liquid	**VOC CONTENT:** 338 g/L

SECTION 10: STABILITY/REACTIVITY

STABILITY: Stable. **HAZARDOUS POLYMERIZATION:** Will not occur.
CONDITIONS AND MATERIALS TO AVOID: Static discharge, heat, sparks, open flame, and strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide/dioxide, incomplete combustion products.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: Direct contact may cause mild to moderate irritation. Product vapors may also cause irritation.
SKIN CONTACT: Direct contact may cause mild skin irritation. Prolonged/repeated contact may result in irritation/dermatitis.
INHALATION: Exposure may produce irritation to the nose, throat, respiratory tract, and other mucous membranes. Exposure to excessive vapor concentrations may cause signs of transient central nervous system depression (headache, drowsiness, loss of coordination, and fatigue). Repeated/prolonged occupational overexposures may result in permanent damage and can be potentially fatal.
INGESTION: This product is anticipated to be slightly toxic. If ingested and lung aspiration occurs serious lung damage may result. Ingestion of excessive quantities may result in symptoms of central nervous system depression.
SIGNS AND SYMPTOMS: Symptoms of eye irritation include tearing, reddening, and swelling. Symptoms of skin irritation include reddening, swelling, rash, and redness. Symptoms of gastrointestinal irritation include abdominal pain, vomiting and diarrhea. Symptoms of respiratory irritation include runny nose, sore throat, coughing, chest discomfort, shortness of breath, reduced lung function, and symptoms of central nervous system depression.
AGGRAVATED MEDICAL CONDITIONS: Pre-existing skin, lung, liver, kidney, central nercouse system, male reproductive, immune, and auditory systems may be aggravated by exposure to this product.
OTHER HEALTH EFFECTS: Prolonged/repeated exposure may affect the central nervous system. Animal studies have shown fetal harm. The relevance to humans is uncertain. Target organs include the kidneys, liver, spleen, adrenals, lungs, central nervous system, and cardiovascular system.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: N/E **DEGRADABILITY:** N/E **BIOACCUMULATIVE POTENTIAL:** N/E
SOIL MOBILITY: N/E **OTHER ADVERSE EFFECTS:** None recognized.

SECTION 13: WASTE DISPOSAL INFORMATION

WASTE DISPOSAL INFORMATION: Product is considered a hazardous waste for disposal purposes. Appropriate for fuel blending/incineration.

SECTION 14: TRANSPORTATION INFORMATION

HAZARDOUS/NON-HAZARDOUS MATERIAL: Hazardous.
UN NUMBER: 1866 **HAZARD CLASS:** 3 **PACKING GROUP:** II
UN PROPER SHIPPING NAME: Resin Solution.
ENVIRONMENTAL HAZARDS: Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
BULK TRANSPORTATION INFORMATION: Not applicable. Product not shipped in bulk configuration.
SPECIAL PRECAUTIONS: Keep containers closed. Avoid ignition sources.

SECTION 15: REGULATORY INFORMATION

OTHER REGULATORY CONSIDERATIONS: None recognized.

SECTION 16: OTHER INFORMATION

PREPARATION DATE: 9/9/2014
PREPARED BY: Dave Carey

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of this product described herein.

SAFETY DATA SHEET

Date of issue/Date of revision 14 August 2015
Version 3

Section 1. Identification

Product name : AMERLOCK 2/400AL ALUMINUM RESIN
Product code : AK2-01A/01
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications, Used by spraying.
Use of the substance/ mixture : Coating.
Uses advised against : Not applicable.

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 888-977-4762

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 LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 19%

GHS label elements
Hazard pictograms :

Section 2. Hazards identification

Signal word : Danger

Hazard statements : Flammable liquid and vapor.
Causes serious eye irritation.
Causes skin irritation.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS))

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. 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 attention.

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

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : AMERLOCK 2/400AL ALUMINUM RESIN

Ingredient name	%	CAS number
Epoxy resin (MW ≤ 700)	≥50 - <75	25068-38-6
Aluminium powder (stabilized)	≥10 - <25	7429-90-5
2,3-epoxypropyl neodecanoate	≥10 - <25	26761-45-5
Stoddard solvent	≥10 - <25	8052-41-3

SUB codes represent substances without registered CAS Numbers.

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

Section 3. Composition/information on ingredients

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

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

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.

Section 4. First aid measures

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised 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). Water polluting material. May be harmful to the environment if released in large quantities.

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 35°C (95°F). Store in accordance with local regulations. Store in a segregated and approved area. 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. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Epoxy resin (MW ≤ 700)	None.
aluminium powder (stabilised)	**ACGIH TLV (United States, 4/2014).** TWA: 1 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³, (as Al) 8 hours. Form: Respirable fraction TWA: 15 mg/m³, (as Al) 8 hours. Form: Total dust
2,3-epoxypropyl neodecanoate	None.
Stoddard solvent	**ACGIH TLV (United States, 4/2014).** TWA: 525 mg/m³ 8 hours. TWA: 100 ppm 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 2900 mg/m³ 8 hours. TWA: 500 ppm 8 hours.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Section 8. Exposure controls/personal protection

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. 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 : Chemical splash goggles.

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.

Gloves : butyl rubber

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 : 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. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Section 9. Physical and chemical properties

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 43.33°C (110°F)

Material supports combustion. : Yes.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.61%
Upper: 8%

Evaporation rate : 0.23 (butyl acetate = 1)

Vapor pressure : 0.56 kPa (4.2 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.2

Density (lbs / gal) : 10.01

Solubility : Insoluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 16% (v/v), 10.443% (w/w)

% Solid. (w/w) : 89.557

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 : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Epoxy resin (MW ≤ 700)	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	>2 g/kg	-
2,3-epoxypropyl neodecanoate	LD50 Dermal	Rat	3800 mg/kg	-
	LD50 Oral	Rat	9.6 g/kg	-
Stoddard solvent	LD50 Oral	Rat	>5 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category
Stoddard solvent	Category 1

Target organs : Contains material which causes damage to the following organs: brain, eye, lens or cornea.
Contains material which may cause damage to the following organs: kidneys, lungs, the nervous system, liver, upper respiratory tract, skin, central nervous system (CNS), testes.

Aspiration hazard

Name	Result
Stoddard solvent	ASPIRATION HAZARD - Category 1

Section 11. Toxicological information

Information on the likely routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness
dryness
cracking

Ingestion : No specific data.

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

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : Suspected of causing genetic defects.

Section 11. Toxicological information

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
Dermal	22576.7 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2,3-epoxypropyl neodecanoate	Acute EC50 3.5 mg/l	Algae	96 hours
	Acute EC50 4.8 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.6 mg/l	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2,3-epoxypropyl neodecanoate	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2,3-epoxypropyl neodecanoate	4.4	-	high
Stoddard solvent	3.16 to 7.06	-	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

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

Section 13. Disposal considerations

cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	UN1263	UN1263	UN1263
UN proper shipping name	PAINT	PAINT	PAINT
Transport hazard class (es)	3	3	3
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	No.
Marine pollutant substances	(2,3-epoxypropyl neodecanoate)	(Epoxy resin (MW ≤ 700), 2, 3-epoxypropyl neodecanoate)	Not applicable.

Additional information

DOT : This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids, that are marine pollutants, are not regulated as hazardous materials, unless transported by vessel. This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

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.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

U.S. Federal regulations :

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Epoxy resin (MW ≤ 700)	No.	No.	No.	Yes.	No.
aluminium powder (stabilised)	Yes.	No.	No.	No.	No.
2,3-epoxypropyl neodecanoate	No.	No.	No.	Yes.	Yes.
Stoddard solvent	Yes.	No.	No.	Yes.	Yes.

SARA 313

	Chemical name	CAS number	Concentration
Supplier notification :	Aluminium powder (stabilized)	7429-90-5	10 - 30

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

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

Health : 2 * **Flammability :** 2 **Physical hazards :** 1

(*) - Chronic effects

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 are not required on MSDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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

Health : 2 **Flammability :** 2 **Instability :** 1

Date of previous issue : **6/3/2015**

Organization that prepared the MSDS : EHS

Section 16. Other information

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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

1. Identification

Product name	:	Sika Armatec®-110 EpoCem® Part A
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Skin irritation , Category 2	H315: Causes skin irritation.
Eye irritation , Category 2A	H319: Causes serious eye irritation.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity , Category 2	H341: Suspected of causing genetic defects.

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.

P281 Use personal protective equipment as required.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
bisphenol-F-(epichlorhydrin) epoxy resin	9003-36-5	>= 50 - <= 100 %
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	>= 5 - < 10 %
2,3-epoxypropyl o-tolyl ether	2210-79-9	>= 2 - < 5 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Induce vomiting immediately and call a physician.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed	:	irritant effects sensitizing effects Allergic reactions Excessive lachrymation Erythema Dermatitis See Section 11 for more detailed information on health effects and symptoms.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling	:	Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing.

For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Contains no substances with occupational exposure limit values.

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.

Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	liquid
Color	:	white
Odor	:	no data available
Odor Threshold	:	no data available
Flash point	:	> 219.9 °F (> 104.4 °C)
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	6.5
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	1.09 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: soluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available

Volatile organic compounds (VOC) content	:	< 50 g/l A+B+C Combined

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Skin corrosion/irritation

Product

Causes skin irritation.

Serious eye damage/eye irritation

Product

Causes serious eye irritation.

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity	:	Suspected of causing genetic defects.

Carcinogenicity

Product

Carcinogenicity : no data available

IARC not applicable
NTP not applicable

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : no data available

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information

Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
May be harmful to the environment if released in large quantities.
Water polluting material.

13. Disposal considerations

Disposal methods

Waste from residues : 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated

IATA

UN number	3082
Description of the goods	Environmentally hazardous substance, liquid, n.o.s. (bisphenol-F-(epichlorhydrin) epoxy resin, bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
Packing instruction (cargo aircraft)	964
Packing instruction (passenger aircraft)	964
Packing instruction (passenger aircraft)	Y964

IMDG

UN number	3082
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bisphenol-F-(epichlorhydrin) epoxy resin, bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
EmS Number 1	F-A
EmS Number 2	S-F
Marine pollutant	yes

DOT & Domestic Aircraft: As per 49 CFR 171.4, Non-bulk materials (<119 Gal) are excepted from being classed as a Marine Pollutant.
DOT: For Limited Quantity exceptions reference 49 CFR 173.154 (b)

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the

TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Acute Health Hazard Chronic Health Hazard
SARA 302	:	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

California Prop 65	WARNING! This product contains a chemical known in the State of California to cause cancer. WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification

Health	*	2
Flammability		1
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 11/20/2013

Material number: 459469

SAFETY DATA SHEET

SECTION 1 – COMPANY and PRODUCT IDENTIFICATION

MANUFACTURER
GARDNER-GIBSON CORPORATION
4161 East 7th Avenue
Tampa, FL 33605

EMERGENCY TELEPHONE NUMBER
1-800-424-9300 CHEMTREC

Product Information
813-248-2101
gardner-gibson.com

Product Class
Acrylic Latex Sealant used in building construction.

Product Code Number
6439-9-66

Trade Name
Black Jack Speed-Fill Blacktop Filler - Black

SECTION 2 – HAZARDS IDENTIFICATION

Product Classification: No need for classification according to GHS criteria.

Effects of acute toxicity:
EYES: Direct contact may cause irritation.
SKIN: May cause irritation to sensitive skin or open wounds.
INHALATION: May cause irritation to respiratory passages.
INGESTION: May cause nausea.

Precautions:
Wear suitable protective clothing, gloves and eye protection.
If the product adheres to exposed skin, irritation may occur when the product dries.
Use with local exhaust ventilation.
Do not take internally. Wash hands before eating or drinking.

SECTION 3 – COMPOSITION / INFORMATION on INGREDIENTS

INGREDIENT	Content (By Weight)	TLV PPM	PEL - TWA PPM
Diisononyl Phthalate (DINP) CAS # 28553-12-0	3.0 - 5.0%	N.E.	N.E.
Mineral Spirits (Stoddard solvent) CAS # 8052-41-3	0.5 - 1.0%	100	100
All other ingredients in this waterborne product are trade secret.	94.0 - 96.5%	N.A.	N.A.

There are no ingredients in this product of unknown acute toxicity.

N.E. = Not Established **N.A. = Not Applicable**

SECTION 4 – FIRST-AID MEASURES

Inhalation: If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. If signs/symptoms of difficulty in breathing continue, get immediate medical attention.

Skin: Rinse skin immediately with plenty of clean water for 5 to 10 minutes. Remove contaminated clothing. If skin irritation occurs get medical advice/attention.

Eye(s): Rinse cautiously with water for several minutes. Remove contact lenses if present and if it is easy to do so. Continue rinsing. If eye irritation persists get medical advice/attention.

Ingestion: If swallowed, do not induce vomiting. If conscious, give 2 to 3 glasses of water and seek medical advice/attention immediately.

SECTION 5 – FIRE-FIGHTING MEASURES

Extinguishing Media: Carbon dioxide, dry chemical, foam, or water spray

Unusual Fire and Explosion Hazards: None known

Special Fire Fighting Procedures: Water can be used to cool fire-exposed containers. Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Steps to be taken in case material is released or spilled: Observe all personal protective equipment recommendations described in Section 8. Wipe up or scrape up spilled material and contain for disposal. Final cleaning may require use of hot water and/or detergents. Dispose of saturated absorbent or cleaning materials appropriately.

SECTION 7 – HANDLING and STORAGE

Precautions for safe handling: Keep away from extreme heat. Do not get in eyes, on skin, on clothing. Do not swallow product. Wash thoroughly after handling. Use with adequate ventilation.

Conditions for safe storage: Store in a cool, dry place in the original container. Keep container closed when not in use. Store the product away from strong oxidizing chemicals. Avoid extreme heat. Store above 7 °C (45 °F). Product will freeze below 0 °C (32 °F).

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Use with adequate ventilation.
Skin Protection: Chemical resistant gloves are recommended for prolonged exposure.
Eye Protection: Wear safety glasses with side shields.
OTHER PROTECTIVE EQUIPMENT: None required.

SECTION 9 – PHYSICAL and CHEMICAL PROPERTIES

Appearance (Physical state, color):	Thick fluid paste, black
Odor:	Mild, acrylic-like
Odor Threshold:	No information is available.
pH:	7.5 – 8.5
Melting point:	No data is available.
Initial Boiling Point & Boiling Range:	100 °C to 244 °C (212 °F to 471 °F)
Flash Point:	>94 °C (>201 °F)
Evaporation Rate:	Slower than Ether
Flammability:	Nonflammable
Upper/Lower Flammability Limits:	No data is available.
Vapor Pressure:	17.5 mm Hg @ 20 °C (68 °F)
Vapor Density:	Heavier than air
Density:	1.68 g/cm^3 (14.0 Lbs/gal) 21 °C (70 °F)
Solubility (in water):	Dispersible in water
Partition coefficient (n-octanol/water):	No data is available.
Auto-ignition temperature:	No data is available.
Decomposition temperature:	>250 °C (482 °F)
Viscosity (Brookfield RV, 5 rpm):	300,000 cP ±90,000 @ 21 °C (70 °F)

SECTION 10 – STABILITY and REACTIVITY

Reactivity: No hazardous reactions if stored and handled as prescribed.

Chemical Stability: The product is stable if stored and handled as prescribed.

Hazardous decomposition products: Carbon dioxide, carbon monoxide, and hydrocarbons.

Hazardous polymerization: Will not occur. The product is chemically stable.

SECTION 11 – TOXICOLOGICAL INFORMATION

Primary routes of exposure: Routes of entry for the product into the human body are accidental ingestion, accidental eye contact, and prolonged skin contact. Inhalation of the vapor released from the product as it dries is dependent upon the absence of proper ventilation during use of the product.

Acute Toxicity/Effects:

EYES: Direct contact may cause irritation.
SKIN: May cause irritation to sensitive skin or open wounds.
INHALATION: May cause irritation to respiratory passages.
INGESTION: May cause nausea/gastrointestinal distress.

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

SECTION 11 – TOXICOLOGICAL INFORMATION (continued from page 3)

No human toxicological studies (Oral, Inhalation or Dermal) have been conducted on this compounded product.

No animal toxicological studies (Oral, Inhalation or Dermal) have been conducted on this compounded product.

Chronic Toxicity/Effects:
EYES: No data available.
SKIN: No data available.
INHALATION: No data available.
INGESTION: No data available.

SECTION 12 – ECOLOGICAL INFORMATION

Ecological Fate:	* No data available.
Persistence/Degradability:	* No data available.
Bioaccumulation Potential:	* No data available.
Mobility in Soil:	* No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of unused product and/or empty containers in accordance with local, regional, national, and/or international regulations.
Do not discharge into drains, surface waters, groundwater, or open ground/soil.

SECTION 14 – TRANSPORT INFORMATION

DOT Proper Shipping Name: Not Regulated by D.O.T. **DOT Hazard Class:** None
DOT UN/NA Number: None **Packing Group:** None

IMO/IMDG – International Maritime Transport Shipping Name: Not Regulated.
IATA – International Air Transportation Association: Not Regulated.

Do not transport this product on passenger seats or inside the passenger compartment of any vehicle. Transport product in the cargo area of the vehicle and secure it on and under protective cloths or plastic wrap to prevent damage due to accidental spills.

SECTION 15 – REGULATORY INFORMATION

SARA Title III – No substances are contained in this product subject to the reporting requirements of EPCRA Section 313 of the Super Fund Amendments and Reauthorization Act, 40 CFR Part 372.
TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
California Proposition 65 Chemical Warning (California Health and Safety Code #25249.5 et seq): This product contains chemicals known to the state of California to cause cancer, birth defects or reproductive harm.

SECTION 16 – OTHER INFORMATION

Hazardous Materials Identification System (HMIS)

Health	Flammability	Physical Hazard	Personal Protection Equipment (PPE)
1	0	0	**B –** Safety glasses and gloves

Legend: 0 = Insignificant **1 =** Slight **2 =** Moderate **3 =** High

Other Precautions**:** Keep out of the reach of children.
Protect from freezing.

Disclaimer/Statement of Liability:
This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to verify the suitability and completeness of such information for a particular use. Gardner-Gibson does not accept liability for any loss or damage that may occur from the use of this information.

Prepared by: Morton Jones
3-24-15
Product # 6439-9-66

SAFETY DATA SHEET

PECORA CORPORATION
Architectural Weatherproofing Products
U.S.A. • since 1862

DynaTrol® II Base

1. PRODUCT IDENTIFICATION

IDENTIFICATION of the SUBSTANCE or PREPARATION

TRADE NAME (AS LABELED):	**DynaTrol® II Base**
PRODUCT DESCRIPTION:	Part B For Caulking Compound
CHEMICAL NAME/CLASS:	Hydroxyl Terminated Isocyanate/Polyol Ether Polyurethane
SYNONYMS:	DynaTrol® II Part B
RELEVANT USE:	General Use Polyurethane 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:	March 2011
REVISION DATE:	November 15, 2013

This product is sold for commercial use. This MSDS 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, and Canadian WHMIS [Controlled Products Regulations] and the Global Harmonization Standard required information is included in appropriate sections based on the U.S. ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the countries listed above.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: This product has been classified per GHS Standards.

Classification: Carcinogenic Cat. 2, Reproductive Toxicity Cat. 2, Acute Oral Toxicity Cat. 5, Eye Irritation Cat. 2B, STOT (Inhalation-Respiratory Irritation) SE Cat. 3, Skin Irritation Cat. 2, Respiratory Sensitizer Cat. 1B, Skin Sensitization Cat. 1

Signal Word: Danger

Hazard Statement Codes: H351, H361d, H303, H315 + H320, H335, H317, H334

Precautionary Statement Codes: P201, P202, P260, P264, P270, P271, P272, P280, P284, P308 + P313, P304 + P340, P342 + P311, P305 + P351 + P338, P337 + P313, P333 + P313, P321, P403 + P233, P405, P501

Hazard Symbols/Pictograms: GHS07, GHS08

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: This product is a heavy, white paste with a mild odor characteristic of isocyanates.

HEALTH HAZARDS: CAUTION! May cause mild eye, skin, and respiratory tract irritation, especially if exposure is prolonged. May be harmful if ingested. May cause skin and/or respiratory sensitization and allergic reaction in persons susceptible to isocyanates. Contains trace amounts of crystalline silica, a known human carcinogen by inhalation. Contains compound that is suspect developmental toxin.

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

REACTIVITY HAZARD: This product is not reactive.

ENVIRONMENTAL HAZARD: This product has not been tested for environmental impact.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS®)

Health	**2***
Flammability	**1**
Physical Hazard	**0**

See Section 16 for definitions of ratings

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

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

CANADIAN WHMIS CLASSIFICATION: Class D2B. See Section 15 (Regulatory Information) for all classification details.

U.S. OSHA REGULATORY STATUS: This material has a classification under the Global Harmonization Standard, as applied under OSHA regulations, as given earlier in this Section.

3. MATERIAL IDENTIFICATION

Chemical Name	CAS #	W/W%	GHS Classification Hazard Statements
Hydroxyl-Terminated Isocyanate	9057-91-4	30.0-60.0	SELF CLASSIFICATION Classification: Skin Sensitization Cat. 1, Respiratory Sensitizer Cat. 1B Hazard Statement Codes: H317, H334
Diisodecyl Phthalate	68515-49-1	10.0-35.0	SELF CLASSIFICATION Classification: Carcinogenic Cat. 2, Reproductive Toxicity Cat. 2, Acute Oral Toxicity Cat. 3 Hazard Statement Codes: H351, H361d, H303
Polyether Polyol	25322-69-4	10.0-25.0	SELF CLASSIFICATION Classification: Not Applicable
Proprietary Castor Oil		5.0-15.0	SELF CLASSIFICATION Classification: Not Applicable
Synthetic Calcium Carbonate	471-34-1	5.0-10.0	SELF CLASSIFICATION Classification: Not Applicable
Proprietary Synthetic Zeolite		3.0-7.0	SELF CLASSIFICATION Classification: Not Applicable
Calcium Oxide	1305-78-8	1.0-3.0	SELF CLASSIFICATION Classification: Not Applicable
Copolymer	25214-39-5	1.0-3.0	SELF CLASSIFICATION Classification: Not Applicable
Quartz	14808-60-7	Trace	SELF CLASSIFICATION Classification: Carcinogenic Cat. 1B Hazard Statement Codes: H350
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

See Section 16 for full text of classification

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 overexposures to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: > 93.2°C (> 200°F) AUTOIGNITION: Unknown.

FLAMMABLE LIMITS IN AIR: Unknown.

EXTINGUISHING MEDIA:

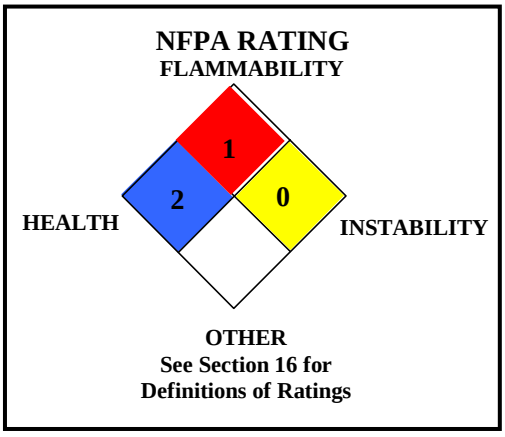
Suitable Extinguishing Media: Use extinguishing material suitable to the surrounding fire, including foam, halon, carbon dioxide and dry chemical.

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 if exposed to ignition source. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. 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. Spills may be slippery.

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
Calcium Carbonate, Natural & Synthetic	1317-65-3/471-34-1	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
Calcium Oxide	1305-78-8	ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA	2 mg/m^3 5 mg/m^3 2 mg/m^3
Diisodecyl Phthalate	68515-49-1	NE	NE
Hydroxyl-Terminated Isocyanate	9057-91-4	AIHA WEEL	10 mg/m^3
Polyether Polyol	25322-69-4	AIHA WEEL	10 mg/m^3
Proprietary Castor Oil		NE	NE
Proprietary Zeolite		NE	NE
Copolymer	25214-39-5	NE	NE
Quartz	14808-60-7	ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA	0.025 mg/m^3 Respirable Fraction 30 mg/m^3 / % Sio2 + 2 Total Dust; 10 mg/m^3 / % Sio2 + 2 Respirable Fraction 0.05 mg/m^3 (Respirable Dust)

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

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: Thick paste.
COLORS: White.
MOLECULAR WEIGHT: Mixture.
MOLECULAR FORMULA: Mixture.
ODOR: Mild characteristic of isocyanates.
ODOR THRESHOLD: Not available.
SPECIFIC GRAVITY: 1.37
VAPOR PRESSURE, mm Hg @ 20°C: Not established.
RELATIVE VAPOR DENSITY (air = 1): Heavier than air.
EVAPORATION RATE (BuAc = 1): < 1
SOLUBILITY IN WATER: Insoluble.
OTHER SOLUBILITIES: Not available.
MELTING/FREEZING POINT: Not available.
BOILING POINT: Not established.
VOC (less water and exempt): <25 g/L
WEIGHT % VOC: Not available.
FLASH POINT: > 93.2°C (> 200°F)
AUTOIGNITION TEMPERATURE: Not established.
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.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under normal circumstances of use and handling. May absorb small amounts of moisture.
CONDITIONS TO AVOID: Avoid contact with incompatible chemicals and exposure to extreme temperatures.
INCOMPATIBLE MATERIALS: This product is not compatible with strong acids, alkalies and oxidizers, ketones and isocyanates.
HAZARDOUS DECOMPOSITION PRODUCTS: *Combustion*: Thermal decomposition of this product can generate carbon, calcium, and nitrogen oxides, propylene glycol, acetaldehyde, formaldehyde, furan, and dioxalane. *Hydrolysis:* Not 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 moisture in air.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS: The most significant routes of occupational overexposure are inhalation and contact with skin and eyes. The symptoms of overexposure to this product are as follows:

Contact with Skin or Eyes: Contact may mildly irritate the skin. Prolonged or repeated skin contact may cause dermatitis (dry, red skin). Eye contact may cause redness, pain, and tearing. May cause skin sensitization and allergic reaction in individuals susceptible to isocyanates. Refer to 'Sensitization to the Product' for additional information.

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: Overexposure 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. Vapors or fumes when used in an enclosed space, if heated or during curing may cause irritation of the respiratory system. Symptoms include nose irritation, dry or sore or burning throat, runny nose, shortness of breath. May cause respiratory sensitization and allergic reaction in individuals susceptible to isocyanates. Refer to 'Sensitization to the Product' for additional information.

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

Other Health Effects: The Diisodecyl Phthalate compound is a suspect development toxin that may cause harm to the unborn fetus or developmental effects in young children.

TARGET ORGANS: Acute: Skin, eyes, central nervous system. Chronic: Skin, respiratory system, fetus.
CHRONIC EFFECTS: Prolonged or repeated skin contact may cause dermatitis (dry, red skin).

11. TOXICOLOGICAL INFORMATION (Continued0

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.

CALCIUM CARBONATE, NATURAL:

TDLo (Intravenous-Rat) 30 mg/kg: Vascular: BP lowering not characterized in autonomic section; Lungs, Thorax, or Respiration: changes in lung weight; Blood: other changes

TCLo (Inhalation-Rat) 84 mg/m^3/4 hours/40 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis (interstitial); Liver: other changes; Kidney/Ureter/Bladder: other changes

TCLo (Inhalation-Rat) 250 mg/m^3/2 hours/24 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis)

CALCIUM OXIDE:

LD_{50} (Intraperitoneal-Mouse) 3059 mg/kg

DIISODECYL PHTHALATE:

Standard Draize Test (Skin-Rabbit) 0.1 mL: Mild

LD_{50} (Oral-Rat) > 60,000 mg/kg

LD_{50} (Skin-Rabbit) 16,000 mg/kg

LD_{50} (Intraperitoneal-Mouse) > 100 gm/kg

LC_{50} (Inhalation-Rat) > 130 mg/m^3/6 hours

LC_{50} (Inhalation-Mouse) > 130 mg/m^3/6 hours

LC_{50} (Inhalation-Guinea Pig) > 130 mg/m^3/6 hours

TDLo (Oral-Rat) 10,080 mg/kg/2 weeks-continuous: Liver: other changes; Liver: changes in liver weight

TDLo (Oral-Rat) 10,500 mg/kg/10 weeks-continuous: Liver: other changes; Liver: changes in liver weight

TDLo (Oral-Rat) 21,000 mg/kg/10 weeks-continuous: Kidney/Ureter/Bladder: changes in kidney weight

TDLo (Oral-Rat) 42,000 mg/kg/10 weeks-continuous: Endocrine: other changes; Related to Chronic Data: changes in uterine weight; Related to Chronic Data: changes in ovarian weight

TDLo (Oral-Rat) 52,500 mg/kg/10 weeks-continuous: Nutritional and Gross Metabolic: weight loss or decreased weight gain

TDLo (Oral-Rat) 15,750 mg/kg/4 weeks-continuous: Nutritional and Gross Metabolic: weight loss or decreased weight gain

TDLo (Oral-Rat) 14,700 mg/kg/7 weeks-continuous: Liver: changes in liver weight

TDLo (Oral-Rat) 29,400 mg/kg/7 weeks-continuous: Endocrine: changes in spleen weight; Nutritional and Gross Metabolic: weight loss or decreased weight gain

DIISODECYL PHTHALATE (continued):

TDLo (Oral-Rat) 7350 mg/kg/7 weeks-continuous: Liver: multiple effects; Kidney/Ureter/Bladder: changes in both tubules and glomeruli, changes in kidney weight

TDLo (Oral-Rat) 23,100 mg/kg/21 days-continuous: Liver: other changes, changes in liver weight; Kidney/Ureter/Bladder: changes in kidney weight

TDLo (Oral-Rat) 45,500 mg/kg/13 weeks-continuous

TDLo (Oral-Rat) 22,750 mg/kg/13 weeks-continuous

TDLo (Oral-Rat) 100 mg/kg: Multi-generations: Reproductive: Effects on Newborn: live birth index (measured after birth), sex ratio

TDLo (Oral-Rat) 100 mg/kg: Multi-generations: Reproductive: Effects on Newborn: viability index (e.g., # alive at day 4 per # born alive)

TDLo (Oral-Rat) 200 mg/kg: Multi-generations: Reproductive: Specific Developmental Abnormalities: hepatobiliary system; Effects on Newborn: delayed effects

TDLo (Oral-Rat) 400 mg/kg: Multi-generations: Reproductive: Effects on Newborn: growth statistics (e.g.%, reduced weight gain), delayed effects

TDLo (Oral-Rat) 2840 mg/kg: female 28 day(s) pre-mating: 21 day(s) post-birth: Reproductive: Effects on Newborn: delayed effects

TDLo (Oral-Rat) 12 gm/kg: male 49 day(s) pre-mating female 28 day(s) pre-mating: 21 day(s) post-birth: Reproductive: Effects on Newborn: delayed effects

TDLo (Oral-Rat) 44 gm/kg: male 28 day(s) pre-mating female 28 day(s) pre-mating: 21 day(s) post-birth: Reproductive: Effects on Newborn: growth statistics (e.g.%, reduced weight gain)

TDLo (Oral-Rat) 48 gm/kg: male 49 day(s) pre-mating female 28 day(s) pre-mating:- 21 day(s) post-birth: Reproductive: Effects on Embryo or Fetus: fetotoxicity (except death, e.g., stunted fetus); Effects on Newborn: live birth index (measured after birth), growth statistics (e.g.%, reduced weight gain)

TDLo (Oral-Rat) 49 gm/kg: male 28 day(s) pre-mating female 28 day(s) pre-mating: 21 day(s) post-birth: Reproductive: Effects on Embryo or Fetus: fetotoxicity (except death, e.g., stunted fetus)

TDLo (Oral-Rat) 10,000 mg/kg: female 6-15 day(s) after conception: Reproductive: Maternal Effects: other effects; Effects on Embryo or Fetus: fetotoxicity (except death, e.g., stunted fetus)

POLYETHER POLYOL:

Standard Draize Test (Eye-Rabbit) 500 mg: Mild

LD_{50} (Oral-Rabbit) > 2 gm/kg

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	EPA	IARC	NTP	NIOSH	ACGIH	OSHA	PROP 65
Calcium Carbonate (Natural)	No	No	No	No	No	No	No
Calcium Oxide	No	No	No	No	No	No	No
Copolymer	No	No	No	No	No	No	No
Diisodecyl Phthalate	No	2B	No	No	No	No	Not as Carcinogen-Listed as Developmental Toxin
Hydroxyl-Terminated Isocyanate	No	No	No	No	No	No	No
Proprietary Castor Oil	No	No	No	No	No	No	No
Proprietary Zeolites	No	No	No	No	No	No	No
Polyether Polyol	No	No	No	No	No	No	No
Quartz	No	1	K	Ca	A2	No	Yes (airborne, unbound particles of respirable size)

IARC 1: Carcinogenic to Humans. IARC Group 2B: Possibly carcinogenic to humans. NTP-K: Known to Be a Human Carcinogen. NIOSH-Ca: Potential Occupational Carcinogen, with No Further Categorization. ACGIH TLV-A2: Suspected Human Carcinogen.

IRRITANCY OF PRODUCT: This product may mildly irritate contaminated tissue, especially if contact is prolonged. Eye irritation may be more pronounced.

SENSITIZATION TO THE PRODUCT: This product contains a diisocyanate compound, which are known human skin and respiratory sensitizers. Exposure can cause allergic reactions. Cross-sensitization between different isocyanates may occur.

Respiratory Sensitization: Initial symptoms of respiratory reactions may appear to be a cold or mild hay fever. However, severe asthmatic symptoms can develop and include wheezing, chest tightness, shortness of breath, difficulty breathing and/or coughing. Fever, chills, general feelings of discomfort, headache, and fatigue can also occur. Symptoms may occur immediately upon exposure (within an hour), several hours after exposure or both, and/or at night. Typically, the asthma improves with removal from exposure (e.g. weekends or vacations) and returns, in some cases, in the form of an "acute attack", on renewed exposure. Sensitized people who continue to work with toluene diisocyanates may develop symptoms sooner after each exposure. The number and severity of symptoms may increase. Death has occurred in sensitized individuals accidently exposed to relatively low concentrations of toluene diisocyanate. Following removal from exposure, some sensitized workers may continue to show a slow decline in lung function and have persistent respiratory problems such as asthmatic symptoms, chronic bronchitis and hypersensitivity for months or years. Exposure to isocyanates is likely to aggravate existing respiratory disease, such as chronic bronchitis, and emphysema.

Skin Sensitization: Repeated skin contact with toluene diisocyanates has caused skin sensitization in humans, although the condition is not common. Once a person is sensitized, contact with even a small amount can cause outbreaks of dermatitis with symptoms such as redness, rash, itching and swelling. This can spread from the hands or arms to the face and body. Some people who inhaled toluene diisocyanate developed extensive skin rashes can last weeks.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: None known.

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

MUTAGENICITY/EMBRYOTOXICITY/ TERATOGENICITY/REPRODUCTIVE TOXICITY: The Diisodecyl Phthalate component is a suspect developmental toxin. Refer to 'Toxicity Data' earlier in this Section for specific reproductive toxicity data.

BIOLOGICAL EXPOSURES INDICES (BEIs): There are no BEI's established for any component of this product at this time.

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.

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

ADDITIONAL U.S. REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: No components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA 302 EXTREMELY HAZARDOUS THRESHOLD PLANNING QUANTITY (TPQ): Not applicable.

U.S. SARA 304 EXTREMELY HAZARDOUS REPORTABLE QUANTITY (RQ): Not applicable.

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 is not applicable to this compound in this product. The Diisodecyl Phthalate component is on the list as a developmental toxin. WARNING! This product contains a compound known to the State of California to cause developmental harm.

ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are listed on the DSL Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: No component of this product is on the CEPA Priorities Substances Lists.

CANADIAN WHMIS REGULATIONS: This product is classified as a Controlled Product, Hazard Class D2B (Irritation, Sensitization, Suspect Development Toxin) as per the Controlled Product Regulations.

ADDITIONAL MEXICAN REGULATIONS:

MEXICAN WORKPLACE REGULATIONS (NOM-018-STPS-2000): This product is not classified as hazardous.

16. OTHER INFORMATION

WARNINGS (per ANSI Z129.1): CAUTION! MAY BE HARMFUL IF INGESTED. MAY CAUSE EYE, SKIN, AND RESPIRATORY TRACT IRRITATION, ESPECIALLY IF EXPOSURE IS PROLONGED. MAY CAUSE SKIN AND/OR RESPIRATORY SENSITIZATION AND ALLERGIC REACTION. CONTAINS COMPOUND THAT IS SUSPECT CARCINOGEN AND REPRODUCTIVE TOXIN. COMBUSTIBLE – CAN IGNITE IF EXPOSED TO DIRECT FLAME. 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 CO_2. 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.

16. OTHER INFORMATION (Continued)

GLOBAL HARMONIZATION SYSTEM CLASSIFICATION:

Classification: Carcinogenic Category 2, Reproductive Toxicity Category 2, Acute Oral Toxicity Category 5, Skin Irritation Category 2, Eye Irritation Category 2B, Specific Target Organ Toxicity (Inhalation-Respiratory Irritation) Single Exposure Category 3, Respiratory Sensitizer Category 1B, Skin Sensitization Category 1

Signal Word: Danger

Hazard Statements: H351: Suspected of causing cancer. H361d: Suspected of damaging the unborn child. H303: Harmful if swallowed. H315 + H320: Causes skin and eye irritation. H335: May cause respiratory irritation. H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317: May cause an allergic skin reaction.

Precautionary Statements:

Prevention: P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P260: Do not breathe mist/vapors/spray. P264: Wash contaminated tissues after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P272: Contaminated work clothing should not be allowed out of the workplace. P280: Wear protective gloves, clothing, eye protection and face protection. P284: Wear respiratory protection.

Response: P308 + P313: IF exposed or concerned: Get medical advice/attention. P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. P337 + P313: If eye irritation persists: get medical advice/attention. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P333 + P313: If skin irritation or rash occurs: Get medical advice/attention. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P321: Specific treatment (remove from exposure and treat symptoms).

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

Disposal: P501: Dispose of contents/containers in accordance with all local, regional, national and international regulations.

Hazard Symbols/Pictograms: GHS06, GHS08

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: August 2012: Up-date and revise entire MSDS to include current GHS requirements. October 2013: change in formulation.

DATE OF PRINTING November 15, 2013

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these, which are commonly used, include the following:

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 of 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.

KEY ACRONYMS (continued):

PEL'S (continued): 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 a there is a danger of cutaneous absorption.

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.

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 LD_{50} Rat*: > 5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 2000 mg/kg. *Inhalation Toxicity 4-hrs LC_{50} 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 LD_{50} Rat*: > 500–5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 1000–2000 mg/kg. *Inhalation Toxicity LC_{50} 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 LD_{50} Rat*: > 50–500 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 200–1000 mg/kg. *Inhalation Toxicity LC_{50} 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 LD_{50} Rat*: > 1–50 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 20–200 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.05–0.5 mg/L.**4** Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposures; 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 LD_{50} Rat*: ≤ 1 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: ≤ 20 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: ≤ 0.05 mg/L.

DEFINITIONS OF TERMS (Continued)

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.

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 LC_{50} for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD_{50} 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 LC_{50} for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 10 mg/L but less than or equal to 200 mg/L. Materials with an LD_{50} 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 LD_{50} 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 LC_{50} 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 LC_{50} for acute inhalation toxicity, if its LC_{50} 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 LC_{50} for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LD_{50} 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 LD_{50} 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 LC_{50} 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 its LC_{50} for acute inhalation toxicity, if its LC_{50} 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 LC_{50} for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an LD_{50} 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 LD_{50} 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 LC_{50} 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 LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 1000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD_{50} for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD_{50} 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 according 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 according 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.

DEFINITIONS OF TERMS (Continued)

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. LD_{50}: Lethal Dose (solids & liquids) that kills 50% of the exposed animals. LC_{50}: 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/m^3: 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. TDLo: Lowest dose to cause a symptom. TCLo: Lowest concentration to cause a symptom. TDo, LDLo, and LDo, or TC, TCo, LCLo, and LCo: Lowest dose (or concentration) to cause lethal or toxic effects.

TOXICOLOGICAL INFORMATION (continued):

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. TLm: 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.

MATERIAL SAFETY DATA SHEET

FILE NO.: VEN500
MSDS DATE: 07/18/2013

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: VEN500 Part A
PRODUCT DESCRIPTION: Bonding Epoxy

MANUFACTURER: JP Specialties, Inc.
ADDRESS: 25811 Jefferson Ave Murrieta, CA 92562

EMERGENCY PHONE: 1-800-821-3859
FAX PHONE: 1-951-763-7074

SECTION 2: HAZARDS IDENTIFICATION

THIS PRODUCT IS CONSIDERED HAZARDOUS AS DEFINED UNDER 29 CFR 1910.1200 (OSHA Hazard Communication Standard)

ROUTES OF ENTRY:

EYES: Yes

SKIN: Yes

INGESTION: Yes

INHALATION: Yes

HEALTH HAZARDS (Acute & Chronic): Contact may irritate or burn eyes. Eye contact may result in corneal injury and/or conjunctiva. Do not get this material in contact with eyes. Irritating to skin. Avoid contact with the skin. May cause cancer by inhalation. Prolonged inhalation may be harmful. Avoid breathing dust/fumes/gas/mist/vapors/spray. Harmful if swallowed. Components of the product may be absorbed into the body by ingestion. Do not ingest. Target organs are cardiac, eyes, respiratory system and stomach. Prolonged exposure may cause chronic effects.

SIGNS AND SYMPTOMS OF EXPOSURE: Corneal damage. Conjunctivitis. Irritation of eyes and mucous membranes.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Not available

TOXICOLOGICAL DATA:

COMPONENT	**TEST RESULTS**
CARBON BLACK (1333-86-4)	Acute Oral LD50 Rat: > 8000 mg/kg

CARCINOGENICITY

ACGIH Carcinogens:

CARBON BLACK (1333-86-4)	A3 Confirmed animal carcinogen with unknown relevance to humans

I.A.R.C Monographs Overall Evaluation of Carcinogenicity:

CARBON BLACK (1333-86-4)	2B Possibly carcinogenic to humans

SECTION 3: FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

SKIN CONTACT: Get medical attention if irritation develops and persists. For minor skin contact, avoid spreading material on unaffected skin.

INHALATION: Move to fresh air, oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention if symptoms occur.

INGESTION: Rinse mouth thoroughly. DO NOT induce vomiting without advice from a poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If ingestion of a large amount does occur, call a poison control center immediately.

NOTES TO PHYSICIAN: In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

GENERAL ADVICE: If exposed or concerned, get medical advice/attention. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 4: FIRE-FIGHTING MEASURES

BOILING POINT: 212°F (100°C) estimated **SPECIFIC GRAVITY (H20=1):** N/A

MELT/ FREEZE PT.: N/A **SOLUBILITY IN WATER**: N/A

VAPOR PRESSURE (MM HG): N/A **VAPOR DENSITY (AIR-1):** N/A

AUTO IGNITION TEMPERATURE: N/A **RELATIVE DENSITY:** N/A

APPEARANCE AND ODOR: Liquid (color, odor, odor threshold and pH are not available)

OTHER DATA

FLAMMABILITY CLASS: Combustible IIIB estimated

SPECIAL HAZARD DESIGNATIONS

FLASH POINT: 482°F (250°C) estimated

H.M.I.S. RATING	**NFPA**	**KEY**
HEALTH: 1*	**HEALTH:** 1	**0-MINIMAL**
FLAMMABILITY: 1	**FLAMMABILITY:** 1	**1-SLIGHT**
PHYSICAL HAZARD: 2	**INSTABILITY:** 0	**2-MODERATE**
PROTECTION:	**SPECIAL:**	**3-SERIOUS**

FLAMMABLE LIMITS IN AIR, % BY VOLUME UEL UPPER: N/A **LEL LOWER:** N/A

EXTINGUISHING MEDIA: Dry chemical powder, Carbon dioxide (CO2), Alcohol foam, water fog

SPECIAL FIREFIGHTING PROCEDURES: Wear suitable protective equipment. Wear full protective clothing including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Move containers from fire area if you can do so without risk.

UNUSUAL FIRE AND EXPLOSION HAZARDS: During fire, gases hazardous to health may be formed.

SECTION 5: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Use care in handling/storage. Keep away from heat, sparks and open flame. Keep container tightly closed. Keep container dry. Keep out of the reach of children. Do not get this material in contact with eyes. Avoid breathing dust/fumes/gas/mist/vapors/spray. Avoid contact with skin. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Avoid release into the environment.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewer, basements or confined areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material if this is without risk. Dike the spilled material where this is possible. Never return spills to original containers for re-use.

FOR LARGE SPILLS: Do not get water on spilled substance or inside containers. Dike far ahead of spill for later disposal. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

FOR SMALL SPILLS: Clean surface thoroughly to remove residual contamination. Absorb spill with vermiculite or other inert material.

WASTE DISPOSAL: Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable local, state and federal regulations. Waste codes are not applicable.

SECTION 6: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION :
LOCAL: N/A **SPECIAL:** N/A

MECHANICAL: N/A **OTHER:** N/A

RESPIRATORY PROTECTION: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

EYE/FACE PROTECTION: Do not get in eyes. Chemical goggles are recommended.

SKIN PROTECTION: Avoid contact with the skin. Chemical resistant gloves. Wear suitable protective clothing.

WORK HYGIENIC PRACTICES: Do not get in eyes. Avoid contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

OTHER:

CONTROL PARAMETERS

US. ACGIH Threshold Limit Values

Component	Type	Value	Form
CARBON BLACK (1333-86-4)	TWA	3mg/m3	Inhalable Fraction

US. OSHA TABLE Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
CARBON BLACK (1333-86-4)	PEL	3.5mg/m3

SECTION 7: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at normal conditions

HAZARDOUS POLYMERIZATION: Does not occur

CONDITIONS TO AVOID: Contact with incompatible materials. Heat, flame and sparks.

MATERIALS TO AVOID: Peroxides. Fluorine. Chlorine. Incompatible with oxidizing agents. This product may react with strong acids. This product may react with strong alkalies.

HAZARDOUS DECOMPOSITIONS OR BY-PRODUCTS: Toxic gas. If product is burned, hazardous gases such as oxides of carbon and nitrogen and various hydrocarbons may be produced.

SECTION 8: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Do not allow this material to drain into sewers/water supplies. Dispose of in accordance with all applicable local, state and federal regulations. Waste codes not applicable.

SECTION 9: OTHER INFORMATION

HAZARDOUS COMPONENTS	CAS#	Percent
2,3-EPOXYPROPYL NEODECANOATE	26761-45-5	2 - 12
CARBON BLACK	1333-86-4	0 - 1

NON-HAZARDOUS COMPONENTS	CAS#	Percent
BISPHENOL A-(EPICHLORHYDRIN) EPOXY RESIN	25068-38-6	35 - 65
MINERAL FILLER	Mixture	35 - 65
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER	28064-14-4	1 - 6
PROPRIETARY INGREDIENTS	N/A	0 - 5

ECOLOGY

ECO-TOXICITY - Contains a substance which causes risk of hazardous effects to the environment.

ENVIRONMENTAL EFFECTS - An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. May cause long-term adverse effect in the environment.

Persistence and degradability not available

AQUATIC TOXICITY - Contains a substance which causes risk of hazardous effects to the environment. It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.

TRANSPORT INFORMATION

DOT

Not regulated as dangerous goods

IATA/IMDG

Not regulated

REGULATORY INFORMATION

US Federal Regulations	Food Contact (FDA): 21 CFR 175.300 compliant when applied as instructed by the manufacturer.
Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2)	not regulated
DEA Essential Chemical Code Number	not regulated
Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12 (c))	not regulated
DEA Exempt Chemical Mixtures Code Number	not regulated
CERCLA (Superfund) reportable quantity	none
Superfund Amendments & Reauthorization Act of 1986 (SARA) Hazard Categories	
Immediate Hazard	No
Delayed Hazard	Yes
Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No
Section 302 Extremely hazardous substance	No
Section 311 hazardous chemical	No

INVENTORY STATUS

COUNTRY 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 (IESCS)	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)	No
Korea	Existing Chemicals List	No
New Zealand	New Zealand Inventory	No
Philippines	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

STATE REGULATIONS

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance
CARBON BLACK (CAS 1333-86-4) Listed February 21, 2003 Carcinogenic
US - New Jersey RTK - Substances: Listed Substances
CARBON BLACK (CAS 1333-86-4) Listed
US - Pennsylvania RTK - Hazardous Substances: Listed substance
CARBON BLACK (CAS 1333-86-4) Listed

DISCLAIMER:

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The information and recommendations contained herein are not intended to relieve the reader of responsibility to investigate and understand the laws, procedures, and regulations applicable to the readers enterprise, not to relieve the reader of responsibility to comply with laws applicable to the readers enterprise and place of business and to verify independently the information provided in this document as it may relate to the reader's specific process or application.

This Material Safety Data Sheet supersedes all other previously dated sheets for this product.

End of Section

MATERIAL SAFETY DATA SHEET

FILE NO.: VEN500
MSDS DATE: 07/18/2013

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: VEN500 Part B
PRODUCT DESCRIPTION: Bonding Epoxy

MANUFACTURER: JP Specialties, Inc.
ADDRESS: 25811 Jefferson Ave Murrieta, CA 92562

EMERGENCY PHONE: 1-800-821-3859
FAX PHONE: 1-951-763-7074

SECTION 2: HAZARDS IDENTIFICATION

THIS PRODUCT IS CONSIDERED HAZARDOUS AS DEFINED UNDER 29 CFR 1910.1200 (OSHA Hazard Communication Standard)

DANGER: **CORROSIVE**

ROUTES OF ENTRY:

EYES: Yes

SKIN: Yes

INGESTION: Yes

INHALATION: Yes

HEALTH HAZARDS (Acute & Chronic): Causes eye burns. Risk of serious damage to eyes. Do not get this material in contact with eyes. Causes skin burns and may cause redness and pain. Do not get this material in contact with skin. Causes burns upon inhalation. Irritating to the respiratory system. Prolonged inhalation may be harmful. Do not breathe dust/fumes/gas/mist/vapors/spray. Do not ingest. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. Harmful if swallowed. Causes burns.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of nose and throat.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Not available

TOXICOLOGICAL DATA:

ACGIH: No
NTP: No
I.A.R.C: No
OSHA: No

COMPONENT	TEST RESULTS
SP-2000 Series Part B (Mixture)	Acute Dermal LD50 Rabbit: 11780.7969 mg/kg estimated Acute Inhalation LC100 Rat: 1232.6656 mg/l estimated Acute Inhalation LC50 Rat: 6163.3281 mg/l estimated Acute Oral LD50 Mouse: 9738.0586 mg/kg estimated Acute Oral LD50 Rabbit: 11956.8564 mg/kg estimated Acute Oral LD50 Rat: 7278.0962 mg/kg estimated Acute Other LD50 Guinea Pig: 2465.3313 mg/kg estimated Acute Other LD50 Mouse: 1943.6663 mg/kg estimated Acute Other LD50 Rat: 322.8487 mg/kg estimated
BENZYL ALCOHOL (100-51-6)	Acute Dermal LD50 Rabbit: 2000 mg/kg Acute Inhalation LC100 Rat: 200-300 mg/l 8 hours Acute Inhalation LC50 Rat: 1000 mg/l 8 hours Acute Oral LD50 Mouse: 1580 mg/kg Acute Oral LD50 Rabbit: 1940 mg/kg Acute Oral LD50 Rat: 1230-3100 mg/kg Acute Other LD50 Guinea Pig: > 400 mg/kg Acute Other LD50 Mouse: 324 mg/kg Acute Other LD50 Rat: 53 mg/kg

SECTION 3: FIRST AID MEASURES

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. Get medical attention immediately.

SKIN CONTACT: Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

INHALATION: Move to fresh air, oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

INGESTION: Rinse mouth thoroughly. DO NOT induce vomiting without advice from a poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. **IF SWALLOWED:** Immediately call a POISON CENTER or doctor/physician.

NOTES TO PHYSICIAN: In case of shortness of breath, give oxygen. Keep victim warm.

GENERAL ADVICE: Immediate medical attention is required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 4: FIRE-FIGHTING MEASURES

BOILING POINT: Not available

SPECIFIC GRAVITY: 0.95

MELT/ FREEZE PT.: 4.6°F (-15.2°C)

VAPOR PRESSURE: 0.102588783 hPa estimated

VAPOR DENSITY: Not available

SOLUBILITY IN WATER: partial

DENSITY: 0.186672465 g/cm3 estimated

AUTO IGNITION TEMPERATURE: Not available

RELATIVE DENSITY: Not available

pH: Alkaline

APPEARANCE AND ODOR: Liquid form and appearance, Golden to light amber color, Amine-like ammoniacal odor. (odor threshold is not available)

OTHER DATA:

FLAMMABILITY CLASS: Combustible IIIA estimated

FIRE AND EXPLOSION DATA

FLASH POINT: 199.4°F (93°C) estimated

SPECIAL HAZARD DESIGNATIONS

H.M.I.S. RATING	**NFPA**	**KEY**
HEALTH: 2	**HEALTH:** 2	**0-MINIMAL**
FLAMMABILITY: 1	**FLAMMABILITY:** 1	**1-SLIGHT**
PHYSICAL HAZARD: 0	**INSTABILITY:** 0	**2-MODERATE**
PROTECTION:	**SPECIAL:**	**3-SERIOUS**

FLAMMABLE LIMITS IN AIR, % BY VOLUME UEL UPPER: N/A **LEL LOWER:** N/A

EXTINGUISHING MEDIA: Do not use a solid water stream as it may scatter and spread fire. Use water, dry powder, carbon dioxide (CO2), alcohol foam

SPECIAL FIREFIGHTING PROCEDURES: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots and, in enclosed spaces, SCBA. Structural firefighters protective clothing will provide limited protection.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustible by OSHA criteria. NFPA Rating Fire = 1. Materials that must be moderately heated or exposed to relative high ambient temperatures before ignition can occur. Heat may cause the containers to explode. Runoff to sewer to may cause fire or explosion hazard. In case of fire and/or explosion, do not breathe fumes. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. In the event of fire and/or explosion, do not breathe fumes. in the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Fire may produce irritating, corrosive and/or toxic gases. Hazardous combustion products may include oxides of sulfur.

SECTION 5: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Use care in handling/storage. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. All equipment used when handling the product must be grounded. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid breathing dust/ fumes/gas/mist/vapors/spray. Do not get this material on clothing. Do not use in areas without adequate ventilation. Avoid prolonged exposure. Wash thoroughly after handling. Avoid release into the environment. The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic build-up by using common bonding and grounding techniques. Store in well ventilated place. Keep container tightly closed. Keep out of the reach of children.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Keep people away from and upwind of leak/spill. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent further leakage or spillage if safe if safe to do so. Do not contaminate water. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.

FOR LARGE SPILLS: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Never return spills to the original container for re-use.

FOR SMALL SPILLS: Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water. Absorb spill with vermiculite or other inert material.

WASTE DISPOSAL: Dispose in accordance with all applicable local, state and federal regulations.

SECTION 6: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION :

LOCAL: N/A	**SPECIAL:** N/A
MECHANICAL: N/A	**OTHER:** N/A

RESPIRATORY PROTECTION: Do not breathe dust/fumes/gas/mist/vapors/spray. If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

EYE/FACE PROTECTION: Do not get in eyes. Chemical goggles are recommended. Face-shield.

SKIN PROTECTION: Do not get this material in contact with skin. Do not get this material on clothing. Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations. Chemical resistant gloves. Chemical/solvent resistant gloves are recommended. If contact with forearms if likely, use gauntlet-style gloves.

WORK HYGIENIC PRACTICES: Do not get in eyes. Do not get this material in contact with skin. Do not get this material on clothing. When using, do not eat, drink or smoke. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

OTHER:

CONTROL PARAMETERS

OCCUPATIONAL EXPOSURE LIMITS

US. ACGIH Threshold Limit Values

Components	Type	Value
ETHYLENEDIAMINE (107-15-3)	TWA	10ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
ETHYLENEDIAMINE (107-15-3)	PEL	25 mg/m3 10ppm

SECTION 7: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal temperature conditions.

CONDITIONS TO AVOID: Heat, flames and sparks. Contact with incompatible materials.

MATERIALS TO AVOID: Peroxides. Strong acids, alkalies and oxidizings agents. Fluorine. Chlorine.

HAZARDOUS DECOMPOSITIONS OR BY-PRODUCTS: If product is burned hazardous gases such as oxides of carbon and nitrogen and various hydrocarbons may be produced.

SECTION 8: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with all applicable local, state and federal regulations.

SECTION 9: OTHER INFORMATION

HAZARDOUS COMPONENTS	CAS#	Percent
BENZYL ALCOHOL	100-51-6	0 - 20
TRIETHYLENETETRAMINE	112-24-3	1 - 6

NON-HAZARDOUS COMPONENTS	CAS#	Percent
POLYAMIDE RESIN	Mixture	25 - 45
POLYAMIDOAMINE	Mixture	20 - 35
ALKYLATED PHENOLIC POLYAMINE	68413-28-5	0 - 6
MIXED CYCLOAPLIPHATIC AMINES	Mixture	0 - 6
3-AMINOPROPYLTRIETHOXYSILANE	919-30-2	0 - 3
ETHYLENEDIAMINE	107-15-3	0 - 1

ECOLOGY

ECO-TOXICOLOGICAL DATA:

COMPONENT	TEST RESULTS
VEN500 PART B	LC50 Fish: 991.024 mg/l 96 hours estimated
BENZYL ALCOHOL (100-51-6)	LC50 Bluegill (Lepomis macrochirus): 10 mg/l 96 hours

*Estimates for product may be based on additional component data not shown.

ECO-TOXICITY - Contains a substance which causes risk of hazardous effects to the environment. It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.

ENVIRONMENT EFFECTS - May cause long-term adverse effects in the environment. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

AQUATIC TOXICITY - It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.

Persistence and degradability not available

TRANSPORT INFORMATION

DOT

Not regulated as dangerous goods

REGULATORY INFORMATION

US Federal Regulations	This product s a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200
Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2)	Not regulated
DEA Essential Chemical Code Number	Not regulated
Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12 (c))	Not regulated
DEA Exempt Chemical Mixtures Code Number	Not regulated
CERCLA (Superfund) reportable quantity	None

Superfund Amendments & Reauthorization Act of 1986 (SARA)

Hazard Categories	
Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No
Section 302 Extremely hazardous substance	No
Section 311 hazardous chemical	Yes
Clean Water Act (CWA)	Hazardous substance

INVENTORY STATUS

COUNTRY OR REGION	INVENTORY NAME	ON INVENTORY (YES/NO*)
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substance Control Act (TSCA) Inventory	No

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

STATE REGULATIONS

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - New Jersey RTK - Substances: Listed substance
TRIETHYLENETETRAMINE (CAS 112-24-3) Listed
US - Pennsylvania RTK - Hazardous Substances: Listed substances
BENZYL ALCOHOL (CAS 100-51-6) Listed
TRIETHYLENETETRAMINE (CAS 112-24-3) Listed

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This Material Safety Data Sheet supersedes all other previously dated sheets for this product.

End of Section

EDOT™ *Anchoring Adhesive*
SAFETY DATA SHEET

1. Identification

Product Identification

Product Identifier: **EDOT** (EDOT22, EDOT56, EDOT)
Recommended Use: General purpose epoxy-based anchoring adhesive
Use Restrictions: None Known.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588 USA
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada) / 1-352-323-3500 (International)
For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

EDOT Anchoring Adhesive is a two part system. The two parts of this product have been assessed according to GHS and are classified below. The final hardened material is considered nonhazardous. Some hazards apply upon grinding or cutting through hardened product.

Resin (white side) GHS Classification

Physical Hazards: Not Classified.

Health Hazards:		
	Skin Corrosion/Irritation	Category 2
	Serious Eye Damage/Irritation	Category 2A
	Sensitization, Skin	Category 1
	Germ Cell Mutagenicity	Category 2
Environmental Hazards:	Acute Aquatic Environmental Hazard	Category 2
	Chronic Aquatic Environmental Hazard	Category 2

Signal Word: **WARNING!**
Hazard Statements: Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing mist or vapor. Wash thoroughly after handling. Avoid release to the environment.

Response: If exposed or concerned: Call a poison center/doctor. If on skin: Wash with water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists: Get medical advice/attention. Collect Spillage.

Storage: Store locked up. Store in a well-ventilated place. Store between 45-90°F (7-32°C).

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

Hardener (brown side) GHS Classification

Physical Hazards: Not Classified.

Health Hazards		
	Skin Corrosion/Irritation	Category 1
	Serious Eye Damage/Irritation	Category 1
	Sensitization, Skin	Category 1

	Reproductive Toxicity (Fertility)	Category 2
Environmental Hazards:	Acute Aquatic Environmental Hazard	Category 1
	Chronic Aquatic Environmental Hazard	Category 2

Signal Word: **DANGER!**

Hazard Statements: Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

Response: If exposed or concerned: Get medical advice/attention. If swallowed: Rinse mouth. Do not induce vomiting. If on skin (or hair): Take off all contaminated clothing. Rinse skin with water/shower. 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. Immediately call a poison center/doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Collect Spillage.

Storage: Store locked up. Store in a well-ventilated place. Store between 45-90°F (7-32°C).

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

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured components of EDOT. Upon combination the components form an innocuous solid which does not present any immediate hazards. Upon grinding or cutting the cured product the following hazards may apply.

Health Hazards:	Carcinogenicity	Category 1A
	STOT, Repeated Exposure	Category 2 (Lung)

Hazard Statements: May cause cancer. May cause damage to organs (Lung) through prolonged or repeated exposure.

Precautionary Statements: Do not breathe dust.

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Resin (white side)

Chemical Name	CAS Number	Weight %
Bisphenol A/Epichlorohydrin	25068-38-6	35-50
Limestone	1317-65-3	35-45
Talc	14807-96-6	1-10
o-Cresyl Glycidyl Ether	2210-79-9	1-10
Titanium Dioxide	13463-67-7	< 1
Crystalline Silica, Quartz	14808-60-7	< 1

Hardener (brown side)

Chemical Name	CAS Number	Weight %
2-Piperazin-1-ylethylamine	140-31-8	5-15
Nonylphenol	84852-15-3	5-15
Crystalline Silica, Quartz	14808-60-7	5-15
Triethylenetetramine	112-24-3	5-15
2,4,6-Tris-(dimethylaminomethyl)-phenol	90-72-2	1-10
4,4'-Methylenebis(cyclohexylamine)	1761-71-3	1-10
Talc	14807-96-6	1-10

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**

Skin Contact: Remove contaminated clothing and product, wash affected area with soap and water. Do not apply greases or ointments. Chemical burns must be treated by a **physician.**

Ingestion: Rinse mouth immediately. Give large amounts of milk or water, if person is conscious. Only induce vomiting at the instruction of medical personnel. **Consult a physician.**

Inhalation: Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Irritant effects. Sensitization. Corrosive effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause allergic skin reaction. Rash.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder, or water fog.

Additional Information: Do not use water jet as an extinguisher as this will spread the fire.

Hazards during Fire-Fighting: Irritating and toxic gases/fumes may be released during a fire.

Fire-Fighting Procedures: Use standard firefighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and Storage

Handling

Keep away from open flames, hot surfaces and sources of ignition. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Observe good industrial hygiene practices.

Storage

Store in a closed container away from incompatible materials. Keep in original container. Keep container tightly closed. Store in a dry place out of direct sunlight. Keep out of the reach of children. Store between 45-90°F (7-32°C). Keep away from heat and sources of ignition. Store in a well-ventilated place. Store locked up.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

General Protection: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: ear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact.
Respirator Protection: The use of a respirator is not required during regular use of this product. If cutting or grinding cured product the use of an approved respirator is recommended.
General Hygiene: 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.

Engineering Controls

When using indoors good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Provide eyewash station.

Exposure Limits

Component *Skin Designation	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Quartz (CAS 14808-60-7)	0.3 mg/m^3(total dust) 0.1 mg/m^3 (respirable)	0.025 mg/m^3 (respirable)	0.05 mg/m^3 (respirable)
Talc (CAS 14807-96-6)	0.3 mg/m^3(total dust) 0.1 mg/m^3 (respirable)	2 mg/m^3 (respirable)	2 mg/m^3 (respirable)
Titanium dioxide (CAS 13463-67-7)	15 mg/m^3 (Total dust)	10 mg/m^3	N/E
Limestone (CAS 1317-65-3)	5 mg/m^3(Respirable) 15 mg/m^3 (Total dust)	N/E	5 mg/m^3(Respirable) 10 mg/m^3 (Total dust)
Triethylenetetramine* (CAS 112-24-3)	N/E	N/E	6 mg/m^3 1 ppm

Additional Information

After Cure: Product forms an innocuous solid. Processing after cure (grinding or cutting) may produce dust containing compounds that present an inhalation hazard.

9. Physical and Chemical Properties

Property	Resin	Hardener
Physical State:	Liquid, Paste	Liquid, Paste
Color:	White	Brown
Odor:	Mild	Ammonia
pH:	8.8	10.7
Flammability limit – lower %:	No data	No data
Flammability limit – upper %:	No data	No data
Vapor Pressure:	Non-volatile	No data
Vapor Density:	No data	No data
Solubility:	Insoluble in water	Slightly soluble in water
Freezing/Melting Point:	No data	No data
Boiling Point:	No data	No data
Flash Point:	288 °F (142 °C) Closed Cup	255 °F (123.9 °C) Closed Cup
Evaporation Rate:	No data	No data
Decomposition Temperature:	No data	No data
Specific Gravity:	1.52 at 72°F (22°C)	1.59 at 72°F (22°C)
VOC (after cure):	6 g/L	6 g/L
Kow:	No data	No data
Viscosity:	No data	No data
Corrosiveness:	Non-corrosive	Corrosive

10. Stability and Reactivity

Resin (white side)

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Oxidizing agents. Reducing agents.
Hazardous Reactions: The product is stable if stored and handled as prescribed/indicated.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

Hardener (brown side)

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Strong oxidizing agents. Acids.
Hazardous Reactions: The product is stable if stored and handled as prescribed/indicated.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Causes digestive tract burns. Ingestion may cause irritation to the gastrointestinal tract.
Inhalation: This material is a viscous liquid to semi solid that does not easily form vapors. Inhalation of dust from cutting/grinding cured product may irritate the respiratory tract.
Skin contact: Causes skin irritation. Causes severe skin burns. May cause an allergic skin reaction.
Eye contact: Causes serious eye irritation.

Information on Toxicological Effects

Acute toxicity: Occupational exposure to the substance or mixture may cause adverse effects.

Product		Species	Test Result
EDOT Resin (CAS mixture)			
	Acute, *Dermal*, LC50	Rabbit	>2000 mg/kg
	Acute, *Oral,* LD50	Rat	>5000 mg/kg
EDOT Hardener (CAS mixture)			
	Acute, *Dermal*, LC50	Rabbit	>2000 mg/kg
	Acute, *Oral,* LD50	Rat	>5000 mg/kg

Skin corrosion/irritation: Causes skin irritation. Causes severe skin burns and eye damage.
Eye damage/eye irritation: Causes serious eye irritation.
Respiratory sensitization: No data available.
Skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Suspected of causing genetic defects.
Carcinogenicity: Inhalation of some ingredients may cause cancer, however due to the physical form of the product, inhalation is not likely unless grinding or cutting cured product.

IARC Monographs. Overall Evaluation of Carcinogenicity

Quartz (CAS 14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (13463-67-7)	2B Possibly Carcinogenic to humans.
Talc (CAS 14807-96-6)	3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Quartz (CAS 14808-60-7)	Known To Be Human Carcinogen.

Reproductive toxicity: Suspected of damaging fertility.
Aspiration hazard: No data available.
Specific target organ toxicity:
Single exposure No data available.
Repeated exposure May cause damage to organs (Lung) through prolonged or repeated exposure.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. Resin is classified as toxic to aquatic life with long lasting effects. Hardener is classified as very toxic to aquatic life and toxic to aquatic life with long lasting effects.

Supporting Data

Component	Species	Test Result
Bisphenol A/Epichlorohydrin (25068-38-6)		
Fish, LC50	Salmo Gairdneri	1.5 mg/l, 96 hours
Aquatic, Crustacea, EC50	Daphnia Magna	2.7 mg/l, 48 hours
Titanium dioxide (CAS 13463-67-7)		
Aquatic, Crustacea, EC50	Daphnia	>1000 mg/l, 48 hours
Aquatic, Fish, LC50	Mummichog	>1000 mg/l, 96 hours
2-Piperazin-1-ylethylamine (CAS 140-31-8)		
Aquatic, Fish, LC50	Fathead Minnow	1950-2460 mg/l, 96 hours
4,4'-Methylenebis(cyclohexylamine) (CAS 1761-71-3)		
Aquatic Acute, Algae, EC50	Algae	140-200 mg/l, 72 hours
Aquatic Acute, Crustacea, EC50	Daphnia	6.84 mg/l, 48 hours
Aquatic Acute, Fish, LC50	Golden Orfe	46-100 mg/l, 96 hours
Nonylphenol (CAS 84852-15-3)		
Aquatic, Crustacea, EC50	Clam	0.0379 mg/l, 48 hours
Aquatic, Fish, LC50	Winter Flounder	0.017 mg/l, 96 hours

Persistence and degradability: No data available.
Bioaccumulative potential: No data available for this product.
Mobility in soil: No data available.

Further Information

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

13. Disposal Consideration

Waste Disposal of Substance: 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.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

Resin (white side)

UN number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A-Epichlorohydrin), 9, III, Marine Pollutant
Required Labels: 9
ERG Code (IATA): 9L
EmS (IMDG): F-A, S-F

Hardener (brown side)

UN number: UN2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Nonylphenol), 8, II, Marine Pollutant
Precautions: Corrosive, Marine Pollutant
Required Labels: 8
ERG Code (IATA): 8L
EmS (IMDG): F-A, S-B

Additional Information

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 applicable.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories:	Immediate	Delayed	Fire	Pressure	Reactivity
Resin	Yes	Yes	No	No	No
Hardener	Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous chemical Yes
SARA 313 (TRI reporting) Not regulated.

US. California Proposition 65 WARNING: This product contains a chemical listed by the State of California as known to cause cancer, birth defects, or reproductive harm.

Component	Regulation	% In Blend (approx.)	Remark
2,3-Epoxtpropyl Phenyl Ether (CAS 122-60-1)	ACGIH	< 3 ppm	Carcinogenic
Quartz (14808-60-7)	ACGIH	< 1	Carcinogenic
Titanium dioxide (CAS 13463-67-7)	ACGIH	< 1	Carcinogenic
Naphthelene (CAS 91-20-3)	ACGIH	< 0.1	Carcinogenic

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
Limestone (1317-65-3)	Listed		Listed	
Quartz (14808-60-7)	Listed		Listed	
Talc (14807-96-6)	Listed		Listed	
Titanium dioxide (13463-67-7)	Listed		Listed	
2-Piperazin-1-ylethylamine (CAS 140-31-8)	Listed	Listed	Listed	

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification

	
Class E: Corrosive	**Class D-2B:** Other toxic effects

International

International Inventories

Country or Region	Inventory	On Inventory? (Yes/No)
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)	Yes
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
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

"Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
"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).

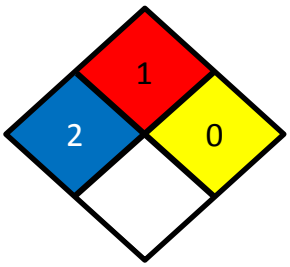
16. Other Information

Date Prepared or Revised: December 2014
Supersedes: September 2014

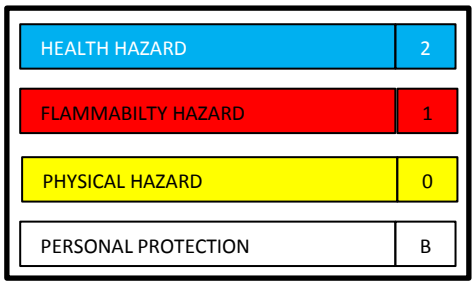
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com

Additional Resin (white side) Classifications

NFPA Ratings

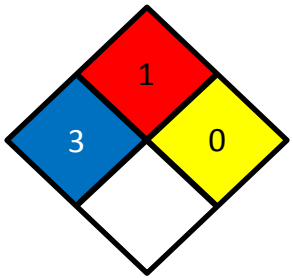


HMIS Rating



Additional Hardener (brown side) Classifications

NFPA Ratings



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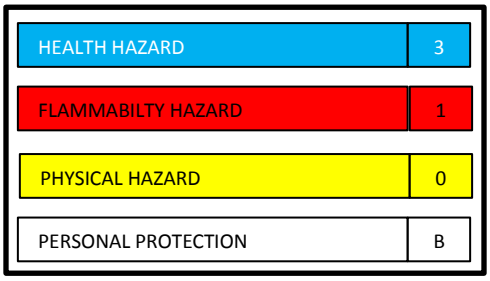

Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
CAS No.: Chemical Abstract Service Registry Number
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR: Controlled Product Regulations (Canada)
DOT: Department of Transportation (U.S.)

EPA:	Environmental Protection Agency (U.S.)
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
HEPA:	High-Efficiency Particulate Air
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
OSHA:	Occupational Safety and Health Administration (U.S.)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
SDS:	Safety Data Sheet
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)
STOT:	Specific Target Organ Toxicity (GHS Classification)
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act (U.S.)
TWA:	Time Weighted Average (exposure for 8-hour workday)
U.S.:	United States
VOC:	Volatile Organic Compounds
WHMIS:	Canadian Workplace Hazardous Materials Information System

Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

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Internal

FOR INTERNAL USE ONLY

EDOT Resin:	EDOT Hardener:
XCOM3B – 50% Cartridge	XCOM3B – 50% Cartridge
	XCORR – 50% Cartridge

EPCON Activator

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision Date: 05/13/2014 Date of issue: 05/13/2014 Supersedes Date: 06/09/2010 Version: 1.0

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

Product Identifier

Product Name: EPCON Activator

Intended Use of the Product

2-Part Anchoring Adhesive (Requires A7 Resin or S7 Resin).

Name, Address, and Telephone of the Responsible Party

Company

ITW Commercial Construction North America
700 High Grove Blvd
Glendale Heights, IL 60139
1-800-848-5611
www.itwredhead.com

Emergency Telephone Number

Emergency number : 1-800-424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Org. Perox. E H242
Eye Irrit. 2A H319
Skin Sens. 1 H317
Repr. 1A H360

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS02 GHS07 GHS08

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) :
H242 - Heating may cause a fire
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child

Precautionary Statements (GHS-US) :
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, open flames, sparks - No smoking.
P220 - Keep/Store away from clothing, combustible materials, combustibles.
P234 - Keep only in original container.
P261 - Avoid breathing vapors, dust, fume, spray, mist, gas.
P264 - Wash hands and forearms thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear eye protection, face protection, protective gloves, protective clothing.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P321 - Specific treatment (see Section 4).
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.
P405 + P420 - Store locked up. Store away from other materials.

P410 - Protect from sunlight.
P411+P235 - Store at temperatures not exceeding 30 °C / 86 °F. Keep cool.
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards Not Contributing to the Classification: This product contains Crystilline Silica dust that is mixed with a liquid to form a paste mixture, and therefore the dust is not likely to be dispersed into the air. If dust is released into the air, repeated exposure to respirable (airborne) crystalline silica dust may cause lung damage in the form of silicosis, lung cancer, or respiratory irritation.

Aquatic Chronic 2
H411 - Toxic to aquatic life with long lasting effects
P273 - Avoid release to the environment

GHS09

Unknown Acute Toxicity (GHS-US)

2% of the mixture consists of ingredient(s) of unknown acute toxicity.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Quartz	(CAS No) 14808-60-7	49	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Dibenzoyl peroxide	(CAS No) 94-36-0	19.6	Org. Perox. B, H241 Eye Irrit. 2A, H319 Skin Sens. 1, H317
Dibutyl phthalate	(CAS No) 84-74-2	19.6	Repr. 1A, H360 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Water	(CAS No) 7732-18-5	7.35	Not classified
Quaternary ammonium compounds, benzyl(hydrogenated tallow alkyl)dimethyl, salts with bentonite	(CAS No) 71011-24-0	2	Not classified
Calcium stearate	(CAS No) 1592-23-0	0.931	Comb. Dust
Silane, dichlorodimethyl-, reaction products with silica	(CAS No) 68611-44-9	0.637	Acute Tox. 2 (Inhalation:dust,mist), H330

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).
Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.
Ingestion: Rinse mouth. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Most Important Symptoms and Effects Both Acute and Delayed

General: May cause an allergic skin reaction. Irritation to eyes, skin and respiratory tract.
Inhalation: Repeated exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis.
Skin Contact: Causes severe irritation. May cause an allergic skin reaction.
Eye Contact: Causes serious eye irritation.
Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Suspected of damaging fertility. Suspected of damaging the unborn child. If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Water spray, fog.

Unsuitable Extinguishing Media: Any extinguishing media other than water may be ineffective, as this product is its own oxygen source. Do not use a heavy water stream. A heavy water stream may spread burning liquid.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Organic Peroxide Category E. Decomposes exothermically on exposure to temperature rise. Heating may cause a fire.

Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: 'Oxidizing': substances and preparations which exhibit highly exothermic reactions when in contact with other substances, particularly flammable substances. Will continue to burn in the absence of air.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Fight fire remotely due to the risk of explosion.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Do not get water inside containers. Do not apply water stream directly at source of leak.

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

Hazardous Combustion Products: Carbon oxides (CO, CO_2). Silicon oxides. Hydrogen chloride. Nitrogen compounds.

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

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do NOT breathe (dust, vapor, mist, gas). Keep away from combustible material. Keep away from open flames, hot surfaces and sources of ignition. No smoking.

For Non-Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Eliminate ignition sources. Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Stop leak if safe to do so. Ventilate area.

Environmental Precautions

Do not allow to enter drains or water courses. Notify authorities if liquid enters sewers or public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Use only non-sparking tools.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Self-accelerating decomposition may occur if the specific control temperature is not maintained. Self-Accelerating Decomposition Temperature (SADT) is 55 °C (131 °F).

Handling Temperature: 30 °C (86 °F)

Hygiene Measures: Do no eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Ensure all national/local regulations are observed. Ground/bond container and receiving equipment.

Storage Conditions: Keep container tightly closed and away from combustible materials. Store in a dry, cool and well-ventilated place. Protect from heat and direct sunlight. Keep out of reach of children.

Incompatible Materials: Reducing agents, combustible materials, alcohols, amines, organic and inorganic acids.

Storage Temperature: 4.4 - 26.7 °C (40 - 80 °F). Do not store above 43.3 °C (110 °F).

Specific End Use(s)

2-Part Anchoring Adhesive (Requires A7 Resin or S7 Resin).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Quartz (14808-60-7)		
Mexico	OEL TWA (mg/m³)	0.1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³
USA IDLH	US IDLH (mg/m³)	50 mg/m³
Alberta	OEL TWA (mg/m³)	0.025 mg/m³
British Columbia	OEL TWA (mg/m³)	0.025 mg/m³
Manitoba	OEL TWA (mg/m³)	0.025 mg/m³
New Brunswick	OEL TWA (mg/m³)	0.1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.025 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.025 mg/m³
Nunavut	OEL TWA (mg/m³)	0.3 mg/m³ (total mass)
Northwest Territories	OEL TWA (mg/m³)	0.3 mg/m³ (total mass)
Ontario	OEL TWA (mg/m³)	0.10 mg/m³ (designated substances regulation)
Prince Edward Island	OEL TWA (mg/m³)	0.025 mg/m³
Québec	VEMP (mg/m³)	0.1 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.05 mg/m³
Yukon	OEL TWA (mg/m³)	300 particle/mL

Dibenzoyl peroxide (94-36-0)		
Mexico	OEL TWA (mg/m³)	5 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	5 mg/m³
USA IDLH	US IDLH (mg/m³)	1500 mg/m³
Alberta	OEL TWA (mg/m³)	5 mg/m³
British Columbia	OEL TWA (mg/m³)	5 mg/m³
Manitoba	OEL TWA (mg/m³)	5 mg/m³
New Brunswick	OEL TWA (mg/m³)	5 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	5 mg/m³
Nova Scotia	OEL TWA (mg/m³)	5 mg/m³
Nunavut	OEL STEL (mg/m³)	10 mg/m³
Nunavut	OEL TWA (mg/m³)	5 mg/m³
Northwest Territories	OEL STEL (mg/m³)	10 mg/m³
Northwest Territories	OEL TWA (mg/m³)	5 mg/m³
Ontario	OEL TWA (mg/m³)	5 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	5 mg/m³
Québec	VEMP (mg/m³)	5 mg/m³
Saskatchewan	OEL STEL (mg/m³)	10 mg/m³
Saskatchewan	OEL TWA (mg/m³)	5 mg/m³
Yukon	OEL STEL (mg/m³)	5 mg/m³
Yukon	OEL TWA (mg/m³)	5 mg/m³

Dibutyl phthalate (84-74-2)		
Mexico	OEL TWA (mg/m³)	5 mg/m³

Mexico	OEL STEL (mg/m³)	10 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	5 mg/m³
USA IDLH	US IDLH (mg/m³)	4000 mg/m³
Alberta	OEL TWA (mg/m³)	5 mg/m³
British Columbia	OEL TWA (mg/m³)	5 mg/m³
Manitoba	OEL TWA (mg/m³)	5 mg/m³
New Brunswick	OEL TWA (mg/m³)	5 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	5 mg/m³
Nova Scotia	OEL TWA (mg/m³)	5 mg/m³
Nunavut	OEL STEL (mg/m³)	10 mg/m³
Nunavut	OEL TWA (mg/m³)	5 mg/m³
Northwest Territories	OEL STEL (mg/m³)	10 mg/m³
Northwest Territories	OEL TWA (mg/m³)	5 mg/m³
Ontario	OEL TWA (mg/m³)	5 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	5 mg/m³
Québec	VEMP (mg/m³)	5 mg/m³
Saskatchewan	OEL STEL (mg/m³)	10 mg/m³
Saskatchewan	OEL TWA (mg/m³)	5 mg/m³
Yukon	OEL STEL (mg/m³)	10 mg/m³
Yukon	OEL TWA (mg/m³)	5 mg/m³

Exposure Controls

Appropriate Engineering Controls: Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases/vapours may be released. Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment: Insufficient ventilation: wear respiratory protection. Protective clothing. Gloves. Safety glasses.

Materials for Protective Clothing: Wear fire/flame resistant/retardant clothing.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear fireproof clothing.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	Dark Gray Thixotropic Paste
Odor	:	Not available
Odor Threshold	:	Not available
pH	:	Not available
Relative Evaporation Rate (butylacetate=1)	:	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 available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20 °C	:	> 1
Relative Density	:	1.6 (water = 1)
Density	:	1.6 g/cm³
Specific Gravity	:	1.6
Solubility	:	Insoluble.
Log Pow	:	Not available
Log Kow	:	Not available
Viscosity, Kinematic	:	Not available
Viscosity, Dynamic	:	Not available
Explosion Data – Sensitivity to Mechanical Impact	:	Not available
Explosion Data – Sensitivity to Static Discharge	:	Not available
Additional Information		
VOC Content	:	13.9 g/L
Self-Accelerating Decomposition Temperature (SADT)	:	55 °C (131 °F).

SECTION 10: STABILITY AND REACTIVITY

Reactivity: 'Oxidizing': substances and preparations which exhibit highly exothermic reactions when in contact with other substances, particularly flammable substances. Will continue to burn in the absence of air.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization may occur if exposed to high temperature.

Conditions to Avoid: Direct sunlight. Contact with incompatible materials. Sparks, heat, open flame and other sources of ignition.

Incompatible Materials: Reducing agents, combustible materials, alcohols, amines, organic and inorganic acids.

Hazardous Decomposition Products: Carbon oxides (CO, CO_2). Nitrogen compounds. Hydrogen chloride. Silicon oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Causes serious eye irritation.

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

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified.

Specific Target Organ Toxicity (Repeated Exposure): Not classified.

Reproductive Toxicity: May damage fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): Not classified.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Repeated exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis.

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

Symptoms/Injuries After Eye Contact: Causes serious eye irritation.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Suspected of damaging fertility. Suspected of damaging the unborn child. If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg

Dibutyl phthalate (84-74-2)	
LD50 Oral Rat	6300 mg/kg
LD50 Dermal Rabbit	> 20 ml/kg
LC50 Inhalation Rat (mg/l)	> 15.68 mg/l/4h

Silane, dichlorodimethyl-, reaction products with silica (68611-44-9)	
LC50 Inhalation Rat (mg/l)	0.477 mg/l/4h
ATE (dust, mist)	0.477 mg/l/4h

Quartz (14808-60-7)	
IARC Group	1
National Toxicity Program (NTP) Status	Known Human Carcinogens.

Dibenzoyl peroxide (94-36-0)	
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

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

Dibutyl phthalate (84-74-2)	
LC50 Fish 1	0.71 - 1.2 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2.99 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 Other Aquatic Organisms 1	1.2 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)
LC 50 Fish 2	0.31 - 5.45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	3.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 2	0.4 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata [static])

Persistence and Degradability Not available

Bioaccumulative Potential

Dibutyl phthalate (84-74-2)	
Log Pow	5.38 (at 25 °C)

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: If this product as supplied becomes a waste, it meets the criteria of a hazardous waste exhibiting characteristic ignitability and has the EPA hazardous waste number D001 as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of material in accordance with all applicable federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

SECTION 14: TRANSPORT INFORMATION

Special Notes: Only ships as a two component cartridge with A7 Resin. Maximum Overall (Resin + Activator) Cartridge Size is 825mL. Maximum Activator content/cartridge is 75mL. Maximum Overall (Resin + Activator) of 3300mL (4 cartridges) per carton. Maximum Activator content of 300mL of Activator per carton.

14.1 In Accordance with DOT

Proper Shipping Name : POLYESTER RESIN KIT

Hazard Class : 3

Identification Number : UN3269

Label Codes : 3

ERG Number : 128

14.2 In Accordance with IMDG

Proper Shipping Name : POLYESTER RESIN KIT

Hazard Class : 3
Identification Number : UN3269
Packing Group : II
Label Codes : 3
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D
Marine Pollutant : Yes

14.3 In Accordance with IATA

Proper Shipping Name : POLYESTER RESIN KIT
Packing Group : II
Identification Number : UN3269
Hazard Class : 3
Label Codes : 3
ERG Code (IATA) : 3L
Marine Pollutant : Yes

14.4 In Accordance with TDG

Proper Shipping Name : POLYESTER RESIN KIT
Packing Group : II
Hazard Class : 3
Identification Number : UN3269
Label Codes : 3
Marine Pollutant : Yes

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

EPCON Activator	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard

Quartz (14808-60-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Quaternary ammonium compounds, benzyl(hydrogenated tallow alkyl)dimethyl, salts with bentonite (71011-24-0)
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 Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 %

Dibutyl phthalate (84-74-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 %

Water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Calcium stearate (1592-23-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Silane, dichlorodimethyl-, reaction products with silica (68611-44-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations

Quartz (14808-60-7)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Dibutyl phthalate (84-74-2)	
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.

Quartz (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - Mineral Dusts
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Quaternary ammonium compounds, benzyl(hydrogenated tallow alkyl)dimethyl, salts with bentonite (71011-24-0)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Dibenzoyl peroxide (94-36-0)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List

U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals

Dibutyl phthalate (84-74-2)

U.S. - California - Priority Toxic Pollutants - Human Health Criteria
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Colorado - Groundwater Quality Standards
U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Connecticut - Water Quality Standards - Consumption of Organisms Only
U.S. - Connecticut - Water Quality Standards - Consumption of Water and Organisms
U.S. - Connecticut - Water Quality Standards - Health Designations
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Maine - Chemicals of High Concern
U.S. - Maryland - Surface Water Quality Standards - Consumption of Organisms Only
U.S. - Maryland - Surface Water Quality Standards - Consumption of Water and Organisms
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1

U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Groundwater Health Risk Limits
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - Water Quality - Ground Water Quality Criteria
U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - North Dakota - Water Quality Standards - Human Health Value for Class III
U.S. - North Dakota - Water Quality Standards - Human Health Value for Classes I, IA, II
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour
U.S. - Rhode Island - Water Quality Standards - Human Health Criteria for Consumption of Aquatic Organisms Only
U.S. - Rhode Island - Water Quality Standards - Human Health Criteria for Consumption of Water and Aquatic Organisms
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Hazardous Waste - Hazardous Constituents
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Virginia - Water Quality Standards - Public Water Supply Effluent Limits
U.S. - Virginia - Water Quality Standards - Surface Waters Not Used for the Public Water Supply Effluent Limits
U.S. - Washington - Dangerous Waste - Dangerous Waste Constituents List
U.S. - Washington - Dangerous Waste - Discarded Chemical Products List
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Calcium stearate (1592-23-0)

U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Silane, dichlorodimethyl-, reaction products with silica (68611-44-9)

U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Canadian Regulations

EPCON Activator	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class C - Oxidizing Material Class F - Dangerously Reactive Material

Quartz (14808-60-7)	
Listed on the Canadian DSL (Domestic Substances List) inventory. Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Quaternary ammonium compounds, benzyl(hydrogenated tallow alkyl)dimethyl, salts with bentonite (71011-24-0)
Listed on the Canadian DSL (Domestic Substances List) inventory.

Dibenzoyl peroxide (94-36-0)	
Listed on the Canadian DSL (Domestic Substances List) inventory. Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class C - Oxidizing Material Class F - Dangerously Reactive Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Dibutyl phthalate (84-74-2)	
Listed on the Canadian DSL (Domestic Substances List) inventory. Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List) inventory.

Calcium stearate (1592-23-0)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Silane, dichlorodimethyl-, reaction products with silica (68611-44-9)
Listed on the Canadian DSL (Domestic Substances List) inventory.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION

Revision date : 05/13/2014

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Comb. Dust	Combustible Dust
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A

Org. Perox. B	Organic Peroxide Category B
Org. Perox. E	Organic Peroxide Category E
Repr. 1A	Reproductive toxicity Category 1A
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
H232	May form combustible dust concentrations in air
H241	Heating may cause a fire or explosion
H242	Heating may cause a fire
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H330	Fatal if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H360	May damage fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

Party Responsible for the Preparation of This Document

ITW Commercial Construction North America

Phone Number: +1 630-427-7067

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.

North America GHS US 2012 & WHMIS

A7 Resin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision Date: 05/04/2015 Date of issue: 05/04/2015 Supersedes Date: 06/09/2010 Version: 2.0

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

Product Identifier

Product Name: A7 Resin

Intended Use of the Product

2-Part Anchoring Adhesive (Requires EPCON Activator).

Name, Address, and Telephone of the Responsible Party

Company

ITW Commercial Construction North America
700 High Grove Blvd
Glendale Heights, IL 60139
1-800-848-5611
www.itwredhead.com

Emergency Telephone Number

Emergency number : 1-800-424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Flam. Liq. 2 H225
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Skin Sens. 1 H317
STOT SE 3 H335

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS02 GHS07

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H225 - Highly flammable liquid and vapor
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary Statements (GHS-US) : P210 - Keep away from heat, hot surfaces, open flames, sparks - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical, lighting, ventilating equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing vapors, dust, mist, spray, gas, fume.
P264 - Wash hands and forearms thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear eye protection, face protection, protective gloves, protective clothing.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P312 - Call a POISON CENTER/doctor/physician if you feel unwell.
P321 - Specific treatment (see Section 4).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
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 dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2), water spray, sand, earth for extinction.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405+P235 - Store locked up. Keep cool.
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards Not Contributing to the Classification: This product contains Crystilline Silica dust that is mixed with a liquid to form a paste mixture, and therefore the dust is not likely to be dispersed into the air. If dust is released into the air, repeated exposure to respirable (airborne) crystalline silica dust may cause lung damage in the form of silicosis, lung cancer, or respiratory irritation.
Aquatic Chronic 3 H412
H412 - Harmful to aquatic life with long lasting effects
P273 - Avoid release to the environment

Unknown Acute Toxicity (GHS-US)

11 - 20% of the mixture consists of ingredient(s) of unknown acute toxicity.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Quartz	(CAS No) 14808-60-7	30 - 60	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Methyl methacrylate	(CAS No) 80-62-6	20 - 30	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Acute 3, H402
2-Propenoic acid, 2-methyl-, polymer with methyl 2-methyl-2-propenoate	(CAS No) 25086-15-1	10 - 15	Not classified
Aluminum hydroxide (Al(OH)3)	(CAS No) 21645-51-2	1 - 10	Not classified
Dimethyl silicone polymer with silica	(CAS No) 67762-90-7	1 - 5	Not classified
1-Dodecanethiol	(CAS No) 112-55-0	0 - 1	Skin Corr. 1A, H314 Skin Sens. 1, H317 Aquatic Chronic 1, H410
Ethanol, 2,2'-[(4-methylphenyl)imino]bis-	(CAS No) 3077-12-1	0 - 1	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).
Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. . Keep at rest and in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.
Ingestion: Rinse mouth. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Most Important Symptoms and Effects Both Acute and Delayed

General: May cause an allergic skin reaction. Irritation to eyes, skin and respiratory tract.
Inhalation: May cause respiratory irritation. Repeated exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis.
Skin Contact: Causes severe irritation. May cause an allergic skin reaction.
Eye Contact: Causes serious eye irritation.
Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2). Water spray, fog.
Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Highly flammable liquid and vapor.
Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity: Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Fight fire remotely due to the risk of explosion.
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, CO_2). Silicon oxides. Sulfur compounds. Oxides of aluminum.
Other information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do NOT breathe (dust, vapor, mist, gas). Keep away from combustible material. Keep away from open flames, hot surfaces and sources of ignition. No smoking.

For Non-Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Emergency Procedures: Eliminate ignition sources. Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.
Emergency Procedures: Stop leak if safe to do so. Ventilate area.

Environmental Precautions

Do not allow to enter drains or water courses. Notify authorities if liquid enters sewers or public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Absorb and/or contain spill with inert material, then place in suitable container. Do not take up in combustible material such as: saw dust or cellulosic material.
Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Use only non-sparking tools.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Flammable vapours can accumulate in head space of closed systems. Handle empty containers with care because residual vapors are flammable.

Hygiene Measures: Do no eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Ensure all national/local regulations are observed. Ground/bond container and receiving equipment.

Storage Conditions: Keep container tightly closed and away from combustible materials. Store in a dry, cool and well-ventilated place. Protect from heat and direct sunlight. Keep out of reach of children.

Incompatible Materials: Reducing agents. Combustible materials. alcohols. amines. Strong acids.

Storage Temperature: 4.4 - 26.7 °C (40 - 80 °F). Do not store above 43.3 °C (110 °F).

Specific End Use(s)

2-Part Anchoring Adhesive (Requires EPCON Activator).

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Quartz (14808-60-7)		
Mexico	OEL TWA (mg/m³)	0.1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³
USA IDLH	US IDLH (mg/m³)	50 mg/m³
Alberta	OEL TWA (mg/m³)	0.025 mg/m³
British Columbia	OEL TWA (mg/m³)	0.025 mg/m³
Manitoba	OEL TWA (mg/m³)	0.025 mg/m³
New Brunswick	OEL TWA (mg/m³)	0.1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.025 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.025 mg/m³
Nunavut	OEL TWA (mg/m³)	0.3 mg/m³ (total mass)
Northwest Territories	OEL TWA (mg/m³)	0.3 mg/m³ (total mass)
Ontario	OEL TWA (mg/m³)	0.10 mg/m³ (designated substances regulation)
Prince Edward Island	OEL TWA (mg/m³)	0.025 mg/m³
Québec	VEMP (mg/m³)	0.1 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.05 mg/m³
Yukon	OEL TWA (mg/m³)	300 particle/mL

Methyl methacrylate (80-62-6)		
Mexico	OEL TWA (mg/m³)	410 mg/m³
Mexico	OEL TWA (ppm)	100 ppm
Mexico	OEL STEL (mg/m³)	510 mg/m³
Mexico	OEL STEL (ppm)	125 ppm
USA ACGIH	ACGIH TWA (ppm)	50 ppm
USA ACGIH	ACGIH STEL (ppm)	100 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	410 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	410 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm
USA IDLH	US IDLH (ppm)	1000 ppm
Alberta	OEL STEL (mg/m³)	410 mg/m³
Alberta	OEL STEL (ppm)	100 ppm
Alberta	OEL TWA (mg/m³)	205 mg/m³
Alberta	OEL TWA (ppm)	50 ppm

British Columbia	OEL STEL (ppm)	100 ppm
British Columbia	OEL TWA (ppm)	50 ppm
Manitoba	OEL STEL (ppm)	100 ppm
Manitoba	OEL TWA (ppm)	50 ppm
New Brunswick	OEL TWA (mg/m³)	410 mg/m³
New Brunswick	OEL TWA (ppm)	100 ppm
Newfoundland & Labrador	OEL STEL (ppm)	100 ppm
Newfoundland & Labrador	OEL TWA (ppm)	50 ppm
Nova Scotia	OEL STEL (ppm)	100 ppm
Nova Scotia	OEL TWA (ppm)	50 ppm
Nunavut	OEL STEL (mg/m³)	510 mg/m³
Nunavut	OEL STEL (ppm)	125 ppm
Nunavut	OEL TWA (mg/m³)	410 mg/m³
Nunavut	OEL TWA (ppm)	100 ppm
Northwest Territories	OEL STEL (mg/m³)	510 mg/m³
Northwest Territories	OEL STEL (ppm)	125 ppm
Northwest Territories	OEL TWA (mg/m³)	410 mg/m³
Northwest Territories	OEL TWA (ppm)	100 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	VEMP (mg/m³)	205 mg/m³
Québec	VEMP (ppm)	50 ppm
Saskatchewan	OEL STEL (ppm)	100 ppm
Saskatchewan	OEL TWA (ppm)	50 ppm
Yukon	OEL STEL (mg/m³)	510 mg/m³
Yukon	OEL STEL (ppm)	125 ppm
Yukon	OEL TWA (mg/m³)	410 mg/m³
Yukon	OEL TWA (ppm)	100 ppm

1-Dodecanethiol (112-55-0)		
USA ACGIH	ACGIH TWA (ppm)	0.1 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m³)	4.1 mg/m³
USA NIOSH	NIOSH REL (ceiling) (ppm)	0.5 ppm
Alberta	OEL TWA (mg/m³)	0.8 mg/m³
Alberta	OEL TWA (ppm)	0.1 ppm
British Columbia	OEL TWA (ppm)	0.1 ppm
Manitoba	OEL TWA (ppm)	0.1 ppm
Newfoundland & Labrador	OEL TWA (ppm)	0.1 ppm
Nova Scotia	OEL TWA (ppm)	0.1 ppm
Ontario	OEL TWA (ppm)	0.1 ppm
Prince Edward Island	OEL TWA (ppm)	0.1 ppm
Saskatchewan	OEL STEL (ppm)	0.3 ppm
Saskatchewan	OEL TWA (ppm)	0.1 ppm

Exposure Controls

Appropriate Engineering Controls: Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases/vapours may be released. Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment: Insufficient ventilation: wear respiratory protection. Protective clothing. Gloves. Safety glasses.

Materials for Protective Clothing: Wear fire/flame resistant/retardant clothing.
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Chemical goggles or safety glasses.
Skin and Body Protection: Wear fireproof clothing.
Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	Beige Paste
Odor	:	Not available
Odor Threshold	:	Not available
pH	:	Not available
Relative Evaporation Rate (butylacetate=1)	:	Not available
Melting Point	:	Not available
Freezing Point	:	Not available
Boiling Point	:	> 100.6 °C (> 213.1 °F)
Flash Point	:	17.8 °C (64.0 °F)
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20 °C	:	> 1
Relative Density	:	1.6 (water = 1)
Density	:	1.6 g/cm³
Specific Gravity	:	1.6
Solubility	:	Insoluble.
Log Pow	:	Not available
Log Kow	:	Not available
Viscosity, Kinematic	:	Not available
Viscosity, Dynamic	:	Not available
Explosion Data – Sensitivity to Mechanical Impact	:	Not available
Explosion Data – Sensitivity to Static Discharge	:	Not available

Additional Information

VOC Content	:	13.9 g/L

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion.
Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
Possibility of Hazardous Reactions: Hazardous polymerization may occur if exposed to high temperature.
Conditions to Avoid: Direct sunlight. Incompatible materials. Sparks, heat, open flame and other sources of ignition.
Incompatible Materials: Reducing agents. combustible materials. alcohols. amines. strong acids.
Hazardous Decomposition Products: Carbon oxides (CO, CO_2). Silicon oxides. Sulfur compounds. Oxides of aluminum.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified
LD50 and LC50 Data: Not available
Skin Corrosion/Irritation: Causes skin irritation.
Serious Eye Damage/Irritation: Causes serious eye irritation.
Respiratory or Skin Sensitization: May cause an allergic skin reaction.
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not available
Carcinogenicity: Not classified.
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: May cause respiratory irritation. Repeated exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis.
Symptoms/Injuries After Skin Contact: Causes severe irritation. May cause an allergic skin reaction.
Symptoms/Injuries After Eye Contact: Causes serious eye irritation.
Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg

Aluminum hydroxide (Al(OH)3) (21645-51-2)	
LD50 Oral Rat	> 5000 mg/kg

Ethanol, 2,2'-[(4-methylphenyl)imino]bis- (3077-12-1)	
ATE (dermal)	1100.000 mg/kg body weight

Quartz (14808-60-7)	
IARC Group	1
National Toxicity Program (NTP) Status	Known Human Carcinogens.

Methyl methacrylate (80-62-6)	
IARC Group	3

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

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

Methyl methacrylate (80-62-6)	
LC50 Fish 1	243 - 275 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	69 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 Other Aquatic Organisms 1	170 mg/l (Exposure time: 96 h - Species: Pseudokirchneriella subcapitata)
LC 50 Fish 2	125.5 - 190.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Persistence and Degradability Not available

Bioaccumulative Potential

Methyl methacrylate (80-62-6)	
Log Pow	0.7

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: If this product as supplied becomes a waste, it meets the criteria of a hazardous waste exhibiting characteristic ignitability and has the EPA hazardous waste number D001 as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of material in accordance with all applicable federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

SECTION 14: TRANSPORT INFORMATION

Special Notes: Only ships as a two component cartridge with EPCON Activator. Maximum Overall (Resin + Activator) Cartridge Size is 825mL. Maximum A7 Resin Content/cartridge is 750mL Maximum Overall (Resin + Activator) content of 3300mL (4 cartridges) per carton. Maximum A7 Resin content of 3000mL per carton.

14.1 In Accordance with DOT

Proper Shipping Name : POLYESTER RESIN KIT
Hazard Class : 3
Identification Number : UN3269
Label Codes : 3
ERG Number : 128

14.2 In Accordance with IMDG

Proper Shipping Name : POLYESTER RESIN KIT
Hazard Class : 3
Identification Number : UN3269
Packing Group : II
Label Codes : 3
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D

14.3 In Accordance with IATA

Proper Shipping Name : POLYESTER RESIN KIT
Packing Group : II
Identification Number : UN3269
Hazard Class : 3
Label Codes : 3
ERG Code (IATA) : 3L

14.4 In Accordance with TDG

Proper Shipping Name : POLYESTER RESIN KIT
Packing Group : II
Hazard Class : 3
Identification Number : UN3269
Label Codes : 3

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

A7 Resin	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard

Quartz (14808-60-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Methyl methacrylate (80-62-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 %

Dimethyl silicone polymer with silica (67762-90-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Aluminum hydroxide (Al(OH)3) (21645-51-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

2-Propenoic acid, 2-methyl-, polymer with methyl 2-methyl-2-propenoate (25086-15-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

1-Dodecanethiol (112-55-0)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Ethanol, 2,2'-[(4-methylphenyl)imino]bis- (3077-12-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State Regulations

Quartz (14808-60-7)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Quartz (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - Mineral Dusts
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Methyl methacrylate (80-62-6)
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Illinois - Toxic Air Contaminants
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)

U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Hazardous Waste - Hazardous Constituents
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Dangerous Waste - Dangerous Waste Constituents List
U.S. - Washington - Dangerous Waste - Discarded Chemical Products List
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Dimethyl silicone polymer with silica (67762-90-7)

U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Aluminum hydroxide (Al(OH)3) (21645-51-2)

U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

1-Dodecanethiol (112-55-0)

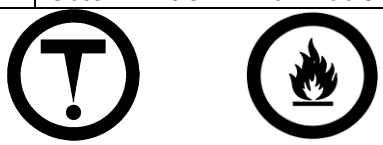
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Ethanol, 2,2'-[(4-methylphenyl)imino]bis- (3077-12-1)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Canadian Regulations

A7 Resin	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class B Division 2 - Flammable Liquid



Quartz (14808-60-7)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Methyl methacrylate (80-62-6)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Dimethyl silicone polymer with silica (67762-90-7)
Listed on the Canadian DSL (Domestic Substances List) inventory.

Aluminum hydroxide (Al(OH)3) (21645-51-2)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

2-Propenoic acid, 2-methyl-, polymer with methyl 2-methyl-2-propenoate (25086-15-1)
Listed on the Canadian DSL (Domestic Substances List) inventory.

1-Dodecanethiol (112-55-0)
Listed on the Canadian DSL (Domestic Substances List) inventory.

Ethanol, 2,2'-[(4-methylphenyl)imino]bis- (3077-12-1)
Listed on the Canadian DSL (Domestic Substances List) inventory.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION

Revision date : 05/04/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3

Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Skin Corr. 1A	Skin corrosion/irritation Category 1A
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
H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
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
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Party Responsible for the Preparation of This Document

ITW Commercial Construction North America

Phone Number: +1 630-427-7067

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.

North America GHS US 2012 & WHMIS

SAFETY DATA SHEET
EPCON C6+ part A

1. Identification

Product identifier

Product name EPCON C6+ part A

Product number EPCON C6+ part A

Recommended use of the chemical and restrictions on use

Application Two component epoxy based adhesive. Resin.

Details of the supplier of the safety data sheet

Supplier
ITW Commercial Construction
700 High Grove Blvd
Glendale Heights
IL 60139
USA
Tel: 1-800-848-5611

Web www.itwredhead.com

Emergency telephone number

Emergency telephone 1 800 CHEMTREC

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 2 - H411

Label elements

Pictogram

Signal word Warning

Hazard statements
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

EPCON C6+ part A

Precautionary statements

P261 Avoid breathing vapor/spray.
P264 Wash contaminated skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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.
P321 Specific treatment (see medical advice on this label).
P332+P313 If skin irritation occurs: Get medical advice/attention.
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 national regulations.

Contains

EPOXY RESIN (Number average MW <= 700), EPOXY PHENOL FORMALDEHYDE RESIN, Reaction products of Hexane-1,6-diol with 2-(Chloromethyl)oxirane(1:2)

3. Composition/information on ingredients

Mixtures

EPOXY RESIN (Number average MW <= 700) **50-80%**

CAS number: 25068-38-6

REACH registration number: 01-2119456619-26-XXXX

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2A - H319
Skin Sens. 1 - H317
Aquatic Chronic 2 - H411

EPOXY PHENOL FORMALDEHYDE RESIN **20-50%**

CAS number: 28064-14-4

REACH registration number: 01-2119454392-40-XXXX

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1 - H317
Aquatic Chronic 2 - H411

Reaction products of Hexane-1,6-diol with 2-(Chloromethyl)oxirane(1:2) **10-20%**

CAS number: 933999-84-9

REACH registration number: 01-2119463471-41-XXXX

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1A - H317
Aquatic Chronic 3 - H412

EPCON C6+ part A

TALC	1-5%
CAS number: 14807-96-6	

Classification
Not Classified

The Full Text for all Hazard Statements are Displayed in Section 16.

Composition comments CAS 28064-14-4 = CAS 9003-36-5 (EU),CAS 933999-84-9 = CAS 16096-31-4 (RoW)

4. First-aid measures

Description of first aid measures

Inhalation Remove affected person from source of contamination. Get medical attention if any discomfort continues.

Ingestion DO NOT induce vomiting. Get medical attention immediately.

Skin Contact Remove contaminated clothing immediately and wash skin with soap and water.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

Most important symptoms and effects, both acute and delayed

Inhalation May cause respiratory irritation.

Ingestion May cause stomach pain or vomiting.

Skin contact Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. May cause sensitisation by skin contact.

Eye contact Irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

5.Fire-fighting measures

Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Unsuitable extinguishing media DO NOT use water if avoidable.

Special hazards arising from the substance or mixture

Specific hazards No unusual fire or explosion hazards noted.

Hazardous combustion products Oxides of carbon. Oxides of nitrogen.

Advice for firefighters

Protective actions during firefighting No specific firefighting precautions known.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

EPCON C6+ part A

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions Avoid release to the environment.

Methods and material for containment and cleaning up

Methods for cleaning up Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

Reference to other sections For personal protection, see Section 8. Collect and dispose of spillage as indicated in Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid contact with eyes. Avoid contact with skin.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

TALC

Long-term exposure limit (8-hour TWA): ACGIH 0.1 f/cc containing asbestos fibers
Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m³
A1, A4

ACGIH = American Conference of Governmental Industrial Hygienists.
A1 = Confirmed Human Carcinogen.
A4 = Not Classifiable as a Human Carcinogen.

Ingredient comments See Section 16 regarding release of particulates / dusts

EPOXY RESIN (Number average MW <= 700) (CAS: 25068-38-6)

DNEL Industry - Inhalation; Long term systemic effects: 12.25 mg/m³ Industry - Inhalation; Short term systemic effects: 12.25 mg/m³ Industry - Dermal; Long term systemic effects: 8.33 mg/kg/day Industry - Dermal; Short term systemic effects: 8.33 mg/kg/day REACH dossier information

PNEC - Fresh water; 0.006 mg/l - Marine water; 0.0006 mg/l - Intermittent release; 0.018 mg/l - STP; 10 mg/l - Sediment (Freshwater); 0.996 mg/kg - Sediment (Marinewater); 0.0996 mg/kg - Soil; 0.196 mg/kg REACH dossier information

Reaction products of Hexane-1,6-diol with 2-(Chloromethyl)oxirane(1:2) (CAS: 933999-84-9)

EPCON C6+ part A

DNEL	Industry - Inhalation; Long term systemic effects: 4.9 mg/m³ Industry - Inhalation; Short term systemic effects: 4.9 mg/m³ Industry - Inhalation; Long term local effects: 0.44 mg/m³ Industry - Dermal; Long term systemic effects: 2.8 mg/kg/day Industry - Dermal; Long term local effects: 22.6 µg/cm² Industry - Dermal; Short term local effects: 22.6 µg/cm² REACH dossier information
PNEC	- Fresh water; 0.0115 mg/l - Marine water; 0.00115 mg/l - Intermittent release; 0.115 mg/l - STP; 1 mg/l - Sediment (Freshwater); 0.283 mg/kg - Sediment (Marinewater); 0.0283 mg/kg - Soil; 0.223 mg/kg REACH dossier information

Exposure controls

Protective equipment

Appropriate engineering controls	No specific ventilation requirements.
Eye/face protection	Wear eye protection.
Hand protection	Wear protective gloves made of the following material: Nitrile rubber.
Hygiene measures	Provide eyewash station. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated.
Respiratory protection	Not relevant.
Environmental exposure controls	Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid
Color	White/off-white.
Odor	Characteristic.
Odor threshold	Not determined.
pH	Not applicable.
Melting point	Not applicable.
Initial boiling point and range	>35°C @ 760 mm Hg
Flash point	>100°C CC (Closed cup). Literature
Evaporation rate	No information available.
Evaporation factor	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Other flammability	Not available.
Vapour pressure	<500 Pa @ °C

EPCON C6+ part A

Vapour density	No information available.
Relative density	1.2 - 1.3
Bulk density	Not applicable.
Solubility(ies)	Insoluble in water
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not determined.
Explosive properties	No information available.
Explosive under the influence of a flame	No
Oxidising properties	Does not meet the criteria for classification as oxidizing.

10. Stability and reactivity

Reactivity	The following materials may react with the product: Acids. Amides. Amines. Phenols, cresols.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	The following materials may react with the product: Acids. Amides. Amines. Phenols, cresols.
Conditions to avoid	Avoid contact with acids and alkalis.
Materials to avoid	Acids. Amines. Amides.
Hazardous decomposition products	Oxides of carbon. Oxides of nitrogen.

11. Toxicological information

Information on toxicological effects

Skin sensitisation

Skin sensitisation	Sensitizing.

General information	Contains epoxy constituents. See information supplied by the manufacturer.
Inhalation	No specific health hazards known.
Ingestion	No harmful effects expected from quantities likely to be ingested by accident.
Skin Contact	Irritating to skin. May cause sensitisation by skin contact.
Eye contact	May cause severe eye irritation.
Acute and chronic health hazards	Irritating to skin. Irritating to eyes.
Route of entry	Skin and/or eye contact.
Medical Symptoms	Skin irritation.

EPCON C6+ part A

Medical considerations Skin disorders and allergies.

12. Ecological Information

Persistance and degradability

Persistence and degradability The product is not biodegradable.

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient Not determined.

Mobility in soil

Mobility The product is insoluble in water and will spread on the water surface. The product is non-volatile. Semi-mobile.

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

13. Disposal considerations

Waste treatment methods

Disposal methods Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. Dispose of waste via a licensed waste disposal contractor.

14. Transport information

UN Number

UN No. (DOT) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN proper shipping name

Proper shipping name (DOT) ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.

Transport hazard class(es)

DOT hazard class 9

DOT hazard label Class 9

TDG class 9

TDG label 9

IMDG Class 9

IMDG subsidiary risk

ICAO class/division 9

ICAO subsidiary risk

EPCON C6+ part A

Transport labels

Packing group

DOT pack group	III
IMDG packing group	III
ICAO packing group	III

Environmental hazards

Environmentally Hazardous Substance

Special precautions for user

EmS	F-A, S-F

15. Regulatory information

International Regulations

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

The following ingredients are not listed or exempt:

EPOXY RESIN (Number average MW <= 700)

Not listed.

50-80%

MAGNESITE

Not listed.

<0.5%

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None of the ingredients are listed or exempt.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

None of the ingredients are listed or exempt.

CAA Accidental Release Prevention

None of the ingredients are listed or exempt.

FDA - Essential Chemical

None of the ingredients are listed or exempt.

FDA - Precursor Chemical

None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

EPCON C6+ part A

US State Regulations

State Regulations Comments Some of the ingredients are listed or exempt.

California Proposition 65 Carcinogens and Reproductive Toxins

The following ingredients are listed or exempt:

EPOXY RESIN (Number average MW <= 700)
Not listed.
50-80%

MAGNESITE
Not listed.
<0.5%

California Air Toxics "Hot Spots" (A-I)

The following ingredients are listed or exempt:

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

TALC
Present
1-5%

Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

EPOXY RESIN (Number average MW <= 700)
Not listed.
50-80%

MAGNESITE
Not listed.
<0.5%

TALC
Present
1-5%

Rhode Island "Right To Know" List

The following ingredients are listed or exempt:

EPOXY RESIN (Number average MW <= 700)
Not listed.
50-80%

MAGNESITE
Not listed.
<0.5%

TALC
Present
1-5%

Minnesota "Right To Know" List

The following ingredients are listed or exempt:

EPCON C6+ part A

EPOXY RESIN (Number average MW <= 700)
Not listed.
50-80%

MAGNESITE
Not listed.
<0.5%

TALC
Present
1-5%

New Jersey "Right To Know" List
The following ingredients are listed or exempt:

EPOXY RESIN (Number average MW <= 700)
Not listed.
50-80%

MAGNESITE
Not listed.
<0.5%

TALC
Present
1-5%

Pennsylvania "Right To Know" List
The following ingredients are listed or exempt:

EPOXY RESIN (Number average MW <= 700)
Not listed.
50-80%

MAGNESITE
Present
<0.5%

TALC
Present
1-5%

Inventories

Canada - DSL/NDSL
The following ingredients are listed or exempt:

SILICONES AND SILOXANES, DIMETHYL-, REACTION PRODUCTS WITH SILICA
DSL
1-5%

Reaction products of Hexane-1,6-diol with 2-(Chloromethyl)oxirane(1:2)
Domestic Substance List
10-20%

EPOXY PHENOL FORMALDEHYDE RESIN
Domestic Substance List
20-50%

EPOXY RESIN (Number average MW <= 700)
Domestic Substance List
50-80%

EPCON C6+ part A

CHLORITE
No.
<0.5%

DOLOMITE
Non Domestic Substance List
<0.5%

MAGNESITE
No.
<0.5%

US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
The following ingredients are listed or exempt:

Reaction products of Hexane-1,6-diol with 2-(Chloromethyl)oxirane(1:2)
Present
10-20%

16. Other information

General information	TALC used in the formulation of this product is Asbestos FREE Airborne TALC particulates are not present in normal use only arising when the product has been reacted with the second component, cured and is subsequently dry worked (Drilled, sanded etc.) Airborne Silicon Dioxide particulates are not present in normal use only arising when the product is reacted with the second component, cured and subsequently dry worked (Drilled, sanded etc.)
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	3/12/2015
Revision	1
Supersedes date	5/19/2014
SDS No.	20579
Hazard statements in full	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET
EPCON C6+ part B

1. Identification

Product identifier

Product name EPCON C6+ part B

Product number EPCON C6+ part B

Recommended use of the chemical and restrictions on use

Application Two component epoxy based adhesive. Hardener.

Details of the supplier of the safety data sheet

Supplier
ITW Commercial Construction
700 High Grove Blvd
Glendale Heights
IL 60139
USA
Tel: 1-800-848-5611

Web www.itwredhead.com

Emergency telephone number

Emergency telephone 1 800 CHEMTREC

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Skin Corr. 1A - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 3 - H412

Human health Corrosive. Prolonged contact causes serious eye and tissue damage.

Environmental The product contains a substance which may have hazardous effects on the environment.

Label elements

Pictogram

Signal word Danger

Hazard statements
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

EPCON C6+ part B

Precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing vapor/spray.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
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.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with national regulations.

Contains

STYRENATED PHENOL, 2-PIPERAZIN-1-YLETHYLAMINE, 1,3-CYCLOHEXANEBIS(METHYLAMINE), SALICYLIC ACID

3. Composition/information on ingredients

Mixtures

QUARTZ SAND **20-50%**

CAS number: 14808-60-7

Classification
Not Classified

CRYSTALINE SILICA **20-50%**

CAS number: 14808-60-7

Classification
STOT RE 2 - H373

STYRENATED PHENOL **10-20%**

CAS number: 61788-44-1

REACH registration number: 01-2119979575-18-XXXX

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1A - H317
Aquatic Chronic 2 - H411

2-PIPERAZIN-1-YLETHYLAMINE **5-10%**

CAS number: 140-31-8

REACH registration number: 01-2119471486-30-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 3 - H311
Eye Dam. 1 - H318
Skin Sens. 1B - H317
Aquatic Chronic 3 - H412

EPCON C6+ part B

1,3-CYCLOHEXANEBIS(METHYLAMINE)	5-10%
CAS number: 2579-20-6	REACH registration number: 01-2119543741-41-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Skin Corr. 1A - H314
Eye Dam. 1 - H318
Aquatic Chronic 3 - H412

SALICYLIC ACID	1-5%
CAS number: 69-72-7	REACH registration number: 01-2119486984-17-XXXX

Classification
Acute Tox. 4 - H302
Eye Dam. 1 - H318

BIS(ISOPROPYL)NAPHTHALENE	>0.5 <1.0%
CAS number: 38640-62-9	REACH registration number: 01-2119565150-48-XXXX
M factor (Chronic) = 1	

Classification
Asp. Tox. 1 - H304
Aquatic Chronic 1 - H410

The Full Text for all Hazard Statements are Displayed in Section 16.

4. First-aid measures

Description of first aid measures

Inhalation Remove affected person from source of contamination. Get medical attention if any discomfort continues.

Ingestion DO NOT induce vomiting. Get medical attention immediately.

Skin Contact Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

Most important symptoms and effects, both acute and delayed

Inhalation Irritation of nose, throat and airway.

Ingestion May cause stomach pain or vomiting.

Skin contact Burning pain and severe corrosive skin damage. Blistering may occur. Chemical burns.

Eye contact May cause blurred vision and serious eye damage.

Indication of immediate medical attention and special treatment needed

EPCON C6+ part B

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

5.Fire-fighting measures

Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Unsuitable extinguishing media DO NOT use water if avoidable.

Special hazards arising from the substance or mixture

Specific hazards No unusual fire or explosion hazards noted.

Hazardous combustion products Oxides of carbon. Oxides of nitrogen.

Advice for firefighters

Protective actions during firefighting No specific firefighting precautions known.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions Collect and dispose of spillage as indicated in Section 13. Contain spillage with sand, earth or other suitable non-combustible material. Avoid discharge into drains or watercourses or onto the ground.

Methods and material for containment and cleaning up

Methods for cleaning up Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

Reference to other sections For personal protection, see Section 8. Collect and dispose of spillage as indicated in Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid contact with skin. Avoid contact with eyes. Do not empty into drains.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from food and drink. Keep container closed when not in use.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters

EPCON C6+ part B

Occupational exposure limits

QUARTZ SAND

Long-term exposure limit (8-hour TWA): ACGIH 0.025 mg/m³
A2

CRYSTALINE SILICA

Long-term exposure limit (8-hour TWA): ACGIH 0.025 mg/m³
A2

ACGIH = American Conference of Governmental Industrial Hygienists.
A2 = Suspected Human Carcinogen.

Ingredient comments See Section 16 regarding release of particulates / dusts

STYRENATED PHENOL (CAS: 61788-44-1)

DNEL REACH dossier information Industry - Inhalation; Long term systemic effects: 0.734649123 mg/m³ Industry - Dermal; Long term systemic effects: 0.416666667 mg/kg/day

PNEC REACH dossier information - Fresh water; 0.001371 mg/l - Marine water; 0.0001371 mg/l - Intermittent release; 0.01371 mg/l - STP; 1.0638 mg/l - Sediment (Freshwater); 43.65269484 mg/kg - Sediment (Marinewater); 43.65269484 mg/kg - Soil; 20.64517608 mg/kg

2-PIPERAZIN-1-YLETHYLAMINE (CAS: 140-31-8)

DNEL REACH dossier information Industry - Inhalation; Long term systemic effects: 3.6 mg/m³ Industry - Dermal; Short term systemic effects: 20 mg/kg/day Industry - Dermal; Long term systemic effects: 3.3 mg/kg/day Industry - Dermal; Long term local effects: 0.006 mg/kg/day Industry - Dermal; Short term local effects: 0.04 mg/kg/day Industry - Inhalation; Short term systemic effects: 21.4 mg/m³

PNEC REACH dossier information - STP; 250 mg/l - Intermittent release; 0.58 mg/l - Sediment (Freshwater); 215 mg/kg - Fresh water; 0.058 mg/l - Soil; 42.9 mg/kg - Marine water; 0.0058 mg/l - Sediment (Marinewater); 21.5 mg/kg

1,3-CYCLOHEXANEBIS(METHYLAMINE) (CAS: 2579-20-6)

DNEL REACH dossier information Industry - Inhalation; Long term systemic effects: 0.71 mg/m³ Industry - Inhalation; Short term systemic effects: 21.2 mg/m³ Industry - Dermal; Long term systemic effects: 0.2 mg/kg/day Industry - Dermal; Short term systemic effects: 6 mg/kg/day

PNEC REACH dossier information - Fresh water; 0.0331 mg/l - Marine water; 0.00331 mg/l - Intermittent release; 0.331 mg/l - STP; 10 mg/l

SALICYLIC ACID (CAS: 69-72-7)

DNEL REACH dossier information Industry - Inhalation; Long term systemic effects: 16 mg/m³ Industry - Dermal; Long term systemic effects: 2 mg/kg/day

PNEC REACH dossier information - Fresh water; 0.2 mg/l - Marine water; 0.02 mg/l - Intermittent release; 1 mg/l - STP; 162 mg/l - Sediment (Freshwater); 1.42 mg/kg - Sediment (Marinewater); 0.142 mg/kg - Soil; 0.166 mg/kg

EPCON C6+ part B

BIS(ISOPROPYL)NAPHTHALENE (CAS: 38640-62-9)

DNEL	Workers - Inhalation; Long term systemic effects: 30 mg/m³ Workers - Dermal; Long term systemic effects: 4.3 mg/kg/day REACH dossier information
DMEL	Workers - Inhalation; Long term systemic effects: 300 mg/m³ REACH dossier information
PNEC	- Fresh water; 0.26 µg/L - Marine water; 0.026 µg/L - STP; 0.15 mg/l - Sediment (Freshwater); 0.94 mg/kg - Sediment (Marinewater); 0.094 mg/l

Exposure controls

Protective equipment

Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.
Eye/face protection	The following protection should be worn: Tight-fitting safety glasses. Contact lenses should not be worn when working with this chemical.
Hand protection	Wear protective gloves made of the following material: Nitrile rubber.
Other skin and body protection	Avoid contact with skin. Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Use engineering controls to reduce air contamination to permissible exposure level.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn.
Environmental exposure controls	Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid
Color	Brownish.
Odor	Characteristic. Amine.
Odor threshold	Not determined.
pH	Not applicable.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	>100°C CC (Closed cup). Literature
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.

EPCON C6+ part B

Upper/lower flammability or explosive limits	Not determined.
Other flammability	Not applicable.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.75 - 1.85
Bulk density	Not available.
Solubility(ies)	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	> 60 S ISO2431
Explosive properties	No information available.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

10. Stability and reactivity

Reactivity	The following materials may react with the product: Acids. Epoxides. Oxidizing agents. Peroxides.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	The following materials may react with the product: Acids. Epoxides. Oxidizing agents. Peroxides.
Conditions to avoid	Stable. However, may decompose if heated.
Materials to avoid	Acids. Epoxides. Oxidizing agents. Peroxides.
Hazardous decomposition products	Oxides of carbon. Oxides of nitrogen.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	2,998.43483333

Acute toxicity - dermal

ATE dermal (mg/kg)	3,249.05028208

Skin sensitisation

Skin sensitisation	Sensitizing.

Inhalation	Vapor may irritate respiratory system/lungs.

EPCON C6+ part B

Ingestion	May cause stomach pain or vomiting.
Skin Contact	May cause sensitisation by skin contact. May cause serious chemical burns to the skin.
Eye contact	Risk of serious damage to eyes. May cause chemical eye burns.
Acute and chronic health hazards	May cause sensitisation by skin contact. Causes severe burns.
Route of entry	Skin and/or eye contact Inhalation
Target Organs	No specific target organs known.
Medical Symptoms	Symptoms following overexposure may include the following: Chemical burns.
Medical considerations	Splash in eye requires examination by eye specialist.

12. Ecological Information

Persistance and degradability

Persistence and degradability	There are no data on the degradability of this product.

Bioaccumulative potential

Bio-Accumulative Potential	No data available on bioaccumulation.
Partition coefficient	Not determined.

Mobility in soil

Mobility	Mobile. The product is miscible with water and may spread in water systems.

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.

13. Disposal considerations

Waste treatment methods

General information	Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.
Disposal methods	Dispose of waste via a licensed waste disposal contractor.

14. Transport information

UN Number

UN No. (DOT)	2735
UN No. (IMDG)	2735
UN No. (ICAO)	2735

UN proper shipping name

Proper shipping name (DOT)	AMINES, LIQUID, CORROSIVE, N.O.S.
Proper shipping name (IMDG)	AMINES, LIQUID, CORROSIVE, N.O.S.
Proper shipping name (ICAO)	AMINES, LIQUID, CORROSIVE, N.O.S.

Transport hazard class(es)

DOT hazard class	8

EPCON C6+ part B

DOT hazard label	Corrosive
TDG class	8
TDG label	8
IMDG Class	8
IMDG subsidiary risk	
ICAO class/division	8
ICAO subsidiary risk	

Transport labels

Packing group

DOT pack group	III
IMDG packing group	III
ICAO packing group	III

Special precautions for user

EmS	F-A, S-B

15. Regulatory information

International Regulations

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

The following ingredients are not listed or exempt:

SALICYLIC ACID

Not listed.

1-5%

2-PIPERAZIN-1-YLETHYLAMINE

Not listed.

5-10%

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

The following ingredients are not listed or exempt:

SALICYLIC ACID

Not listed.

1-5%

2-PIPERAZIN-1-YLETHYLAMINE

Not listed.

5-10%

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

The following ingredients are listed or exempt:

EPCON C6+ part B

SALICYLIC ACID
No.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
No.
5-10%

CAA Accidental Release Prevention
The following ingredients are not listed or exempt:

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Not listed.
5-10%

FDA - Essential Chemical
None of the ingredients are listed or exempt.

FDA - Precursor Chemical
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals
None of the ingredients are listed or exempt.

US State Regulations

State Regulations Comments Some of the ingredients are listed or exempt.

California Proposition 65 Carcinogens and Reproductive Toxins
The following ingredients are not listed or exempt:

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Not listed.
5-10%

California Air Toxics "Hot Spots" (A-I)
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances
None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List
The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

EPCON C6+ part B

CRYSTALINE SILICA
Present
20-50%

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Present
5-10%

Rhode Island "Right To Know" List

The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

CRYSTALINE SILICA
Present
20-50%

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Not listed.
5-10%

Minnesota "Right To Know" List

The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

CRYSTALINE SILICA
Present
20-50%

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Not listed.
5-10%

New Jersey "Right To Know" List

The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

CRYSTALINE SILICA
Present
20-50%

EPCON C6+ part B

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Present
5-10%

Pennsylvania "Right To Know" List
The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

CRYSTALINE SILICA
Present
20-50%

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Present
5-10%

Inventories

Canada - DSL/NDSL
The following ingredients are listed or exempt:

TRIIRON TETRAOXIDE
Domestic Substance List
<0.5%

SALICYLIC ACID
Domestic Substance List
1-5%

1,3-CYCLOHEXANEBIS(METHYLAMINE)
Domestic Substance List
5-10%

2-PIPERAZIN-1-YLETHYLAMINE
Domestic Substance List
5-10%

STYRENATED PHENOL
Domestic Substance List
10-20%

BIS(ISOPROPYL)NAPHTHALENE
DSL
>0.5 <1.0%

US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
None of the ingredients are listed or exempt.

EPCON C6+ part B

16. Other information

General information	Airborne Silicon Dioxide particulates are not present in normal use only arising when the product is reacted with the second component, cured and subsequently dry worked (Drilled, sanded etc.)
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	5/19/2014
Revision	1
SDS No.	20580
Hazard statements in full	H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H373 May cause damage to organs through prolonged or repeated exposure if inhaled. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

SAFETY DATA SHEET
EPCON C6+ part B

1. Identification

Product identifier

Product name EPCON C6+ part B

Product number EPCON C6+ part B

Recommended use of the chemical and restrictions on use

Application Two component epoxy based adhesive. Hardener.

Details of the supplier of the safety data sheet

Supplier
ITW Commercial Construction
700 High Grove Blvd
Glendale Heights
IL 60139
USA
Tel: 1-800-848-5611

Web www.itwredhead.com

Emergency telephone number

Emergency telephone 1 800 CHEMTREC

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Skin Corr. 1A - H314 Eye Dam. 1 - H318 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 3 - H412

Human health Corrosive. Prolonged contact causes serious eye and tissue damage.

Environmental The product contains a substance which may have hazardous effects on the environment.

Label elements

Pictogram

Signal word Danger

Hazard statements
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

EPCON C6+ part B

Precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P261 Avoid breathing vapor/spray.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
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.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with national regulations.

Contains

STYRENATED PHENOL, 2-PIPERAZIN-1-YLETHYLAMINE, 1,3-CYCLOHEXANEBIS(METHYLAMINE), SALICYLIC ACID

3. Composition/information on ingredients

Mixtures

QUARTZ SAND **20-50%**

CAS number: 14808-60-7

Classification
Not Classified

CRYSTALINE SILICA **20-50%**

CAS number: 14808-60-7

Classification
STOT RE 2 - H373

STYRENATED PHENOL **10-20%**

CAS number: 61788-44-1

REACH registration number: 01-2119979575-18-XXXX

Classification
Skin Irrit. 2 - H315
Eye Irrit. 2 - H319
Skin Sens. 1A - H317
Aquatic Chronic 2 - H411

2-PIPERAZIN-1-YLETHYLAMINE **5-10%**

CAS number: 140-31-8

REACH registration number: 01-2119471486-30-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 3 - H311
Eye Dam. 1 - H318
Skin Sens. 1B - H317
Aquatic Chronic 3 - H412

EPCON C6+ part B

1,3-CYCLOHEXANEBIS(METHYLAMINE)	5-10%
CAS number: 2579-20-6	REACH registration number: 01-2119543741-41-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Skin Corr. 1A - H314
Eye Dam. 1 - H318
Aquatic Chronic 3 - H412

SALICYLIC ACID	1-5%
CAS number: 69-72-7	REACH registration number: 01-2119486984-17-XXXX

Classification
Acute Tox. 4 - H302
Eye Dam. 1 - H318

BIS(ISOPROPYL)NAPHTHALENE	>0.5 <1.0%
CAS number: 38640-62-9	REACH registration number: 01-2119565150-48-XXXX
M factor (Chronic) = 1	

Classification
Asp. Tox. 1 - H304
Aquatic Chronic 1 - H410

The Full Text for all Hazard Statements are Displayed in Section 16.

4. First-aid measures

Description of first aid measures

Inhalation Remove affected person from source of contamination. Get medical attention if any discomfort continues.

Ingestion DO NOT induce vomiting. Get medical attention immediately.

Skin Contact Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.

Eye contact Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

Most important symptoms and effects, both acute and delayed

Inhalation Irritation of nose, throat and airway.

Ingestion May cause stomach pain or vomiting.

Skin contact Burning pain and severe corrosive skin damage. Blistering may occur. Chemical burns.

Eye contact May cause blurred vision and serious eye damage.

Indication of immediate medical attention and special treatment needed

EPCON C6+ part B

Notes for the doctor No specific recommendations. If in doubt, get medical attention promptly.

5.Fire-fighting measures

Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Unsuitable extinguishing media DO NOT use water if avoidable.

Special hazards arising from the substance or mixture

Specific hazards No unusual fire or explosion hazards noted.

Hazardous combustion products Oxides of carbon. Oxides of nitrogen.

Advice for firefighters

Protective actions during firefighting No specific firefighting precautions known.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental precautions

Environmental precautions Collect and dispose of spillage as indicated in Section 13. Contain spillage with sand, earth or other suitable non-combustible material. Avoid discharge into drains or watercourses or onto the ground.

Methods and material for containment and cleaning up

Methods for cleaning up Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

Reference to other sections For personal protection, see Section 8. Collect and dispose of spillage as indicated in Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions Avoid contact with skin. Avoid contact with eyes. Do not empty into drains.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from food and drink. Keep container closed when not in use.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters

EPCON C6+ part B

Occupational exposure limits

QUARTZ SAND

Long-term exposure limit (8-hour TWA): ACGIH 0.025 mg/m³
A2

CRYSTALINE SILICA

Long-term exposure limit (8-hour TWA): ACGIH 0.025 mg/m³
A2

ACGIH = American Conference of Governmental Industrial Hygienists.
A2 = Suspected Human Carcinogen.

Ingredient comments See Section 16 regarding release of particulates / dusts

STYRENATED PHENOL (CAS: 61788-44-1)

DNEL REACH dossier information Industry - Inhalation; Long term systemic effects: 0.734649123 mg/m³ Industry - Dermal; Long term systemic effects: 0.416666667 mg/kg/day

PNEC REACH dossier information - Fresh water; 0.001371 mg/l - Marine water; 0.0001371 mg/l - Intermittent release; 0.01371 mg/l - STP; 1.0638 mg/l - Sediment (Freshwater); 43.65269484 mg/kg - Sediment (Marinewater); 43.65269484 mg/kg - Soil; 20.64517608 mg/kg

2-PIPERAZIN-1-YLETHYLAMINE (CAS: 140-31-8)

DNEL REACH dossier information Industry - Inhalation; Long term systemic effects: 3.6 mg/m³ Industry - Dermal; Short term systemic effects: 20 mg/kg/day Industry - Dermal; Long term systemic effects: 3.3 mg/kg/day Industry - Dermal; Long term local effects: 0.006 mg/kg/day Industry - Dermal; Short term local effects: 0.04 mg/kg/day Industry - Inhalation; Short term systemic effects: 21.4 mg/m³

PNEC REACH dossier information - STP; 250 mg/l - Intermittent release; 0.58 mg/l - Sediment (Freshwater); 215 mg/kg - Fresh water; 0.058 mg/l - Soil; 42.9 mg/kg - Marine water; 0.0058 mg/l - Sediment (Marinewater); 21.5 mg/kg

1,3-CYCLOHEXANEBIS(METHYLAMINE) (CAS: 2579-20-6)

DNEL REACH dossier information Industry - Inhalation; Long term systemic effects: 0.71 mg/m³ Industry - Inhalation; Short term systemic effects: 21.2 mg/m³ Industry - Dermal; Long term systemic effects: 0.2 mg/kg/day Industry - Dermal; Short term systemic effects: 6 mg/kg/day

PNEC REACH dossier information - Fresh water; 0.0331 mg/l - Marine water; 0.00331 mg/l - Intermittent release; 0.331 mg/l - STP; 10 mg/l

SALICYLIC ACID (CAS: 69-72-7)

DNEL REACH dossier information Industry - Inhalation; Long term systemic effects: 16 mg/m³ Industry - Dermal; Long term systemic effects: 2 mg/kg/day

PNEC REACH dossier information - Fresh water; 0.2 mg/l - Marine water; 0.02 mg/l - Intermittent release; 1 mg/l - STP; 162 mg/l - Sediment (Freshwater); 1.42 mg/kg - Sediment (Marinewater); 0.142 mg/kg - Soil; 0.166 mg/kg

EPCON C6+ part B

BIS(ISOPROPYL)NAPHTHALENE (CAS: 38640-62-9)

DNEL	Workers - Inhalation; Long term systemic effects: 30 mg/m³ Workers - Dermal; Long term systemic effects: 4.3 mg/kg/day REACH dossier information
DMEL	Workers - Inhalation; Long term systemic effects: 300 mg/m³ REACH dossier information
PNEC	- Fresh water; 0.26 µg/L - Marine water; 0.026 µg/L - STP; 0.15 mg/l - Sediment (Freshwater); 0.94 mg/kg - Sediment (Marinewater); 0.094 mg/l

Exposure controls

Protective equipment

Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.
Eye/face protection	The following protection should be worn: Tight-fitting safety glasses. Contact lenses should not be worn when working with this chemical.
Hand protection	Wear protective gloves made of the following material: Nitrile rubber.
Other skin and body protection	Avoid contact with skin. Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Use engineering controls to reduce air contamination to permissible exposure level.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn.
Environmental exposure controls	Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid
Color	Brownish.
Odor	Characteristic. Amine.
Odor threshold	Not determined.
pH	Not applicable.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	>100°C CC (Closed cup). Literature
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.

EPCON C6+ part B

Upper/lower flammability or explosive limits	Not determined.
Other flammability	Not applicable.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	1.75 - 1.85
Bulk density	Not available.
Solubility(ies)	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	> 60 S ISO2431
Explosive properties	No information available.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

10. Stability and reactivity

Reactivity	The following materials may react with the product: Acids. Epoxides. Oxidizing agents. Peroxides.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	The following materials may react with the product: Acids. Epoxides. Oxidizing agents. Peroxides.
Conditions to avoid	Stable. However, may decompose if heated.
Materials to avoid	Acids. Epoxides. Oxidizing agents. Peroxides.
Hazardous decomposition products	Oxides of carbon. Oxides of nitrogen.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	2,998.43483333

Acute toxicity - dermal

ATE dermal (mg/kg)	3,249.05028208

Skin sensitisation

Skin sensitisation	Sensitizing.

Inhalation	Vapor may irritate respiratory system/lungs.

EPCON C6+ part B

Ingestion	May cause stomach pain or vomiting.
Skin Contact	May cause sensitisation by skin contact. May cause serious chemical burns to the skin.
Eye contact	Risk of serious damage to eyes. May cause chemical eye burns.
Acute and chronic health hazards	May cause sensitisation by skin contact. Causes severe burns.
Route of entry	Skin and/or eye contact Inhalation
Target Organs	No specific target organs known.
Medical Symptoms	Symptoms following overexposure may include the following: Chemical burns.
Medical considerations	Splash in eye requires examination by eye specialist.

12. Ecological Information

Persistance and degradability

Persistence and degradability	There are no data on the degradability of this product.

Bioaccumulative potential

Bio-Accumulative Potential	No data available on bioaccumulation.
Partition coefficient	Not determined.

Mobility in soil

Mobility	Mobile. The product is miscible with water and may spread in water systems.

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.

13. Disposal considerations

Waste treatment methods

General information	Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.
Disposal methods	Dispose of waste via a licensed waste disposal contractor.

14. Transport information

UN Number

UN No. (DOT)	2735
UN No. (IMDG)	2735
UN No. (ICAO)	2735

UN proper shipping name

Proper shipping name (DOT)	AMINES, LIQUID, CORROSIVE, N.O.S.
Proper shipping name (IMDG)	AMINES, LIQUID, CORROSIVE, N.O.S.
Proper shipping name (ICAO)	AMINES, LIQUID, CORROSIVE, N.O.S.

Transport hazard class(es)

DOT hazard class	8

EPCON C6+ part B

DOT hazard label	Corrosive
TDG class	8
TDG label	8
IMDG Class	8
IMDG subsidiary risk	
ICAO class/division	8
ICAO subsidiary risk	

Transport labels

Packing group

DOT pack group	III
IMDG packing group	III
ICAO packing group	III

Special precautions for user

EmS	F-A, S-B

15. Regulatory information

International Regulations

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

The following ingredients are not listed or exempt:

SALICYLIC ACID

Not listed.

1-5%

2-PIPERAZIN-1-YLETHYLAMINE

Not listed.

5-10%

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

The following ingredients are not listed or exempt:

SALICYLIC ACID

Not listed.

1-5%

2-PIPERAZIN-1-YLETHYLAMINE

Not listed.

5-10%

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

The following ingredients are listed or exempt:

EPCON C6+ part B

SALICYLIC ACID
No.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
No.
5-10%

CAA Accidental Release Prevention
The following ingredients are not listed or exempt:

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Not listed.
5-10%

FDA - Essential Chemical
None of the ingredients are listed or exempt.

FDA - Precursor Chemical
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals
None of the ingredients are listed or exempt.

US State Regulations

State Regulations Comments Some of the ingredients are listed or exempt.

California Proposition 65 Carcinogens and Reproductive Toxins
The following ingredients are not listed or exempt:

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Not listed.
5-10%

California Air Toxics "Hot Spots" (A-I)
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances
None of the ingredients are listed or exempt.

Massachusetts "Right To Know" List
The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

EPCON C6+ part B

CRYSTALINE SILICA
Present
20-50%

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Present
5-10%

Rhode Island "Right To Know" List

The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

CRYSTALINE SILICA
Present
20-50%

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Not listed.
5-10%

Minnesota "Right To Know" List

The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

CRYSTALINE SILICA
Present
20-50%

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Not listed.
5-10%

New Jersey "Right To Know" List

The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

CRYSTALINE SILICA
Present
20-50%

EPCON C6+ part B

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Present
5-10%

Pennsylvania "Right To Know" List
The following ingredients are listed or exempt:

QUARTZ SAND
Present
20-50%

CRYSTALINE SILICA
Present
20-50%

SALICYLIC ACID
Not listed.
1-5%

2-PIPERAZIN-1-YLETHYLAMINE
Present
5-10%

Inventories

Canada - DSL/NDSL
The following ingredients are listed or exempt:

TRIIRON TETRAOXIDE
Domestic Substance List
<0.5%

SALICYLIC ACID
Domestic Substance List
1-5%

1,3-CYCLOHEXANEBIS(METHYLAMINE)
Domestic Substance List
5-10%

2-PIPERAZIN-1-YLETHYLAMINE
Domestic Substance List
5-10%

STYRENATED PHENOL
Domestic Substance List
10-20%

BIS(ISOPROPYL)NAPHTHALENE
DSL
>0.5 <1.0%

US - TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
None of the ingredients are listed or exempt.

EPCON C6+ part B

16. Other information

General information	Airborne Silicon Dioxide particulates are not present in normal use only arising when the product is reacted with the second component, cured and subsequently dry worked (Drilled, sanded etc.)
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	5/19/2014
Revision	1
SDS No.	20580
Hazard statements in full	H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H373 May cause damage to organs through prolonged or repeated exposure if inhaled. H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

1. Identification

Product name	:	Sikadur® 31 Hi-Mod Gel Part A
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Skin irritation , Category 2	H315: Causes skin irritation.
Eye irritation , Category 2A	H319: Causes serious eye irritation.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity , Category 1A	H350: May cause cancer.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H350 May cause cancer.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection/ face protection.

P280 Wear protective gloves.
P281 Use personal protective equipment as required.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Quartz (SiO2)	14808-60-7	>= 25 - < 50 %
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	>= 25 - < 50 %
titanium dioxide	13463-67-7	>= 1 - < 2 %
Quartz (SiO2) <5µm	14808-60-7	>= 0 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Induce vomiting immediately and call a physician.

Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed	:	Allergic reactions Excessive lachrymation Erythema Dermatitis See Section 11 for more detailed information on health effects and symptoms. irritant effects sensitizing effects carcinogenic effects
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling	:	Do not breathe vapors or spray mist.

Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
Quartz (SiO2)	14808-60-7	ACGIH	TWA	0.025 mg/m3 Respirable fraction
		OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction
titanium dioxide	13463-67-7	ACGIH	TWA	10 mg/m3
		OSHA P0	TWA	10 mg/m3 Total
		OSHA Z-1	TWA	15 mg/m3 total dust
Quartz (SiO2) <5µm	14808-60-7	ACGIH	TWA	0.025 mg/m3

				Respirable fraction
		OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**__Basis__
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	paste
Color	:	white
Odor	:	aromatic
Odor Threshold	:	no data available
Flash point	:	> 212 °F (> 100 °C)
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	no data available
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	1.8 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available

Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	4 g/l A+B Combined

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

bisphenol-A-(epichlorhydrin) epoxy resin :

Acute oral toxicity	:	LD50 Oral rat: > 5,000 mg/kg
Acute dermal toxicity	:	LD50 Dermal rabbit: > 20,000 mg/kg

Skin corrosion/irritation

Product

Causes skin irritation.

Serious eye damage/eye irritation

Product

Causes serious eye irritation.

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity : no data available

Carcinogenicity

Product

Carcinogenicity : May cause cancer.

IARC	Group 1: Carcinogenic to humans	
	Quartz (SiO2)	14808-60-7
	Quartz (SiO2) <5µm	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
NTP	Known to be human carcinogen	
	Quartz (SiO2)	14808-60-7
	Quartz (SiO2) <5µm	14808-60-7

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : no data available

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information	Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May be harmful to the environment if released in large quantities. Water polluting material.

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated

IATA

UN number	3082
Description of the goods	Environmentally hazardous substance, liquid, n.o.s. (bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
Packing instruction (cargo aircraft)	964
Packing instruction (passenger aircraft)	964
Packing instruction (passenger aircraft)	Y964

IMDG

UN number	3082
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

	(bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
EmS Number 1	F-A
EmS Number 2	S-F
Marine pollutant	yes

IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.

16. Other information

HMIS Classification

Health	*	3
Flammability		1
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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Revision Date 05/14/2014

Material number: 459284

FX-752 *Epoxy Bonding Agent*
SAFETY DATA SHEET

1. Identification

Product Identification

Product Identifier: **A Component FX-752 (FX752-1QTA, FX-752-1A, FX752-5A)**
Recommended Use: Two-Component, Epoxy Bonding Agent – Component A
Use Restrictions: For industrial use only.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588 USA
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada) / 1-352-323-3500 (International)
For most current SDS, please visit our website at **www.strongtie.com/sds**.

2. Hazard Identification

General Information

FX-752 is a two part system. The two parts of this product have been assessed according to GHS. This Safety Data Sheet covers hazards and responses for Component A. See Component B Safety Data Sheet for complete product information.

Component A GHS Classification

Physical Hazards:	Not Classified.	
Health Hazards:	Skin Corrosion/Irritation	Category 2
	Serious Eye Damage/Irritation	Category 2A
	Sensitization, Skin	Category 1
Environmental Hazards:	Acute Aquatic Environmental Hazard	Category 2
	Chronic Aquatic Environmental Hazard	Category 2

Signal Word: **WARNING!**
Hazard Statements: Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.

Response: If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. 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. Collect Spillage.

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

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

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured A component of FX-752. Upon combination with the B component of FX-752 an innocuous solid coating is formed which does not present any immediate hazards. Upon grinding or cutting through the cured coating the following hazards may apply.

Health Hazard:	Carcinogenicity	Category 1A
	STOT, Repeated Exposure	Category 2 (Lung)
Hazard Statements:	May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure (processing dust).	
Precautionary Statements:	Do not breathe dust.	

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	CAS Number	Weight %
Bisphenol A-Epichlorohydrin (Epoxy Resin)	25068-38-6	75-95
Alkyl (C12-C14) Glycidyl Ether	68609-97-2	5-25

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**

Skin Contact: Remove contaminated clothing and product, immediately wash affected area with soap and water. Do not apply greases or ointments. If rash or irritation persists **consult a physician.**

Ingestion: Rinse mouth immediately. Do not induce vomiting. **Consult a physician.**

Inhalation: Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Irritant effects. Sensitization. Symptoms include itching, burning, redness and tearing.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder, or water fog.

Additional Information: None known.

Hazards during Fire-Fighting: Hazardous decomposition products may occur when materials polymerize at temperatures above 500°F (260°C). Do not allow run-off from fire-fighting to enter drains or water courses.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or open flames). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill to contain material. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Mechanical ventilation or local exhaust ventilation is recommended. Keep away from open flames, hot surfaces and sources of ignition. Wear appropriate personal protective equipment. Pregnant women should not work with the product, if there is the least risk of exposure. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Observe good industrial hygiene practices.

Storage

Store in a closed container away from incompatible materials (see section 10). Keep in original container. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Keep away from heat and sources of ignition. Store in a well-ventilated place. Protect against physical damage. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure:	Wear appropriate personal protective equipment.
Eye Protection:	Wear chemical splash goggles or safety glasses with side shield.
Hand Protection:	Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection:	Wear long sleeve shirt/long pants and other clothing as required to minimize contact.
Respirator Protection:	A respirator is not required during normal use of this product in properly ventilated areas. Approved respirators should be worn when workplace conditions warrant respirator use.
General Hygiene:	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.

Engineering Controls

If exposure limits have not been established, maintain airborne levels to an acceptable level. When using indoors good general ventilation should be used. Provide eyewash station and emergency shower.

Exposure Limits

No exposure limits noted for components.

9. Physical and Chemical Properties

Physical State:	Liquid	**Freezing/Melting Point:**	N/E
Form:	Paste	**Boiling Point:**	>428°F (>220°C)
Color:	Clear Amber	**Flash Point:**	>250°F (>121°C)
Odor:	Sweet	**Evaporation Rate:**	N/A
Odor Threshold:	N/E	**Specific Gravity:**	1.13
pH:	N/E	**VOC (A+B):**	4 g/L
Flammability:	N/E	**U/L Flammability:**	N/E
Vapor Pressure:	Not Volatile	**Vapor Density:**	N/E
Solubility:	Insoluble	**Kow:**	N/E
Decomposition:	N/E	**Viscosity:**	N/E

10. Stability and Reactivity

Reactivity:	This product is stable and non-reactive under normal conditions.
Chemical Stability:	Stable under normal storage conditions.
Condition to Avoid:	High heat and open flame.
Substances to Avoid:	Oxidizing agents, acids, organic bases, and amines.
Hazardous Reactions:	Hazardous polymerization will not occur.
Decomposition Products:	Carbon dioxide, carbon monoxide, oxides of nitrogen and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion:	Ingestion may cause irritation to the gastrointestinal tract.
Inhalation:	This material is a viscous liquid to semi-solid which does not easily form vapors.
Skin contact:	Causes skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes serious eye irritation.

Information on Toxicological Effects

Acute toxicity: Not expected to be acutely toxic.

Component	Species	Test Result
Bisphenol-A-(Epichlorohydrin) (CAS 25068-38-6)		
Acute, *Oral,* LD50	Rat	>5000 mg/kg
Acute, *Dermal,* LC50	Rabbit	>2000 mg/kg

Skin corrosion/irritation: Causes skin irritation.
Eye damage/eye irritation: Causes serious eye irritation.
Respiratory sensitization: No data available.
Skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: The available data does not indicate that any components of this product present at greater than 0.1% is mutagenic or genotoxic.
Carcinogenicity: May cause cancer. The B components of this product contain components that are listed carcinogens. These components are considered carcinogens only in their inhalable form. Due to the nature of this product inhalation is highly unlikely. Exposure to respirable carcinogens is likely only when grinding or cutting cured product, ensure good work practice and use of personal protective equipment as needed to control exposure to processing dust.

IARC Monographs. Overall Evaluation of Carcinogenicity

Quartz (14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (13463-67-7)	2B Possibly Carcinogenic to humans.
Phenol (CAS 108-95-2)	3 Not classifiable as to carcinogenicity in humans.

NTP Report on Carcinogens

Quartz (14808-60-7)	Known to be Human Carcinogen.

Reproductive toxicity: No data available.
Aspiration hazard: No data available.
Specific target organ toxicity:
Single exposure No data available.
Repeated exposure No data available.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. The product is classified as toxic to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component	Species	Test Result
Bisphenol-A-(Epichlorohydrin) (Epoxy Resin) (CAS 25068-38-6)		
Aquatic, Fish, LC50	Salmo gairdneri	1.5 mg/l, 96 hours
Aquatic, Crustacea, EC50	Daphnia magna	2.7 mg/l, 48 hours

Persistence and degradability: This product is not expected to be readily biodegradable.
Bioaccumulative potential: No data available for this product.
Mobility in soil: This product is insoluble in water and is non-volatile.

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 product.

13. Disposal Considerations

Waste Disposal of Substance: 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.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

FX-752 Component A is not regulated for ground transportation by the USDOT; check specific requirements for other regions and other shipping methods.

UN number:	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A Epichlorohydrin Resin), 9, III, Marine Pollutant
Transportation Class:	9
Precautions:	Other Hazard
Packing Group:	III
Environment Hazard?	Yes
Required Labels:	9
ERG Code (IATA):	9L
EmS (IMDG):	F-A, S-F

Additional Information

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:
This substance/mixture is not intended to be transported in bulk.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4): Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance: No
SARA 311/312 Hazardous chemical: Yes
SARA 313 (TRI reporting): Not regulated.

This product does not contain known levels of any chemicals known to the State of California to cause cancer or reproductive harm as per **California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986).**

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.
WHMIS Classification

Class D-2B: Material Causing other toxic effects

International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

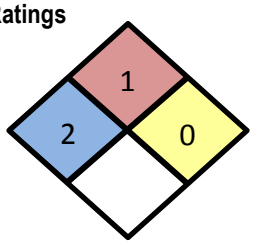
Country or Region	Inventory	On Inventory? (Yes/No)
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
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

16. Other Information

Date Prepared or Revised: January 2015
Supersedes: September 2013
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Additional Classifications

NFPA Ratings



HMIS Rating

HEALTH	2	PHYSICAL	0
FLAMMABILITY	1	PPE	B

Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

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FOR INTERNAL USE ONLY

A Component 752:	B Component 752:
XCOM3B	XCOM3B
	XCORR

1. Identification

Product Identification

Product Identifier: **B Component FX-752 (FX752-1QTB, FX752-1B, FX752-5B)**
Recommended Use: Two-Component, Epoxy Bonding Agent – Component B
Use Restrictions: For industrial use only.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588 USA
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada) / 1-352-323-3500 (International)
For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

FX-752 is a two part system. The two parts of this product have been assessed according to GHS. This Safety Data Sheet covers hazards and responses for Component B. See Component A Safety Data Sheet for complete product information.

Component B GHS Classification

Physical Hazards:	Not Classified.	
Health Hazards	Acute Toxicity, Oral	Category 4
	Acute Toxicity, Dermal	Category 4
	Acute Toxicity, Inhalation	Category 4
	Skin Corrosion/Irritation	Category 1
	Serious Eye Damage/Irritation	Category 1
	Sensitization, Skin	Category 1
	Germ Cell Mutagenicity	Category 2
	Reproductive Toxicity	Category 2
	STOT, Single Exposure	Category 3 (Respiratory Irritation)
	STOT, Repeated Exposure	Category 2 (Central Nervous System, Liver, Kidney)
Environmental Hazards:	Acute Environmental Hazard	Category 1
	Chronic Environmental Hazard	Category 1

Signal Word: **DANGER!**

Hazard Statements: Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation. Suspected of causing genetic defects. Suspected of damaging fertility or the unborn child. May cause damage to organs (central nervous system, kidney, liver) through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Wear protective gloves/clothing/eye protection/face protection. Do not breathe mist or vapor. Use only outdoor or in a well-ventilated area. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling. Contaminated clothing should not be allowed out of the workplace. Avoid release to the environment.

Response: In case of fire: Use appropriate media to extinguish. If exposed or concerned: Get medical attention/advice. If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. 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. If skin irritation or rash occurs, or eye irritation persists: Get medical advice/attention. Collect spillage.
Storage:	Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Disposal:	Dispose of contents/container in accordance with local/regional/national regulations.

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured B component of FX-752. Upon combination with the A component of FX-752 an innocuous solid coating is formed which does not present any immediate hazards. Upon grinding or cutting through the cured coating the following hazards may apply.

Health Hazard:	Carcinogenicity	Category 1A
	STOT, Repeated Exposure	Category 2 (Lung)
Hazard Statements:	May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure (processing dust).	
Precautionary Statements:	Do not breathe dust.	

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	CAS Number	Weight %
Crystalline Silica, Quartz	14808-60-7	40-60
Tofa, reaction products with TEPA	68953-36-6	20-40
Precipitated Calcium Carbonate	471-34-1	1-10
Benzene-1,3-Dimethaneamine	1477-55-0	1-5
Tetraethylenepentamine	112-57-2	1-5
Diethylenetriamine	111-40-0	1-5
Bisphenol-A	80-05-7	1-5
Phenol	108-95-2	1-5
Benzyl Alcohol	100-51-6	1-5
Nonylphenol	25154-52-3	1-5
Polyoxypropylenediamine	9046-10-0	1-5
2,2',2"-nitriloethanol	102-71-6	1-5
4-tert-butylphenol	98-54-4	1-5
2-Piperazin-1-ylethylamine	140-31-8	1-5
Titanium Dioxide	13463-67-7	< 1

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact:	Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**
Skin Contact:	Remove contaminated clothing and product, immediately wash affected area with soap and water. If rash or irritation persists **consult a physician.**
Ingestion:	Rinse mouth immediately. Do NOT induce vomiting. **Consult a physician.**
Inhalation:	Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dermatitis. Rash. Coughing, shortness of breath. Decreased motor functions.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Water fog, carbon dioxide, dry chemical powder, aqueous foam.
Additional Information: None known.
Hazards during Fire-Fighting: Irritating and toxic fumes may be produced at high temperature. Hazardous gases/vapors produced are carbon monoxide, carbon dioxide, oxides of nitrogen, cyanide, aldehydes, and miscellaneous hydrocarbons. Do not allow run-off from fire-fighting to enter drains or water courses.
Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.
Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill to contain material. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Wear appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Avoid breathing fumes or vapors. When in use do not eat, drink, or smoke. Wash thoroughly after handling. Wash contaminated clothing before reuse. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Observe good industrial hygiene practices.

Storage

Store locked up. Store in a closed container away from incompatible materials. Keep in original container, keep container tightly closed. Store in a cool, dry place out of direct sunlight. Keep away from heat and sources of ignition. Protect from physical damage.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirts/long pants and other clothing as required to minimize contact.
Respirator Protection: The use of a respirator is not required during normal use of this product in properly ventilated areas. An approved respirator should be worn whenever workplace conditions warrant respirator use, or when grinding or cutting cured product.
General Hygiene: 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.

Engineering Controls

When using indoors good general ventilation should be used. Ventilation rates should be matched to conditions. Provide eyewash station.

Exposure Limits

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Calcium Carbonate (CAS 427-34-1)	5 mg/m³(Respirable) 15 mg/m³ (Total dust)	N/E	5 mg/m³(Respirable) 10 mg/m³ (Total dust)
Benzene-1,3-Dimethylamine* (CAS 108-95-2)	N/E	0.1 mg/m³ (ceiling)	0.1 mg/m³ (ceiling)
Benzyl Alcohol (CAS 100-51-6)	N/E	10 ppm	44.2 mg/m³ 10 ppm
Diethylenetriamine* (CAS 111-40-0)	N/E	1 ppm	1 ppm
Phenol* (CAS 108-95-2)	5 ppm	5 ppm	5 ppm (TWA) 15.6 ppm (ceiling)
Tetraethylenepentamine* (CAS 112-57-2)	1 ppm	1ppm	1 ppm (aerosol)
Tofa, reaction products with TEPA (CAS 68953-36-6)	5 ppm	5 ppm	N/E
Quartz (CAS 14808-60-7)	$\frac{10}{\%SiO_2 + 2}$ mg/m^3 (respirable)	0.025 mg/m³ (respirable)	0.05 mg/m³ (respirable)
Titanium Dioxide (CAS 13463-67-7)	15 mg/m³ (Total dust)	10 mg/m³	N/E

***Skin Designation:** Material can be absorbed through the skin.

9. Physical and Chemical Properties

Physical State:	Liquid	**Freezing/Melting Point:**	N/E
Form:	Liquid	**Boiling Point:**	N/E
Color:	Dark Gray	**Flash Point:**	266°F (130°C)
Odor:	Ammonia	**Evaporation Rate:**	N/E
Odor Threshold:	N/E	**Specific Gravity:**	1.3
pH:	N/E	**Viscosity:**	N/E
Flammability:	N/E	**U/L Flammability:**	N/E
Vapor Pressure:	N/E	**Vapor Density:**	N/E
Solubility:	Slight	**Kow:**	N/E
Decomposition:	N/E	**VOC (A+B):**	4 g/L

10. Stability and Reactivity

Reactivity:	This product is stable and non-reactive under normal conditions.
Chemical Stability:	Stable under normal storage conditions.
Condition to Avoid:	High heat and open flame.
Substances to Avoid:	Oxidizing agents and acids.
Hazardous Reactions:	Hazardous polymerization will not occur.
Decomposition Products:	Carbon dioxide, carbon monoxide, oxides of nitrogen and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion:	Harmful if swallowed. Causes digestive tract burns.
Inhalation:	Harmful if inhaled. Irritating to the respiratory system.
Skin contact:	Harmful in contact with skin. Causes skin burns. May cause an allergic skin reaction.
Eye contact:	Causes serious eye damage.

Information on Toxicological Effects

Acute toxicity: Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled.

Component	Species	Test Result
2-Piperazin-1-ylethylamine (CAS 140-31-8)		
Acute, *Dermal,* LC50	Rabbit	880 mg/kg
Benzyl Alcohol (100-51-6)		
Acute, *Dermal*, LD50	Rabbit	2000 mg/kg
Acute, *Inhalation,* LC50	Rat	200-300 mg/L, 8Hours
Acute, *Oral,* LD50	Rat	1230-3100 mg/kg
Benzene-1,3-Dimethylamine (CAS 1477-55-0)		
Acute, *Oral,* LD50	Rat	2000 mg/kg
Acute, *Dermal,* LC50	Rabbit	930 mg/kg
Acute, *Inhalation,* LC50	Rat	700 ppm, 1 Hour
Bisphenol-A (CAS 80-05-7)		
Acute, *Oral,* LD50	Rat	3300 mg/kg
Diethylenetriamine (CAS 111-40-0)		
Acute, *Oral,* LD50	Rat	2800 mg/kg
Acute, *Dermal,* LC50	Rabbit	550 mg/kg
Phenol (CAS 108-95-2)		
Acute, *Oral,* LD50	Rat	317 mg/kg
Acute, *Dermal,* LC50	Rabbit	850 mg/kg
Tofa, reaction products with TEPA (CAS 68953-36-6)		
Acute, *Oral,* LD50	Rat	>2000 mg/kg
Tetraethylenepentamine (CAS 112-57-2)		
Acute, *Oral,* LD50	Rat	2.1 mg/kg
Acute, *Dermal,* LC50	Rabbit	0.66 mg/kg

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Eye damage/eye irritation: Causes serious eye damage.

Respiratory sensitization: No data available.

Skin sensitization: May cause skin sensitization by contact.

Germ cell mutagenicity: Components of this product are suspected of causing genetic defects.

Carcinogenicity: May cause cancer. The B components of this product contain components that are listed carcinogens. These components are considered carcinogens only in their inhalable form. Due to the nature of this product inhalation is highly unlikely. Exposure to respirable carcinogens is likely only when grinding or cutting cured product, ensure good work practice and use of personal protective equipment as needed to control exposure to processing dust.

IARC Monographs. Overall Evaluation of Carcinogenicity

Quartz (14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (13463-67-7)	2B Possibly Carcinogenic to humans.
Phenol (CAS 108-95-2)	3 Not classifiable as to carcinogenicity in humans.

NTP Report on Carcinogens

Quartz (14808-60-7)	Known to be Human Carcinogen.

Reproductive toxicity: Components of this product are suspected of damaging fertility or the unborn child.

Aspiration hazard: No data available.

Specific target organ toxicity:

Single exposure: May cause respiratory irritation.

Repeated exposure: May cause damage to organs (central nervous system, liver, kidney) through prolonged or repeated exposure. May cause damage to organs (lung) through prolonged or repeated exposure (inhalation of processing dust).

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. The product is classified as very toxic to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component	Species	Test Result
2-Piperazin-1-ylethylamine (CAS 140-31-8)		
Aquatic, Fish, LC50	Fathead Minnow	1950-2460 mg/l, 96 hours
Benzyl Alcohol (CAS 100-51-6)		
Aquatic, Fish, LC50	Bluegill	10 mg/l, 96 hours
Bisphenol-A (CAS 80-05-7)		
Aquatic, Fish, LC50	Fathead Minnow	3.6-5.4 mg/l, 96 hours
Aquatic, Crustacea, EC50	Daphnia magna	9.2-11.4 mg/l, 48 hours
Nonylphenol (CAS 84852-15-3)		
Aquatic, Fish, LC50	Winter Flounder	0.017 mg/l, 96 hours
Aquatic, Crustacea, EC50	Clam	0.0379 mg/l, 48 hours
Phenol (CAS 108-95-2)		
Aquatic, Fish, LC50	Asiatic Knifefish	8-8.25 mg/l, 96 hours
Aquatic, Crustacea, EC50	Daphnia obtusa	2.7 mg/l, 48 hours
Polyoxypropylenediamine (CAS 9046-10-0)		
NOEC	Algae	0.32 mg/l, 72 Hours

Persistence and degradability: No data available.

Bioaccumulative potential: No data available for the product.

Partition Coefficient n-octonal/water (log Kow) Components

Bisphenol-A (CAS 80-05-7)	3.32
Phenol (CAS 108-95-2)	1.46
Tetraethylenepentamine (CAS 112-57-2)	1.503

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 product.

13. Disposal Considerations

Waste Disposal of Substance: 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 regulations.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

UN number:	UN2735
UN proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (Diethylenetriamine), 8, II, Marine Pollutant
Transportation Class:	8 (9)
Precautions:	Corrosive, Other Hazard
Packing Group:	II
Environment Hazard?:	Yes
Required Labels:	8
ERG Code (IATA):	8L
EmS (IMDG):	F-A, S-B

Additional Information

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 applicable.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4):

Bisphenol-A (CAS 80-05-7)	LISTED
Phenol (CAS 108-95-2)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance:

Component	CAS	Reportable Quant.	Threshold Planning Quant. Lower Value	Threshold Planning Quant. Upper Value
Phenol	108-95-2	1000	500 lbs	10000 lbs

SARA 311/312 Hazardous chemical: Yes
SARA 313 (TRI reporting):

Component	CAS	% In Blend (approx.)
Bisphenol A	80-05-7	1-10
Phenol	108-95-2	1-10

US. California Proposition 65: WARNING: This product contains a chemical listed by the State of California as known to cause cancer, birth defects, or reproductive harm.

Component	Regulation	% In Blend (approx.)	Remark
Quartz (14808-60-7)	ACGIH	40-60	Carcinogenic
Titanium Dioxide (13463-67-7)	ACGIH	< 1	Carcinogenic

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
2-Piperazin-1-ylethylamine (140-31-8)	Listed	Listed	Listed	
Benzyl Alcohol (100-51-6)	Listed		Listed	
Benzene-1,3-Dimethylamine (1477-55-0)	Listed	Listed	Listed	
Bisphenol A (80-05-7)	Listed	Listed	Listed	Listed
Diethylenetriamine (111-40-0)	Listed	Listed	Listed	
Phenol (108-95-2)	Listed	Listed	Listed	Listed
Tetraethylenepentamine (112-57-2)	Listed	Listed	Listed	

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification

	
Class E: Corrosive Material	**Class D-2A:** Material Causing other toxic effects

International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

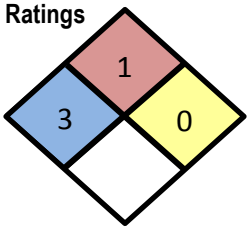
Country	Inventory	On Inventory?
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States	Toxic Substances Control Act (TSCA) Inventory	Yes

16. Other Information

Date Prepared or Revised: January 2015
Supersedes: September 2013
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Additional Classifications

NFPA Ratings



HMIS Rating

HEALTH	3	PHYSICAL	0
FLAMMABILITY	1	PPE	B

Disclaimer

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FOR INTERNAL USE ONLY
A Component 752: XCOM3B
B Component 752: XCOM3B XCORR

Section 1: IDENTIFICATION

Product Name:	Tytan Professional Fill All Insulating Foam Sealant Pro
Synonyms:	Not available.
Product Use:	Foam Sealant.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	Selena USA, Inc. 486 Century Lane Holland, MI 49423
Emergency Phone:	ChemTrec: 1-800-424-9300
Date of Preparation of SDS:	February 27, 2015

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

Classification:
Flammable Aerosols, Category 2
Gases Under Pressure - Compressed Gas
Skin Irritation, Category 2
Eye Irritation, Category 2B
Sensitization - Respiratory, Category 1
Sensitization - Skin, Category 1
Toxic to Reproduction, Effects on or via Lactation
Specific Target Organ Toxicity (Single Exposure), Category 3 - Respiratory Irritation
Specific Target Organ Toxicity (Repeated Exposure), Category 2

LABEL ELEMENTS

Hazard Pictogram(s):

Signal Word: Danger

Hazard Statements:
Flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes skin irritation.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause harm to breast-fed children.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention: Obtain special instructions before use.

Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe mist, vapors, or spray.
Avoid contact during pregnancy and while nursing.
Wash 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, protective clothing and eye protection.
Wear respiratory protection.

Response: If on skin: Wash with plenty of soap and water.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center or doctor.
Take off contaminated clothing and wash it before reuse.

Storage: Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Protect from sunlight.
Do not expose to temperatures exceeding 50°C / 122°F.

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

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: 31% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Isocyanic acid, polymethylenepolyphenylene ester	Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	30 - 60
Alkanes, C14-17, chloro	Chloroalkanes (chloroparafin)	85535-85-9	10 - 30
Propane, 2-methyl-	Isobutane	75-28-5	10 - 30
Methane, 1,1'-oxybis-	Dimethyl ether	115-10-6	5 - 10
Morpholine, 4,4'-(oxydi-2,1-ethanediyl)bis-	Dimorpholinodiethyl ether	6425-39-4	0.1 - 1

Exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4: FIRST-AID MEASURES

Inhalation:

If inhaled: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or doctor.

Acute and delayed symptoms and effects: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. At room temperature, MDI vapors are minimal due to low volatility. However, certain operations may generate vapor or mist concentrations sufficient to cause respiratory irritation and other adverse effects. Such operations include those in which the material is heated, sprayed or otherwise mechanically dispersed. Allergy-prone people who have been sensitized to isocyanates or even have not been previously exposed to isocyanates may experience symptoms at concentrations as low as 0.0014 ppm. Asthma sufferers or people who easily get contact dermatitis should therefore not be exposed to isocyanates.

Eye Contact:

If in eyes: Rinse cautiously with 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.

Acute and delayed symptoms and effects: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. PMDI may cause severe watering, formation of solid particles in the eye fluid, glaucoma, photophobia (sensitivity to light), blepharospasm (uncontrollable winking), conjunctivitis (inflammation of the mucous membranes of the eye lids with possible discharge), keratitis (inflammation of the cornea) and damage the cornea (opacity or clouding).

Skin Contact:

Remove the foam from skin using a cloth. Take off immediately all contaminated clothing. Remove uncured foam from skin using delicate solvent like acetone or mineral spirit (avoid contact with eyes). Hardened foam may be removed by persistent washing with soap and large quantities of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Acute and delayed symptoms and effects: May cause an allergic skin reaction. Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Prolonged skin contact may cause redness, swelling, blistering and possible skin sensitization (dermatitis). MDI compounds have a mild tanning action on the skin.

Ingestion: If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Flammable aerosol. Contains gas under pressure; may explode if heated. Containers may explode when heated. Ruptured cylinders may rocket.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.
Sensitivity to Static Discharge: This material is sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Dry chemical, CO2 or water spray. Move containers from fire area if you can do it without risk.

Unsuitable Extinguishing Media: Not available.

Products of Combustion: Oxides of carbon. Oxides of nitrogen. Hydrogen chloride. Chlorine. Hydrogen cyanide. Isocyanate vapours.

Protection of Firefighters: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures: As an immediate precautionary measure, isolate spill or leak area. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. Do not touch or walk through spilled material.

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Prevent entry into waterways, sewers, basements or confined areas.

Methods for Containment: Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert

vapor cloud drift.

Methods for Clean-Up: Remove from surfaces by scraping up excess material and removing residual residue with cloth and solvent such as acetone or mineral spirit, paint thinner, etc. Hardened foam can only be removed physically or mechanically by scraping or buffing.

Other Information: See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:
Do not swallow. Do not breathe mist, vapors, or spray. Avoid contact during pregnancy and while nursing. Pressurized container: Do not pierce or burn, even after use. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, and hot surfaces. – No smoking. Do not spray on an open flame or other ignition source. Wash 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. See Section 8 for information on Personal Protective Equipment.

Storage:
Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines
Component

Polymeric Methylene Diphenyl Diisocyanate (PMDI) [CAS No. 9016-87-9]

ACGIH: 0.005 ppm (TWA); (1985), For Methylene bisphenyl isocyanate (MDI)

OSHA: 0.02 ppm (C), 0.2 mg/m³ (C); For Methylene bisphenyl isocyanate (MDI)

Chloroalkanes (chloroparafin) [CAS No. 85535-85-9]

ACGIH: No TLV established.

OSHA: No PEL established.

Isobutane [CAS No. 75-28-5]

ACGIH: 1000 ppm (TWA); (2001)

OSHA: No PEL established.

Dimethyl ether [CAS No. 115-10-6]

ACGIH: No TLV established.

OSHA: No PEL established.

Dimorpholinodiethyl ether [CAS No. 6425-39-4]

ACGIH: No TLV established.

OSHA: No PEL established.

PEL: Permissible Exposure Limit
TLV: Threshold Limit Value
TWA: Time-Weighted Average
C: Ceiling

Engineering Controls:	Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye/Face Protection:	Wear safety glasses. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
Hand Protection:	Wear protective gloves. Consult manufacturer specifications for further information.
Skin and Body Protection:	Wear protective clothing.
Respiratory Protection:	Wear respiratory protection. If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
General Hygiene Considerations:	Handle according to established industrial hygiene and safety practices.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Rapidly curing foam dispensed by gaseous propellant from an aerosol container.
Colour:	Pale yellow.
Odour:	Characteristic.
Odour Threshold:	Not available.
Physical State:	Liquid (Aerosol foam.)
pH:	Not available.
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	< 0 °C (32 °F)
Evaporation Rate:	Not available.
Flammability (solid, gas):	See Section 5.
Lower Flammability Limit:	1.8 % (Isobutane)
Upper Flammability Limit:	8.4 % (Isobutane)
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Relative Density:	0.97 (Water = 1)
Solubilities:	Insoluble in water; reacts with water.
Partition Coefficient: n-Octanol/Water:	Not available.
Auto-ignition Temperature:	Product is not self-igniting.
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Percent Volatile, wt. %:	Not available.
VOC content, wt. %:	Not available.
Density:	Not available.
Coefficient of Water/Oil Distribution:	Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity:	Contact with incompatible materials. Sources of ignition. Exposure to heat.

Chemical Stability: Stable under normal storage conditions.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Incompatible Materials: Acids. Bases. Oxidizers. Alkali metals. Metals. Amines. Alcohols.

Hazardous Decomposition Products: Isocyanate vapours. Carbon dioxide.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD_{50} oral	LD_{50} dermal	LC_{50}
Polymeric Methylene Diphenyl Diisocyanate	9016-87-9	49000 mg/kg (rat)	> 9400 mg/kg (rabbit)	490 mg/m³ (rat); 4H
Chloroalkanes (chloroparafin)	85535-85-9	Not available.	Not available.	Not available.
Isobutane	75-28-5	Not available.	Not available.	570000 ppm (rat); 15M
Dimethyl ether	115-10-6	Not available.	Not available.	308000 mg/m³ (rat);
Dimorpholinodiethyl ether	6425-39-4	Not available.	Not available.	Not available.

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Cardiovascular system. Nervous system.

Symptoms (including delayed and immediate effects)

Inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Excessive inhalation may cause headache, dizziness, confusion, loss of appetite and/or loss of consciousness. At room temperature, MDI vapors are minimal due to low volatility.

However, certain operations may generate vapor or mist concentrations sufficient to cause respiratory irritation and other adverse effects. Such operations include those in which the material is heated, sprayed or otherwise mechanically dispersed. Allergy-prone people who have been sensitized to isocyanates or even have not been previously exposed to isocyanates may experience symptoms at concentrations as low as 0.0014 ppm. Asthma sufferers or people who easily get contact dermatitis should therefore not be exposed to isocyanates.

Eye: Causes eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. PMDI may cause severe watering, formation of solid particles in the eye fluid, glaucoma, photophobia (sensitivity to light), blepharospasm (uncontrollable winking), conjunctivitis (inflammation of the mucous membranes of the eye lids with possible discharge), keratitis (inflammation of the cornea) and damage the cornea (opacity or clouding).

Skin: May cause an allergic skin reaction. Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Prolonged skin contact may cause redness, swelling, blistering and possible skin sensitization (dermatitis). MDI compounds have a mild tanning action on the skin.

Ingestion: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Skin Sensitization: Hazardous by OSHA/WHMIS criteria. May cause sensitisation through skin contact.

Respiratory Sensitization: Hazardous by OSHA/WHMIS criteria. May cause sensitisation through inhalation. Allergy-prone people who have been sensitized to isocyanates or even have not been previously exposed to isocyanates may experience symptoms at concentrations as low as 0.0014 ppm. Asthma sufferers or people who easily get contact dermatitis should therefore not be exposed to isocyanates.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Cardiovascular system. Nervous system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation.

Carcinogenicity: Product is not classified as a carcinogen. See Component Carcinogenicity table below for information on individual components.

Component Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	Not listed.	Group 3	Not listed.	Not listed.	Not listed.

Mutagenicity: Not available.

Reproductive Effects: May cause harm to breast-fed children. Avoid contact during pregnancy and while nursing.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN1950, AEROSOLS, 2.1

Class: 2.1

UN Number: UN1950

Packing Group: Not applicable.

Label Code:

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1950, AEROSOLS, 2.1

Class: 2.1

UN Number: UN1950

Packing Group: Not applicable.

Label Code:

Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)

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

Canada (DSL)

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification:

Class A - Compressed Gas.
Class B5 - Flammable Aerosols.
Class D2A - Reproductive toxicity.
Class D2A - Respiratory sensitization.
Class D2B - Skin sensitization.
Class D2B - Skin irritant.
Class D2B - Eye irritant.

Hazard Symbols:

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

CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Polymeric Methylene Diphenyl Diisocyanate	Not listed.	Not listed.	Not listed.	313#	Not listed.	Not listed.
Isobutane	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000
Dimethyl ether	Not listed.	Not listed.	Not listed.	Not listed.	Not listed.	10000

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	Listed.
Isobutane	75-28-5	Listed.
Dimethyl ether	115-10-6	Listed.

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9	Listed.
Isobutane	75-28-5	SHHS
Dimethyl ether	115-10-6	SHHS

Note: SHHS = Special Health Hazard Substance

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Isobutane	75-28-5	Listed.
Dimethyl ether	115-10-6	Listed.

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his own particular use.

Date of Preparation of SDS: January 31, 2014

SDS Expiry Date (Canada): January 30, 2017

LOCTITE CORPORATION 12/10/98
ROCKY HILL, CONNECTICUT 06067
EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 01 of 05

Form-A-Gasket(R) Sealant, High Temp. Silicone
81164

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Item No.: 81164
Part No.: 26B
Product Type: Silicone

2. COMPOSITION, INFORMATION ON INGREDIENTS

Ingredients	CAS No.	%
Poly(dimethylsiloxane), dimethyl	63148-62-9	80-85
SILICA, AMORPHOUS	7631-86-9	10-15
Methyltriacetoxysilane	4253-34-3	1-5
IRON OXIDE	1309-37-1	1-5
ACETIC ACID	64-19-7	***

***When this product is exposed to moisture, 1-5% acetic acid is formed.

Ingredients which have exposure limits

Exposure Limits (TWA) Ingredients	ACGIH (TLV)	OSHA (PEL)	OTHER
SILICA, AMORPHOUS	10mg/m3 TWA	6mg/m3 TWA	None
IRON OXIDE	5 mg/M3 (Fe)	10 mg/M3 (Fe) particulate	None
ACETIC ACID	10 ppm TWA 25 mg/m3	10 ppm TWA 25 mg/m3	None

Exposure Limits (STEL) Ingredients	ACGIH (TLV)	OSHA (PEL)
ACETIC ACID	15 ppm 37 mg/m3	None

3. HAZARDS IDENTIFICATION

Toxicity: Eye and skin irritant. Oral LD50 = 2060 mg/kg. When heated to temperatures above 300°F (150°F) in the presence of air, this product can form formaldehyde vapors. Formaldehyde is a potential cancer hazard and a known skin and respiratory sensitizer. Vapors irritate eyes, nose and throat. Safe handling conditions may be maintained

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MATERIAL SAFETY DATA SHEET Page 02 of 05

Item No.: 81164

3. HAZARDS IDENTIFICATION (continued)

by keeping vapor concentrations below the OSHA permissible limit for formaldehyde.

Primary Routes of Entry: None known

Signs and Symptoms of Exposure: Acetic acid produced during cure irritates eyes, nose, and throat.

Existing Conditions Aggravated by Exposure: Methyltriacetoxysilane: Eye, skin, and pulmonary disorders.

Ingredients	Literature Referenced Target Organ and Other Health Effects	Carcinogen NTP	IARC	OSHA
Poly(dimethylsiloxane), dimethyl	IRR	NO	NO	NO
SILICA, AMORPHOUS	NUI	NO	N/A	NO
Methyltriacetoxysilane	No Data	NO	NO	NO
IRON OXIDE	AC4 ALG LUN	NO	N/A	NO
ACETIC ACID	COR EYE GAS IMM IRR	NO	NO	NO

Abbreviations

N/A Not Applicable	AC4 ACGIH-Unclassifiable as human carc.
ALG Allergen	COR Corrosive
EYE Eyes	GAS Gastrointestinal
IMM Immune system	IRR Irritant
LUN Lung	NUI Nuisance dust

4. FIRST AID MEASURES

Ingestion: Do not induce vomiting. Keep individual calm. Obtain medical attention.

Inhalation: Remove to fresh air. Treat symptomatically.

Skin Contact: Wipe off paste with paper towel or cloth. Wash exposed area with soap and water.

Eye Contact: Flush at least 15 minutes with water. Obtain medical attention.

5. FIRE FIGHTING MEASURES

Flash Point: More than 200°F Method: Tag Closed Cup

Recommended Extinguishing Agents: Carbon dioxide, foam, dry chemical

Special Firefighting Procedures: Not available

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MATERIAL SAFETY DATA SHEET Page 03 of 05

Item No.: 81164

5. FIRE FIGHTING MEASURES (continued)

Hazardous Products formed by Fire or Thermal Decomp Acetic acid, formaldehyde, silica fume.

Unusual Fire or Explosion Hazards:	None
Explosive Limits:	
(% by volume in air)Lower	Acetic acid: 4%
(% by volume in air)Upper	Acetic acid: 19.9% at 200°F

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken in case of spill or leak:	Wipe or scrape up spilled material. Maintain good ventilation for large spills. Place scrap material in a well ventilated place and allow to cure to rubber.

7. HANDLING AND STORAGE

Safe Storage:	Store in a dry area below 90°F. Keep container closed when not in use.
(Contact Loctite Customer	Service 1-800-243-4874 for shelf life information)
Handling:	Avoid breathing vapor. Avoid eye or skin contact. Acetic acid vapor released during application and cure. do not wear contact lenses while applying material. Vapor may be trapped under lens.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Eyes:	Safety glasses or goggles.
Skin:	Rubber or plastic gloves.
Ventilation:	Provide local ventilation for prolonged use in confined area.
Respiratory	Not available
	See Section 2 for Exposure Limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Red paste
Odor:	Sharp, Irritating
Boiling Point:	Not Applicable, Polymeric material
pH:	Does not apply
Solubility in Water:	Not available
Specific Gravity	1.05
Volatile Organic Compound (EPA Method 24)	4.8%
Vapor Pressure:	10mm at 80°F

9. PHYSICAL AND CHEMICAL PROPERTIES (continued)

Vapor Density:	Not available
Evaporation Rate (Ether = 1)	Not available

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatibility:	Polymerized by contact with moisture. Acetic acid liberated.
Conditions to Avoid:	Not available
Hazardous Decomposition Products (non-thermal):	None

11. TOXICOLOGICAL INFORMATION

See Section 3.

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATIONS

Recommended methods of disposal:	Incinerate following EPA and local regulations.
EPA Hazardous Waste Number	NH - Not a RCRA Hazardous Waste Material

14. TRANSPORTATION INFORMATION

DOT (49 CFR 172)

Domestic Ground Transport

Proper Shipping Name:	Unrestricted
Hazard Class or Division:	Unrestricted
Identification Number:	None
Marine Pollutant:	None

IATA

Proper Shipping Name:	Unrestricted
Class or Division:	Unrestricted
UN or ID Number:	None

15. REGULATORY INFORMATION

CA Proposition 65: No Prop65 chemicals are known to be present.

LOCTITE CORPORATION 12/10/98

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EMERGENCY PHONE: (860) 571-5100

MATERIAL SAFETY DATA SHEET Page 05 of 05

Item No.: 81164

16. OTHER INFORMATION

Estimated NFPA(R) Code:

Health Hazard:	1
Fire Hazard:	1
Reactivity Hazard:	0
Specific Hazard:	Does not apply

Estimated HMIS(R) Code:

Health Hazard:	1*
Flammability Hazard:	1
Reactivity Hazards:	0
Personal Protection:	See Section 8.

NFPA is a registered trademark of the National Fire Protection Assn.
HMIS is a registered trademark of the National Paint and Coatings Assn.

Prepared By: Stephen Repetto
Title: Research Chemist- Safety,Health&Regulatory Affairs
Company: Loctite Corp., 1001 Tr Br Cr, Rocky Hill CT 06067
(24hr.) Phone: (860) 571-5100
Revision Date: April 15, 1997 Revision: 0003

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FX-70®-6MP *Multi-Purpose Marine Epoxy Grout*

SAFETY DATA SHEET

1. Identification

Product Identification

Product Identifier: **A Component FX-70®-6MP** (FX70-6MP-1PTSA, FX70-6MP-1A, FX70-6MP-5A)
Recommended Use: Three-Component Multi-Purpose Marine Epoxy Grout – A Component
Use Restrictions: For industrial use only.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588, USA
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada)
1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

FX-70®-6MP is a three part system. The three parts of this product have been assessed individually according to GHS. This Safety Data Sheet covers hazards and responses for Component A. See Component B and Component C Safety Data Sheet for complete product information. The final hardened material is considered nonhazardous; some hazards apply upon grinding or cutting through hardened product, see Hazardous Not Otherwise Classified if working with hardened product.

Component A GHS Classification

Physical Hazards:	Flammable Liquids	Category 4
Health Hazards	Skin Corrosion/Irritation	Category 2
	Serious Eye Damage/Irritation	Category 2A
	Sensitization, Skin	Category 1
	Germ Cell Mutagenicity	Category 2
	Carcinogenicity	Category 2
Environmental Hazards:	Acute Environmental Hazard	Category 2
	Chronic Environmental Hazard	Category 2

Signal Word: **WARNING!**

Hazard Statements: Combustible liquid. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Suspected of causing cancer. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from flames and hot surfaces – No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing mist or vapor. Wash thoroughly after handling. Avoid release to the environment.

Response: If exposed or concerned: Call a poison center/doctor. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. 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. Collect Spillage.

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

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

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured A component of FX-70-6 1:1. Upon combination with the B and C components of FX-70-6 1:1 an innocuous solid is formed which does not present any immediate hazards. Upon grinding or cutting through the cured product the following hazards may apply.

Health Hazard	Carcinogenicity	Category 1A
	STOT, Repeated Exposure	Category 2 (Lung)
Hazard Statements:	May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure.	
Precautionary Statements:	Do not breathe dust.	

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	CAS Number	Weight %
Bisphenol A (Epoxy Resin)	25068-38-6	60-90
N- Butyl Glycidyl Ether	2426-08-6	1-15
o-Cresyl Glycidyl Ether	2210-79-9	1-15

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**

Skin Contact: Remove contaminated clothing and product, immediately wash affected area with soap and water. Do not apply greases or ointments. If rash or irritation persists **consult a physician.**

Ingestion: Rinse mouth immediately. Do not induce vomiting. **Consult a physician.**

Inhalation: Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Irritant effects. Sensitization. Symptoms include itching, burning, redness and tearing.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder, or water fog.

Additional Information: None known.

Hazards during Fire-Fighting: Hazardous decomposition products may occur when materials polymerize at temperatures above 500°F (260°C).

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective

clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill to contain material. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Mechanical ventilation or local exhaust ventilation is recommended. Keep away from open flames, hot surfaces and sources of ignition. Wear appropriate personal protective equipment. Pregnant women should not work with the product, if there is the least risk of exposure. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Observe good industrial hygiene practices.

Storage

Store in a closed container away from incompatible materials. Keep in original container. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Keep away from heat and sources of ignition. Store in a well-ventilated place. Protect against physical damage. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact.
Respirator Protection: The use of a respirator is not required during normal use of this product. If grinding or cutting cured product the use of an approved respirator is recommended.
General Hygiene: 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.

Engineering Controls

If exposure limits have not been established, maintain airborne levels to an acceptable level. When using indoors good general ventilation should be used. Provide eyewash station and emergency shower.

Exposure Limits

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
N-Butyl Glycidyl Ether (2426-08-6)	270 mg/m^3 50 ppm	3 ppm	N/E

Skin Designation: Butyl Glycidyl Ether (2426-08-6) can be absorbed through the skin

9. Physical and Chemical Properties

Physical State:	Liquid	**Freezing/Melting Point:**	N/A
Form:	Liquid	**Boiling Point:**	N/E
Color:	Clear Amber	**Flash Point:**	179 °F (82°C)
Odor:	Sweet	**Evaporation Rate:**	N/A
Odor Threshold:	N/A	**Specific Gravity:**	1.12
pH:	N/A	**VOC (A+B+C):**	2 g/L
Flammability:	N/A	**U/L Flammability:**	N/A
Vapor Pressure:	N/A	**Vapor Density:**	N/A
Solubility:	Soluble	**Kow:**	N/A
Decomposition:	N/A	**Viscosity:**	N/A

10. Stability and Reactivity

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Oxidizing agents, acids, organic bases, and amines.
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Ingestion may cause irritation to the gastrointestinal tract.
Inhalation: This material is a viscous liquid to semi-solid which does not easily form vapors. Inhalation of dust from grinding or cutting may irritate the respiratory tract.
Skin contact: Causes skin irritation. May cause an allergic skin reaction.
Eye contact: Causes serious eye irritation.

Information on Toxicological Effects

Acute toxicity: Occupational exposure to the substance or mixture may cause adverse effects.

Component	Species	Test Result
N-Butyl Glycidyl Ether (2426-08-6)		
Acute, *Dermal*, LC50	Rabbit	2520 µL/kg
Acute, *Inhalation,* LC50	Rat	1030 ppm, 8 hours
Acute, *Oral,* LD50	Rabbit	1660 mg/kg

Skin corrosion/irritation: Causes skin irritation.
Eye damage/eye irritation: Causes serious eye irritation.
Respiratory sensitization: No data available.
Skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Contains a component that is suspected of causing genetic defects.
Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity: No data available.
Aspiration hazard: No data available
Specific Target Organ Toxicity:
Single Exposure: No data available.
Repeated Exposure: No data available.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. The product is classified as toxic to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component	Species	Test Result
Bisphenol-A/Epichlorohydrin (Epoxy Resin) (25068-38-6)		
Aquatic, Fish, LC50	Salmo gairdneri	1.5 mg/l, 96 hours
Aquatic, Crustacea, EC50	Daphnia magna	2.7 mg/l, 48 hours

Persistence and degradability: This product is not expected to be readily biodegradable.
Bioaccumulative potential: No data available for this product.
Partition coefficient n-octanol / water (log Kow) Components
N-Butyl Glycidyl ether (2426-08-6) 0.63
Mobility in soil: This product is non-volatile.

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 product.

13. Disposal Considerations

Waste Disposal of Substance: 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.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

FX-70-6MP Component A is not regulated for ground transportation by US DOT; check specific requirements for other regions and other shipping methods.

UN number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A Epichlorohydrin Resin), 9, III, Marine Pollutant
Precautions: Marine Pollutant
Required Labels: 9
ERG Code (IATA): 9L
EmS (IMDG): F-A, S-F

Additional Information

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:
This substance/mixture is not intended to be transported in bulk.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	Yes	No	No

SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous chemical Yes
SARA 313 (TRI reporting) Not regulated.

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification

	
Class D-2A: Material Causing other toxic effects	**Class B3:** Combustible

International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

Country or Region	Inventory	On Inventory? (Yes/No)
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

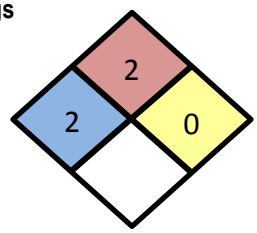
"Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
"No" indicates that one or more components of the product are not listed or exempt from listing.

16. Other Information

Date Prepared or Revised: November 2014
Supersedes: December 2013
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Additional Classifications

NFPA Ratings



HMIS Rating

HEALTH	2	PHYSICAL	0
FLAMMABILITY	2	PPE	B

Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
CAS No.: Chemical Abstract Service Registry Number
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR: Controlled Product Regulations (Canada)
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods code
NIOSH: National Institute of Occupational Safety and Health (U.S.)
NFPA: National Fire Protection Association (US)
NTP: National Toxicology Program (US)
PEL: Permissible Exposure Limit
SARA: Superfund Amendments and Reauthorization Act (U.S. EPA)
STEL: Short Term Exposure Limit (15 minute Time Weighted Average)
STOT: Specific Target Organ Toxicity (GHS Classification)
TLV: Threshold Limit Value
TSCA: Toxic Substances Control Act (U.S.)
TWA: Time Weighted Average (exposure for 8-hour workday)
VOC: Volatile Organic Compounds
WHMIS: Canadian Workplace Hazardous Materials Information System

Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

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Internal

FOR INTERNAL USE ONLY

A Component 70-6MP	B Component 70-6MP	C Component 70-6MP
XCOM3A	XCOM3B	NSR
	XCORR	

1. Identification

Product Identification

Product Identifier: **B Component FX-70®-6MP** (FX70-6MP-1PTSB, FX70-6MP-1B, FX70-6MP-5B)
Recommended Use: Three-Component Multi-Purpose Marine Epoxy Grout – B Component
Use Restrictions: For industrial use only.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588 USA
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada)
1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

FX-70®-6MP is a three part system. The three parts of this product have been assessed individually according to GHS. This Safety Data Sheet covers hazards and responses for Component B. See Component A and Component C Safety Data Sheet for complete product information. The final hardened material is considered nonhazardous; some hazards apply upon grinding or cutting through hardened product, see Hazardous Not Otherwise Classified if working with hardened product.

Component B GHS Classification

Physical Hazards:	Not Classified.	
Health Hazards	Acute Toxicity, Oral	Category 4
	Acute Toxicity, Dermal	Category 4
	Skin Corrosion/Irritation	Category 1
	Serious Eye Damage/Irritation	Category 1
	Sensitization, Respiratory	Category 1
	Sensitization, Skin	Category 1
	Carcinogenicity	Category 2
Environmental Hazards:	Acute Environmental Hazard	Category 2
	Chronic Environmental Hazard	Category 2

Signal Word: **DANGER!**
Hazard Statements: Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties. Suspected of causing cancer. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing/eye protection/face protection. Do not breathe mist or vapor. In case of inadequate ventilation wear respiratory protection. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling. Contaminated clothing must not be allowed out of the workplace. Avoid release to the environment.

Response: If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. 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. If skin irritation or rash occurs, or eye irritation persists: Get medical advice/attention. Collect spillage.

Storage: Store locked up. Store in a well-ventilated place.

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

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured B component of FX-70-6 1:1. Upon combination with the A and C components of FX-70-6 1:1 an innocuous solid is formed which does not present any immediate hazards. Upon grinding or cutting through the cured product the following hazards may apply.

Health Hazard	Carcinogenicity	Category 1A
	STOT, Repeated Exposure	Category 2 (Lung)
Hazard Statements:	May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure (processing dust).	
Precautionary Statements:	Do not breathe dust.	

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	CAS Number	Weight %
Isophorone Diamine	2855-13-2	20-40
Benzyl Alcohol	100-51-6	20-40
Alkyl Phenol Polyamine	N/A	20-40
Triethylenetetramine	112-24-3	1-10
Reaction Product: Bisphenol-A-(Epichlorohydrin)	25068-38-6	1-10
Diethylenetriamine	111-40-0	1-5
Ethylenediamine	107-15-3	1-5
Solvent, naphtha(petroleum), heavy aromatic	64742-94-5	1-5
Salicylic Acid	69-72-7	1-5
Naphthalene	91-20-3	< 1

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact:	Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**
Skin Contact:	Remove contaminated clothing and product; wash affected area with soap and water. Do not apply greases or ointments. If redness, burning, or swelling persists, **consult a physician**.
Ingestion:	Rinse mouth. If you feel unwell, **consult a physician.**
Inhalation:	Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dermatitis. Rash. Respiratory irritation, coughing, shortness of breath.

5. Fire-Fighting Measures

Suitable Extinguishing Media:	Water fog, carbon dioxide, dry chemical powder, aqueous foam.
Additional Information:	None known.

Hazards during Fire-Fighting: Irritating and toxic fumes may be produced at high temperature. Hazardous gases/vapors produced are carbon monoxide, carbon dioxide, oxides of nitrogen, cyanide, aldehydes, and miscellaneous hydrocarbons. Do not allow run-off from fire-fighting to enter drains or water courses.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill to contain material. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Handling

Wear appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Avoid breathing fumes or vapors. When in use do not eat, drink, or smoke. Wash thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Storage

Store locked up. Store in a closed container away from incompatible materials. Keep in original container, keep container tightly closed. Store in a cool, dry place out of direct sunlight. Keep away from heat and sources of ignition. Protect from physical damage.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirts/long pants and other clothing as required to minimize contact.
Respirator Protection: A respirator is not required during normal use of this product in properly ventilated areas. An approved respirator should be worn whenever workplace conditions warrant respirator use.
General Hygiene: 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.

Engineering Controls

When using indoor good general ventilation should be used, use local exhaust or general dilution ventilation to control exposure. Provide eyewash station and emergency shower.

Exposure Limits

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Isophorone Diamine (CAS 2855-13-2)	10 ppm	10 ppm	N/E
Triethylenetetramine* (CAS 112-24-3)	N/E	N/E	1 ppm

Ethylenediamine (CAS 107-15-3)	10 ppm	10 ppm	N/E

***Skin Designation:** Material can be absorbed through the skin.

9. Physical and Chemical Properties

Physical State:	Liquid	**Freezing/Melting Point:**	N/E
Form:	Liquid	**Boiling Point:**	N/E
Color:	Dark Amber	**Flash Point:**	212°F (100°C)
Odor:	Ammonia	**Evaporation Rate:**	N/E
Odor Threshold:	N/E	**Specific Gravity:**	1.01
pH:	N/E	**Viscosity:**	N/E
Flammability:	N/E	**U/L Flammability:**	N/E
Vapor Pressure:	N/E	**Vapor Density:**	N/E
Solubility:	Slight	**Kow:**	N/E
Decomposition:	N/E	**VOC (A+B+C):**	2 g/L

10. Stability and Reactivity

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Oxidizing agents and acids.
Hazardous Reactions: Hazardous polymerization will not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Harmful if swallowed. Causes digestive tract burns.
Inhalation: May cause respiratory irritation. May cause sensitization by inhalation.
Skin contact: Harmful in contact with skin. Causes skin burns. May cause an allergic skin reaction.
Eye contact: Causes serious eye damage.

Information on Toxicological Effects

Acute toxicity: Harmful if swallowed. Harmful in contact with skin.

Component	Species	Test Result
Benzyl Alcohol (CAS 100-51-6)		
Acute, *Oral,* LD50	Rat	1230-3100 mg/kg
Acute, *Dermal,* LC50	Rabbit	2000 mg/kg
Acute, *Inhalation,* LC50	Rat	200-300 mg/l, 8Hours
Isophorone Diamine (CAS 2855-13-2)		
Acute, *Oral,* LD50	Rat	1030 mg/kg
Reaction Product: Bisphenol-A-(Epichlorohydrin) (CAS 25068-38-6)		
Acute, *Oral,* LD50	Rat	>5000 mg/kg
Acute, *Dermal,* LC50	Rabbit	>2000 mg/kg
Triethylenetetramine (CAS 112-24-3)		
Acute, *Oral,* LD50	Rat	2500 mg/kg
Acute, *Dermal,* LC50	Rabbit	550 mg/kg

Skin corrosion/irritation: Causes severe skin burns and eye damage.
Eye damage/eye irritation: Causes serious eye damage.
Respiratory sensitization: May case allergy or asthma symptoms or breathing difficulties.
Skin sensitization: May cause skin sensitization by contact.
Germ cell mutagenicity: The available data does not indicate that any components of this product present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity: A component of this product is suspected of causing cancer.
IARC Monographs. Overall Evaluation of Carcinogenicity
Naphthalene (CAS 91-20-3) 2B Possibly carcinogenic to humans.

Reproductive toxicity: Not expected to cause reproductive or developmental effects.
Aspiration hazard: No data available.
Specific target organ toxicity:
Single exposure: No data available.
Repeated exposure: Chronic inhalation may be harmful.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. The product is classified as toxic to aquatic life and harmful to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component	Species	Test Result
Isophorone Diamine (CAS 2855-13-2)		
Aquatic, Crustacea, EC50	Daphnia magna	14.6-21.5 mg/l, 48 hours
Reaction Product: Bisphenol-A-(Epichlorohydrin) (CAS 25068-38-6)		
Aquatic, Fish, LC50	Salmo gairdneri	1.5 mg/l, 96 hours
Aquatic, Crustacea, EC50	Daphnia magna	2.7 mg/l, 48 hours
Benzyl Alcohol (CAS 100-51-6)		
Aquatic, Fish, LC50	Bluegill	10 mg/l, 96 hours

Persistence and degradability: No data available.
Bioaccumulative potential: No data available for the product.
Partition Coefficient n-octonal/water (log Kow) Components
Benzyl Alcohol (CAS 100-51-6) 1.1
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 product.

13. Disposal Considerations

Waste Disposal of Substance: 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 regulations.
Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

UN number: UN2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorone Diamine), 8, II, Marine Pollutant
Precautions: Corrosive, Marine Pollutant
Required Labels: 8 (9)
ERG Code (IATA): 8L
EmS (IMDG): F-A, S-B

Additional Information

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 applicable.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4): Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance: No
SARA 311/312 Hazardous chemical: Yes
SARA 313 (TRI reporting): Not regulated.

US. California Proposition 65: WARNING: This product contains a chemical listed by the State of California as known to cause cancer, birth defects, or reproductive harm.

Component (*Can be absorbed through the skin)	Regulation	% In Blend (approx.)	Remark
Naphthalene (91-20-3)	ACGIH	< 1	Carcinogenic

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification

		
Class D-2B: Material Causing other toxic effects	**Class B2:** Flammable	**Class E:** Corrosive

International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work.

This product is not subject to or not applicable for any of the following International Regulations: **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

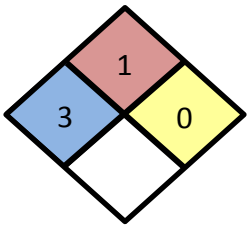
Country / Region	Inventory	On Inventory?
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing 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	Toxic Substances Control Act (TSCA) Inventory	Yes

16. Other Information

Date Prepared or Revised: November 2014
Supersedes: December 2013
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Additional Classifications

NFPA Ratings



HMIS Rating

HEALTH	3	PHYSICAL	0
FLAMMABILITY	1	PPE	B

Abbreviations

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS No.:	Chemical Abstract Service Registry Number
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR:	Controlled Product Regulations (Canada)
EPA:	Environmental Protection Agency (U.S.)
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)
STOT:	Specific Target Organ Toxicity (GHS Classification)
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act (U.S.)
TWA:	Time Weighted Average (exposure for 8-hour workday)
VOC:	Volatile Organic Compounds
WHMIS:	Canadian Workplace Hazardous Materials Information System

Disclaimer

Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

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Internal

FOR INTERNAL USE ONLY

A Component 70-6MP	B Component 70-6MP	C Component 70-6MP
XCOM3A	XCOM3B	NSR
	XCORR	

1. Identification

Product Identification

Product Identifier: **C Component FX-70®-6MP** (FX70-6MP-1GSC, FX70-6MP-C, FX70-6MP-CP)
Recommended Use: Three-Component Multi-Purpose Marine Epoxy Grout – C Component
Use Restrictions: For industrial use only.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada)
1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

FX-70®-6 1:1 Marine Epoxy Grout is a three part system. The three parts of this product have been assessed individually according to GHS. This Safety Data Sheet covers hazards and responses for Component C. See Component A and Component B Safety Data Sheet for complete product information.

Component C GHS Classification

The following hazards are for the powdered C component of FX-70-6 1:1. Upon combination with the A and B components of FX-70-6 1:1 an innocuous solid is formed which does not present any immediate hazards. Upon grinding or cutting through the cured product the same hazards apply to the processing dust.

Physical Hazards:	Not Classified.	
Health Hazards:	Carcinogenicity	Category 1A
	STOT, Single Exposure	Category 3 (Respiratory Irritation)
	STOT, Repeated Exposure	Category 2 (Lung)
Environmental Hazards:	Not Classified.	
OSHA Hazards:	Combustible dust	

Signal Word: **DANGER!**
Hazard Statements: May cause cancer. May cause respiratory irritation. Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation). May form combustible dust concentrations in air.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust. Use only outdoors or in a well-ventilated area. Do not allow dust to build up on surfaces.

Response: If exposed or concerned: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call poison center/doctor if you feel unwell.

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

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

Hazards Not Otherwise Classified (HNOC)

Can form explosive air-dust mixtures, avoid creating dust.

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	CAS Number	Weight %
Crystalline Silica, Quartz	14808-60-7	50-70
Fly Ash	68131-74-8	20-30
Barium Sulfate	7727-43-7	5-15

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If you experience redness, burning, blurred vision, or swelling **consult a physician immediately.**

Skin Contact: Remove contaminated clothing and product, wash affected area with soap and water. Do not apply greases or ointments. If rash or irritation occurs **consult a physician.**

Ingestion: Rinse mouth. Do not induce vomiting. **Consult a physician.**

Inhalation: Remove patient to fresh air. Oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Respiratory irritation.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).

Additional Information: Can form explosive air-dust mixtures, avoid creating dust.

Hazards during Fire-Fighting: During a fire, gases hazardous to health may be formed.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Avoid generating dust. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust. Ensure adequate ventilation. If the concentration of silica dust exceeds the PEL wear a respirator.

Clean-Up Methods

Avoid dry sweeping. Do not use compressed air to clean spilled silica sand. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system. Dispose of in closed containers.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Avoid generating dust. Mechanical ventilation or local exhaust ventilation is recommended. Use all available work practices to control dust exposure, such as water sprays. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Do not breathe dust. Keep airborne dust concentrations below permissible exposure limits. Wear a respirator if silica dust concentrations exceed PEL. Do not permit dust to collect and build up on work surfaces, use good housekeeping.

Storage

Use dust collection to trap dust produced during loading and unloading. Store in a closed container away from incompatible materials (See Section 10 of the SDS). Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Protect against physical damage.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact. In case of dust production dust-proof clothing. Avoid contact with unhardened cement products, if contact occurs wash immediately with soap and water.
Respirator Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.
General Hygiene: 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.

Engineering Controls

Mechanical ventilation or local exhaust ventilation is recommended. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and emergency shower.

Exposure Limits

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Barium Sulfate (CAS 7727-43-7)	5 mg/m³ (respirable) 15 mg/m³ (Total dust)	10 mg/m³	5 mg/m³ (respirable) 10 mg/m³ (Total dust)
Quartz (CAS 14808-60-7)	$\frac{10}{\%SiO_2 + 2}$ mg/m^3	0.025 mg/m³ (respirable)	0.05 mg/m³ (respirable)
Fly Ash (CAS 68131-74-8)	1 mg/m³ (respirable)	5 mg/m³ (respirable)	N/E

9. Physical and Chemical Properties

Physical State: Solid
Form: Powder
Color: Tan
Odor: Characteristic
Odor Threshold: N/E
pH: N/E
Flammability: N/A
Vapor Pressure: N/A
Solubility: Slight
Decomposition: N/E

Freezing/Melting Point: N/E
Boiling Point: N/E
Flash Point: N/A
Evaporation Rate: N/A
Specific Gravity: 2.6
VOC (A+B+C): 2 g/L
U/L Flammability: N/A
Vapor Density: N/A
Kow: N/A
Viscosity: N/A

10. Stability and Reactivity

Reactivity: Stable and non-reactive under normal conditions of use and storage.
Chemical Stability: Stable and non-reactive under normal conditions of use and storage.
Condition to Avoid: Conditions which generate dust.
Substances to Avoid: Hydrofluoric acid, fluorine, chlorine trifluoride, or oxygen difluoride.
Hazardous Reactions: The product is stable if stored and handled as prescribed/indicated.
Decomposition Products: None.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Expected to be a low ingestion hazard.
Inhalation: Irritation to nose and respiratory tract.
Skin contact: Possible mild skin irritation.
Eye contact: Particles can cause corneal abrasion.

Information on Toxicological Effects

Acute toxicity: Occupational exposure to the substance or mixture may cause adverse effects.
Skin corrosion/irritation: Possible mild skin irritation.
Eye damage/eye irritation: Direct contact may cause temporary eye irritation.
Respiratory sensitization: Not a respiratory sensitizer.
Skin sensitization: Not a skin sensitizer.
Germ cell mutagenicity: No data available.
Carcinogenicity: May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity
Quartz (CAS 14808-60-7) 1 Carcinogenic to humans.
ACGIH Carcinogens
Quartz (CAS 14808-60-7) A2 Suspected human carcinogen.

Reproductive toxicity: No data available.
Aspiration hazard: No data available.
Specific target organ toxicity:
Single Exposure: No data available.
Repeated Exposure: Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation). Repeated or prolonged exposure to respirable silica dust will cause lung damage in the form of silicosis. Symptoms include progressively more difficult breathing, cough, fever, and weight loss. Acute silicosis can be fatal.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

This material 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.

Supporting Data

Component	Species	Test Result
Barium Sulfate (CAS 7727-43-7)		
Aquatic, Crustacea, EC50	Tubificid worm	28.61-38.03 mg/l, 48 hours

Persistence and degradability: Not readily biodegradable.
Bioaccumulative potential: Not expected to bioaccumulate.
Mobility in soil: No data available.
Other adverse effects: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption) are expected from this product.

13. Disposal Considerations

Waste Disposal of Substance: Do not allow 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.
Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

FX-70-6MP Component C is not regulated for transport by the United States Department of Transportation (DOT), the International Air Transportation Association (IATA), or the International Maritime Dangerous Goods Code (IMDG).

Additional Information

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 applicable.
This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4) Barium Sulfate (CAS 7727-43-7)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous chemical Yes
SARA 313 (TRI reporting) Not regulated.

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
Barium Sulfate (7727-43-7)	Listed	Listed	Listed	
Quartz (14808-60-7)	Listed	Listed	Listed	

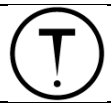
US. California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or reproductive harm.

Component	Regulation	% In Blend (approx.)	Remark
Quartz (14808-60-7)	ACGIH	50-70	Carcinogenic
Titanium Dioxide (13463-67-7)	ACGIH	Trace	Carcinogenic

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification



Class D-2A: Material Causing other toxic effects

International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

Country	Inventory	On Inventory?
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

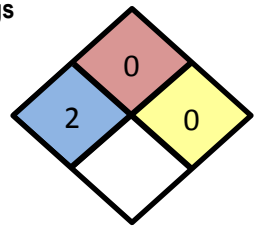
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States	Toxic Substances Control Act (TSCA) Inventory	Yes

16. Other Information

Date Prepared or Revised: November 2014
Supersedes: December 2013
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Additional Classifications

NFPA Ratings



HMIS Rating

HEALTH	2	PHYSICAL	0
FLAMMABILITY	0	PPE	B

Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
CAS No.: Chemical Abstract Service Registry Number
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR: Controlled Product Regulations (Canada)
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
HMIS: Hazardous Materials Identification System
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods code
NIOSH: National Institute of Occupational Safety and Health (U.S.)
NFPA: National Fire Protection Association (US)
NTP: National Toxicology Program (US)
PEL: Permissible Exposure Limit
SARA: Superfund Amendments and Reauthorization Act (U.S. EPA)
STOT: Specific Target Organ Toxicity (GHS Classification)
TLV: Threshold Limit Value
TSCA: Toxic Substances Control Act (U.S.)
TWA: Time Weighted Average (exposure for 8-hour workday)
VOC: Volatile Organic Compounds
WHMIS: Canadian Workplace Hazardous Materials Information System

Disclaimer

Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

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Internal

FOR INTERNAL USE ONLY

A Component 70-6MP	B Component 70-6MP	C Component 70-6MP
XCOM3A	XCOM3B	NSR
	XCORR	

SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: GREAT STUFF PRO™ Gaps & Cracks Insulating Foam Sealant GUN 24oz HC ES 12ct

Issue Date: 01/04/2016

Print Date: 01/07/2016

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: GREAT STUFF PRO™ Gaps & Cracks Insulating Foam Sealant GUN 24oz HC ES 12ct

Recommended use of the chemical and restrictions on use
Identified uses: Polyurethane foam.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2030 WILLARD H DOW CENTER
MIDLAND MI 48674-0000
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-424-9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Flammable aerosols - Category 2
Gases under pressure - Liquefied gas
Acute toxicity - Category 4 - Inhalation
Skin irritation - Category 2
Eye irritation - Category 2A
Respiratory sensitisation - Category 1
Skin sensitisation - Category 1
Effects on or via lactation
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

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Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause harm to breast-fed children.
May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Avoid contact during pregnancy/ while nursing.
Wash 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/ eye protection/ face protection.
In case of inadequate ventilation wear respiratory protection.

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

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

Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
Water Reactive

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer	57029-46-6	>= 30.0 - <= 60.0 %
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	>= 5.0 - <= 10.0 %
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 10.0 - <= 30.0 %
Paraffin waxes and Hydrocarbon waxes, chlorinated	63449-39-8	>= 5.0 - <= 10.0 %
Isobutane	75-28-5	>= 3.0 - <= 7.0 %
Propane	74-98-6	>= 1.0 - <= 5.0 %
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 7.0 - <= 13.0 %
N,N'-Dimorpholinodiethylether	6425-39-4	>= 0.5 - <= 5.0 %

Note
Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.

4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). Repeated excessive exposure may aggravate preexisting lung disease. Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Although cholinesterase depression has been reported with this material, it is not of benefit in determining exposure and need not be considered in the treatment of persons exposed to the material. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Hydrogen cyanide.

Unusual Fire and Explosion Hazards: Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep personnel out of low areas. Keep personnel out of confined or poorly ventilated areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. For large spills, warn public of downwind explosion hazard. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to section 7, Handling, for additional precautionary measures.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Ground and bond all containers and handling equipment. Isolate area until gas has dispersed. Use non-sparking tools in cleanup operations. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Collect in suitable and properly labeled containers. Absorb with materials such as: Clay. Dirt. Milsorb®. Sand. Sawdust. Vermiculite. See Section 10 for more specific information. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep away from heat, sparks and flame. Avoid contact with eyes. Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation. Keep out of reach of children. No smoking, open flames or sources of ignition in handling and storage area. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Contents under pressure. Do not puncture or incinerate container. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Do not enter confined spaces unless adequately ventilated. Never use air pressure for transferring product. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Minimize sources of ignition, such as static build-up, heat, spark or flame. Store in a dry place. See Section 10 for more specific information.

Storage stability

Storage temperature:	Shelf life: Use within
49 °C (120 °F)	12 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Isobutane	ACGIH	STEL	1,000 ppm
Propane	ACGIH		Asphyxiant
	OSHA Z-1	TWA	1,800 mg/m3 1,000 ppm
Methyl ether	US WEEL	TWA	1,000 ppm
4,4' -Methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm
	OSHA Z-1	C	0.2 mg/m3 0.02 ppm
	NIOSH REL	TWA	0.05 mg/m3 0.005 ppm
	NIOSH REL	C	0.2 mg/m3 0.02 ppm

Exposure controls

Engineering controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure. Lethal concentrations may exist in areas with poor ventilation.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove

barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.
Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Foam
Color	Orange
Odor	Odorless
Odor Threshold	No test data available
pH	Not applicable
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	Not applicable
Flash point	**closed cup** -104 °C (-155 °F) *Estimated.*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	No data available
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	1,100 kPa at 55 °C (131 °F) *Supplier*
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.06 *Calculated.*
Water solubility	Insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available

Decomposition temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures.

Possibility of hazardous reactions: Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Acids.

Conditions to avoid: Avoid temperatures above 50 °C
Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Avoid contact with: Acids. Alcohols. Amines. Ammonia. Bases. Metal compounds. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Gastrointestinal irritation.

As product: Single dose oral LD50 has not been determined.

LD50, Rat, > 2,000 mg/kg Estimated.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity
In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. May cause central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). Decreased lung function has been associated with overexposure to isocyanates.

The LC50 has not been determined.,

Skin corrosion/irritation
Prolonged contact may cause moderate skin irritation with local redness.
Material may stick to skin causing irritation upon removal.
May stain skin.

Serious eye damage/eye irritation
May cause eye irritation.
May cause slight temporary corneal injury.

Sensitization
Skin contact may cause an allergic skin reaction.
Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

May cause allergic respiratory reaction.
MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized.
Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest.
Occasionally, breathing difficulties may be life threatening.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Route of Exposure: Inhalation

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.
Contains component(s) which have been reported to cause effects on the following organs in animals:
kidney
Liver.

Carcinogenicity

Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Teratogenicity
In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Reproductive toxicity
Based on information for component(s): May cause harm to breastfed babies.

Mutagenicity
In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity

Component	List	Classification
Paraffin waxes and Hydrocarbon waxes, chlorinated	IARC	Group 2B: Possibly carcinogenic to humans
	US NTP	Reasonably anticipated to be a human carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Acute toxicity to fish
For this family of materials:
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.

Diphenylmethane Diisocyanate, isomers and homologues

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:

LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l
EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Paraffin waxes and Hydrocarbon waxes, chlorinated

Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 0.1 mg/l

Isobutane

Acute toxicity to fish
No relevant data found.

Propane

Acute toxicity to fish
No relevant data found.

Methyl ether

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Poecilia reticulata (guppy), semi-static test, 96 Hour, > 4,000 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, > 4,000 mg/l, OECD Test Guideline 202 or Equivalent

4,4' -Methylenediphenyl diisocyanate

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l
EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

N,N'-Dimorpholinodiethylether

Acute toxicity to fish
Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).
May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 2,150 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia (water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Algae, static test, 72 Hour, > 100 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, Bacteria, static test, 3 Hour, 100 mg/l, activated sludge test (OECD 209)

Persistence and degradability

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Biodegradability: For this family of materials: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Biodegradability: Expected to degrade slowly in the environment.

Diphenylmethane Diisocyanate, isomers and homologues

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

Paraffin waxes and Hydrocarbon waxes, chlorinated

Biodegradability: Expected to degrade slowly in the environment.

Theoretical Oxygen Demand: 2.89 mg/mg

Isobutane

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Theoretical Oxygen Demand: 3.58 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 4.4 d
Method: Estimated.

Propane

Biodegradability: No relevant data found.

Theoretical Oxygen Demand: 3.64 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 8.4 d
Method: Estimated.

Methyl ether

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.08 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals

Atmospheric half-life: 6.4 d
Method: Estimated.

4,4' -Methylenediphenyl diisocyanate

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

N,N'-Dimorpholinodiethylether

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 0 - 10 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.49 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 0.03 d
Method: Estimated.

Bioaccumulative potential

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Bioaccumulation: No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Bioaccumulation: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Diphenylmethane Diisocyanate, isomers and homologues

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Paraffin waxes and Hydrocarbon waxes, chlorinated

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).
Partition coefficient: n-octanol/water(log Pow): 7.4 Estimated.

Isobutane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.76 Measured

Propane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.36 Measured

Methyl ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.10 Measured

4,4' -Methylenediphenyl diisocyanate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

N,N'-Dimorpholinodiethylether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.5 Estimated.

Mobility in soil

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Diphenylmethane Diisocyanate, isomers and homologues

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Paraffin waxes and Hydrocarbon waxes, chlorinated

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient(Koc): > 5000 Estimated.

Isobutane

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 35 Estimated.

Propane

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 24 - 460 Estimated.

Methyl ether

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.29 - 14 Estimated.

4,4' -Methylenediphenyl diisocyanate

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

N,N'-Dimorpholinodiethylether

Potential for mobility in soil is low (Koc between 500 and 2000).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): 784 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Aerosols
UN number	UN 1950
Class	2.1
Packing group	

Classification for SEA transport (IMO-IMDG):

Proper shipping name	AEROSOLS
UN number	UN 1950
Class	2.1
Packing group	
Marine pollutant	Paraffin waxes and Hydrocarbon waxes, chlorinated
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Aerosols, flammable
UN number	UN 1950
Class	2.1
Packing group	

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container

volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute Health Hazard
Chronic Health Hazard
Fire Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Components	**CASRN**
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9
4,4' -Methylenediphenyl diisocyanate	101-68-8

Pennsylvania Worker and Community Right-To-Know Act:
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	**CASRN**
Isobutane	75-28-5
Propane	74-98-6
Methyl ether	115-10-6

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)
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.

16. OTHER INFORMATION

Revision

Identification Number: 101216112 / A001 / Issue Date: 01/04/2016 / Version: 4.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Asphyxiant	Asphyxiant
C	Ceiling
NIOSH REL	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Product name: GREAT STUFF PRO™ Gaps & Cracks Insulating Foam Sealant STW 24oz HC EF 12ct

Issue Date: 01/04/2016

Print Date: 01/07/2016

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: GREAT STUFF PRO™ Gaps & Cracks Insulating Foam Sealant STW 24oz HC EF 12ct

Recommended use of the chemical and restrictions on use
Identified uses: Polyurethane foam.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2030 WILLARD H DOW CENTER
MIDLAND MI 48674-0000
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 800-424-9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Flammable aerosols - Category 2
Gases under pressure - Liquefied gas
Acute toxicity - Category 4 - Inhalation
Skin irritation - Category 2
Eye irritation - Category 2A
Respiratory sensitisation - Category 1
Skin sensitisation - Category 1
Effects on or via lactation
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

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Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Flammable aerosol.
Contains gas under pressure; may explode if heated.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause harm to breast-fed children.
May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention
Obtain special instructions before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Do not spray on an open flame or other ignition source.
Pressurized container: Do not pierce or burn, even after use.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Avoid contact during pregnancy/ while nursing.
Wash 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/ eye protection/ face protection.
In case of inadequate ventilation wear respiratory protection.

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

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

Store locked up.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
Water Reactive

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer	57029-46-6	>= 30.0 - <= 60.0 %
Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer	53862-89-8	>= 5.0 - <= 10.0 %
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	>= 10.0 - <= 30.0 %
Paraffin waxes and Hydrocarbon waxes, chlorinated	63449-39-8	>= 5.0 - <= 10.0 %
Isobutane	75-28-5	>= 3.0 - <= 7.0 %
Propane	74-98-6	>= 1.0 - <= 5.0 %
Methyl ether	115-10-6	>= 1.0 - <= 5.0 %
4,4' -Methylenediphenyl diisocyanate	101-68-8	>= 7.0 - <= 13.0 %
N,N'-Dimorpholinodiethylether	6425-39-4	>= 0.5 - <= 5.0 %

Note
Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.

4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome). Repeated excessive exposure may aggravate preexisting lung disease. Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Although cholinesterase depression has been reported with this material, it is not of benefit in determining exposure and need not be considered in the treatment of persons exposed to the material. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire.

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Hydrogen cyanide.

Unusual Fire and Explosion Hazards: Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Dense smoke is produced when product burns.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Evacuate area. Only trained and properly protected personnel must be involved in clean-up operations. Keep personnel out of low areas. Keep personnel out of confined or poorly ventilated areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. For large spills, warn public of downwind explosion hazard. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to section 7, Handling, for additional precautionary measures.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Ground and bond all containers and handling equipment. Isolate area until gas has dispersed. Use non-sparking tools in cleanup operations. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Collect in suitable and properly labeled containers. Absorb with materials such as: Clay. Dirt. Milsorb®. Sand. Sawdust. Vermiculite. See Section 10 for more specific information. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Keep away from heat, sparks and flame. Avoid contact with eyes. Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Avoid breathing vapor. Wash thoroughly after handling. Keep container closed. Use only with adequate ventilation. Keep out of reach of children. No smoking, open flames or sources of ignition in handling and storage area. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Contents under pressure. Do not puncture or incinerate container. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Do not enter confined spaces unless adequately ventilated. Never use air pressure for transferring product. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Minimize sources of ignition, such as static build-up, heat, spark or flame. Store in a dry place. See Section 10 for more specific information.

Storage stability

Storage temperature:	Shelf life: Use within
49 °C (120 °F)	12 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Isobutane	ACGIH	STEL	1,000 ppm
Propane	ACGIH		Asphyxiant
	OSHA Z-1	TWA	1,800 mg/m3 1,000 ppm
Methyl ether	US WEEL	TWA	1,000 ppm
4,4' -Methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm
	OSHA Z-1	C	0.2 mg/m3 0.02 ppm
	NIOSH REL	TWA	0.05 mg/m3 0.005 ppm
	NIOSH REL	C	0.2 mg/m3 0.02 ppm

Exposure controls

Engineering controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure. Lethal concentrations may exist in areas with poor ventilation.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove

barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Viton. Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Foam
Color	Orange
Odor	Odorless
Odor Threshold	No test data available
pH	Not applicable
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	Not applicable
Flash point	**closed cup** -104 °C (-155 °F) *Estimated.*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	No data available
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	1,100 kPa at 55 °C (131 °F) *Supplier*
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.06 *Calculated.*
Water solubility	Insoluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available

Decomposition temperature	No test data available
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7. Unstable at elevated temperatures.

Possibility of hazardous reactions: Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Acids.

Conditions to avoid: Avoid temperatures above 50 °C
Elevated temperatures can cause container to vent and/or rupture. Exposure to elevated temperatures can cause product to decompose.

Incompatible materials: Avoid contact with: Acids. Alcohols. Amines. Ammonia. Bases. Metal compounds. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Gastrointestinal irritation.

As product: Single dose oral LD50 has not been determined.

LD50, Rat, > 2,000 mg/kg Estimated.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity
In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. May cause central nervous system depression. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). Decreased lung function has been associated with overexposure to isocyanates.

The LC50 has not been determined.,

Skin corrosion/irritation
Prolonged contact may cause moderate skin irritation with local redness.
Material may stick to skin causing irritation upon removal.
May stain skin.

Serious eye damage/eye irritation
May cause eye irritation.
May cause slight temporary corneal injury.

Sensitization
Skin contact may cause an allergic skin reaction.
Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

May cause allergic respiratory reaction.
MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized.
Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest.
Occasionally, breathing difficulties may be life threatening.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Route of Exposure: Inhalation

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.
Contains component(s) which have been reported to cause effects on the following organs in animals:
kidney
Liver.

Carcinogenicity

Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Teratogenicity
In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Reproductive toxicity
Based on information for component(s): May cause harm to breastfed babies.

Mutagenicity
In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

Carcinogenicity

Component	List	Classification
Paraffin waxes and Hydrocarbon waxes, chlorinated	IARC	Group 2B: Possibly carcinogenic to humans
	US NTP	Reasonably anticipated to be a human carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Acute toxicity to fish
For this family of materials:
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.

Diphenylmethane Diisocyanate, isomers and homologues

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:

LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l
EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Paraffin waxes and Hydrocarbon waxes, chlorinated

Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 0.1 mg/l

Isobutane

Acute toxicity to fish
No relevant data found.

Propane

Acute toxicity to fish
No relevant data found.

Methyl ether

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Poecilia reticulata (guppy), semi-static test, 96 Hour, > 4,000 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, > 4,000 mg/l, OECD Test Guideline 202 or Equivalent

4,4' -Methylenediphenyl diisocyanate

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
Based on information for a similar material:
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
Based on information for a similar material:
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
Based on information for a similar material:
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
Based on information for a similar material:
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), Based on information for a similar material:, 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l
EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

N,N'-Dimorpholinodiethylether

Acute toxicity to fish
Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).
May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 2,150 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia (water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Algae, static test, 72 Hour, > 100 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, Bacteria, static test, 3 Hour, 100 mg/l, activated sludge test (OECD 209)

Persistence and degradability

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Biodegradability: For this family of materials: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Biodegradability: Expected to degrade slowly in the environment.

Diphenylmethane Diisocyanate, isomers and homologues

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

Paraffin waxes and Hydrocarbon waxes, chlorinated

Biodegradability: Expected to degrade slowly in the environment.

Theoretical Oxygen Demand: 2.89 mg/mg

Isobutane

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Theoretical Oxygen Demand: 3.58 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 4.4 d
Method: Estimated.

Propane

Biodegradability: No relevant data found.

Theoretical Oxygen Demand: 3.64 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 8.4 d
Method: Estimated.

Methyl ether

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.08 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals

Atmospheric half-life: 6.4 d
Method: Estimated.

4,4' -Methylenediphenyl diisocyanate

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

N,N'-Dimorpholinodiethylether

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 0 - 10 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.49 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 0.03 d
Method: Estimated.

Bioaccumulative potential

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

Bioaccumulation: No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

Bioaccumulation: In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Diphenylmethane Diisocyanate, isomers and homologues

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Paraffin waxes and Hydrocarbon waxes, chlorinated

Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).
Partition coefficient: n-octanol/water(log Pow): 7.4 Estimated.

Isobutane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.76 Measured

Propane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 2.36 Measured

Methyl ether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.10 Measured

4,4' -Methylenediphenyl diisocyanate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

N,N'-Dimorpholinodiethylether

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.5 Estimated.

Mobility in soil

Polymethylenepolyphenylisocyanate, propoxylated glycerin polymer

No relevant data found.

Polymethylenepolyphenyl polyisocyanate, polypropyleneglycol copolymer

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Diphenylmethane Diisocyanate, isomers and homologues

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Paraffin waxes and Hydrocarbon waxes, chlorinated

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient(Koc): > 5000 Estimated.

Isobutane

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 35 Estimated.

Propane

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 24 - 460 Estimated.

Methyl ether

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.29 - 14 Estimated.

4,4' -Methylenediphenyl diisocyanate

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

N,N'-Dimorpholinodiethylether

Potential for mobility in soil is low (Koc between 500 and 2000).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): 784 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Aerosols
UN number	UN 1950
Class	2.1
Packing group	

Classification for SEA transport (IMO-IMDG):

Proper shipping name	AEROSOLS
UN number	UN 1950
Class	2.1
Packing group	
Marine pollutant	Paraffin waxes and Hydrocarbon waxes, chlorinated
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Aerosols, flammable
UN number	UN 1950
Class	2.1
Packing group	

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container

volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute Health Hazard
Chronic Health Hazard
Fire Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Components	**CASRN**
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9
4,4' -Methylenediphenyl diisocyanate	101-68-8

Pennsylvania Worker and Community Right-To-Know Act:
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	**CASRN**
Isobutane	75-28-5
Propane	74-98-6
Methyl ether	115-10-6

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)
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.

16. OTHER INFORMATION

Revision

Identification Number: 101216112 / A001 / Issue Date: 01/04/2016 / Version: 4.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Asphyxiant	Asphyxiant
C	Ceiling
NIOSH REL	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET

1. Identification

Product identifier **Gray Pipe Joint Compound**

Other means of identification

SDS number 1703E

Synonyms Part Numbers: 31226, 31227, 31228, 32235, 31236, 48005, 48324

Recommended use Pipe Joint Compound for Threaded Metal 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 Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Calcium carbonate	1317-65-3	60-75
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	20-30
Canola Oil, Polymd., Oxidized	129828-25-7	1-5
Crystalline silica (Quartz)	14808-60-7	<0.8

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

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. 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	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	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	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	The product is immiscible with water and will sediment in water systems. Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: 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	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. 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	Form
Calcium carbonate (CAS 1317-65-3)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	PEL	5 mg/m3	Mist.
		2000 mg/m3 500 ppm	

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline silica (Quartz) (CAS 14808-60-7)	TWA	0.3 mg/m3	Total dust.
		0.1 mg/m3	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Crystalline silica (Quartz) (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	TWA	5 mg/m3	Inhalable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
Crystalline silica (Quartz) (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls 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.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations 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 Liquid paste.

Color Gray.

Odor Odorless

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point	> 212.0 °F (> 100.0 °C)
Evaporation rate	Not available.
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	Not available.
Vapor density	< 1
Relative density	1.75
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	20000 cP
Other information	
VOC (Weight %)	11 g/l

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	Contact with incompatible materials.
Incompatible materials	Acids. Fluorine.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary 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 In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

IARC Monographs. Overall Evaluation of Carcinogenicity

Crystalline silica (Quartz) (CAS 14808-60-7)	1 Carcinogenic to humans.
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)	3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Crystalline silica (Quartz) (CAS 14808-60-7)	Known To Be Human Carcinogen.

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 Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

Further information This product has no known adverse effect on human health.

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.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

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.

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

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations

All components are on the U.S. EPA TSCA Inventory List.
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
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.

US state regulations

US. Massachusetts RTK - Substance List

Calcium carbonate (CAS 1317-65-3)
Crystalline silica (Quartz) (CAS 14808-60-7)
Distillates (petroleum), hydrotreated heavy naphthenic (CAS 64742-52-5)

US. New Jersey Worker and Community Right-to-Know Act

Calcium carbonate (CAS 1317-65-3)
Crystalline silica (Quartz) (CAS 14808-60-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Calcium carbonate (CAS 1317-65-3)
Crystalline silica (Quartz) (CAS 14808-60-7)

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Crystalline silica (Quartz) (CAS 14808-60-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	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 05-February-2015

Revision date -

Version # 01

HMIS® ratings Health: 0
Flammability: 0
Physical hazard: 0

Disclaimer 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. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

Revision Date 11-Jun-2015 **Version** 3

1. IDENTIFICATION

Product identifier
Product Name HIGH TACK SPRAY-A-GASKET SEALANT 9 OZ.

Other means of identification
Product Code 80065
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Aerosol Sealant
Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address
ITW Permatex
10 Columbus Blvd.
Hartford, CT 06106 USA

Distributor
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6
Telephone: (800) 924-6994

Company Phone Number 1-87-Permatex
(877) 376-2839

24 Hour Emergency Phone Number Chem-Tel: 800-255-3924
International Emergency:
00+1+ 813-248-0585
Contract Number: MIS0003453

E-mail address mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Flammable aerosols	Category 1

Label elements

Emergency Overview

Danger

Causes skin irritation
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
May be fatal if swallowed and enters airways
Extremely flammable aerosol

Appearance Red **Physical state** Liquid **Odor** Solvent

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting
In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage
Store locked up
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).
The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1 % w/w 1,3-butadiene (EINECS No. 203-450-8). If the substance is not classified as a carcinogen or mutagen, at least the S-phrases (2-)9-16 (Table 3.2) should apply. This note applies only to certain complex oil-derived substances in Part 3

3. COMPOSITION/INFORMATION ON INGREDIENTS

substance(s)

Chemical Name	CAS No	Weight-%	Trade Secret
PETROLEUM GASES, LIQUEFIED, SWEETENED	68476-86-8	30 - 60	*
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPH.	64742-89-8	10 - 30	*
N-HEXANE	110-54-3	10 - 30	*
ETHYL ACETATE	141-78-6	1 - 5	*
ACETONE	67-64-1	1 - 5	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General advice Get medical advice/attention if you feel unwell.

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.

Skin contact IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion IF SWALLOWED:. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
Extremely flammable. Heating causes rise in pressure with risk of bursting.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Take precautionary measures against static discharges. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity).

Incompatible materials Strong oxidizing agents, Alkalis

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
N-HEXANE 110-54-3	TWA: 50 ppm S*	TWA: 500 ppm TWA: 1800 mg/m^3 (vacated) TWA: 50 ppm (vacated) TWA: 180 mg/m^3	IDLH: 1100 ppm TWA: 50 ppm TWA: 180 mg/m^3
ETHYL ACETATE 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m^3 (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m^3	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m^3

ACETONE 67-64-1	STEL: 750 ppm TWA: 500 ppm	TWA: 1000 ppm TWA: 2400 mg/m³ (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m³ (vacated) STEL: 2400 mg/m³ The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors (vacated) STEL: 1000 ppm	IDLH: 2500 ppm TWA: 250 ppm TWA: 590 mg/m³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Red
Odor	Solvent
Odor threshold	No information available

Property	**Values**	**Remarks • Method**
pH	Does not apply	
Melting point / freezing point	No information available	
Boiling point / boiling range	> 38 °C / 100 °F	
Flash point	< -18 °C / < 0 °F	Gives a flame projection at full valve opening or flashback at any degree of valve opening
Evaporation rate	>1	Ether = 1
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	Not determined	
Vapor density	>1	Air = 1
Relative density	0.755-0.765	
Water solubility	Negligible	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	

Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	64.7%
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Heat, flames and sparks.

Incompatible materials
Strong oxidizing agents, Alkalis

Hazardous Decomposition Products
Carbon oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	May be harmful by inhalation.
Eye contact	Contact with eyes may cause irritation. May cause redness and tearing of the eyes.
Skin contact	May cause skin irritation and/or dermatitis.
Ingestion	Harmful if swallowed. Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPH. 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
N-HEXANE 110-54-3	= 25 g/kg (Rat)	= 3000 mg/kg (Rabbit)	= 48000 ppm (Rat) 4 h
ETHYL ACETATE 141-78-6	= 5620 mg/kg (Rat)	> 18000 mg/kg (Rabbit) > 20 mL/kg (Rabbit)	-
ACETONE 67-64-1	= 5800 mg/kg (Rat)	-	= 50100 mg/m^3 (Rat) 8 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Germ cell mutagenicity No information available.
Carcinogenicity No information available.
Reproductive toxicity Product is or contains a chemical which is a known or suspected reproductive hazard.
Target Organ Effects Central nervous system, Eyes, Peripheral Nervous System (PNS), Respiratory system, Skin.

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 53308 mg/kg
ATEmix (dermal) 5950 mg/kg
ATEmix (inhalation-dust/mist) 4008 mg/l
ATEmix (inhalation-vapor) 192000 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

45 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPH. 64742-89-8	4700: 72 h Pseudokirchneriella subcapitata mg/L EC50	-	-
N-HEXANE 110-54-3	-	2.1 - 2.98: 96 h Pimephales promelas mg/L LC50 flow-through	1000: 24 h Daphnia magna mg/L EC50
ETHYL ACETATE 141-78-6	3300: 48 h Desmodesmus subspicatus mg/L EC50	352 - 500: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 220 - 250: 96 h Pimephales promelas mg/L LC50 flow-through 484: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	560: 48 h Daphnia magna mg/L EC50 Static
ACETONE 67-64-1	-	4.74 - 6.33: 96 h Oncorhynchus mykiss mL/L LC50 6210 - 8120: 96 h Pimephales promelas mg/L LC50 static 8300: 96 h Lepomis macrochirus mg/L LC50	10294 - 17704: 48 h Daphnia magna mg/L EC50 Static 12600 - 12700: 48 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Chemical Name	Partition coefficient
PETROLEUM GASES, LIQUEFIED, SWEETENED 68476-86-8	<=2.8
ETHYL ACETATE 141-78-6	0.6
ACETONE 67-64-1	-0.24

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging Do not reuse container.

US EPA Waste Number D001

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
ETHYL ACETATE 141-78-6	-	Included in waste stream: F039	-	U112
ACETONE 67-64-1	-	Included in waste stream: F039	-	U002

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
N-HEXANE 110-54-3	Toxic Ignitable
ETHYL ACETATE 141-78-6	Toxic Ignitable
ACETONE 67-64-1	Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no UN 1950
Proper shipping name: Aerosols, Limited Quantity (LQ)
Hazard Class 2.1

IATA

UN/ID no ID 8000
Proper shipping name: Consumer commodity
Hazard Class 9

IMDG

UN/ID no UN 1950
Proper shipping name: Aerosols, Limited Quantity (LQ)
Hazard Class 2.1

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS Not Listed.
IECSC Complies
KECL Complies
PICCS Complies
AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
N-HEXANE - 110-54-3	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N-HEXANE 110-54-3	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
ETHYL ACETATE 141-78-6	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ
ACETONE 67-64-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
N-HEXANE 110-54-3	X	X	X
ACETONE 67-64-1	X	X	X
ETHYL ACETATE 141-78-6	X	X	X

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

NFPA	**Health hazards** 2	**Flammability** 4	**Instability** 0	-
HMIS	**Health hazards** 2	**Flammability** 4	**Physical hazards** 0	**Personal protection** B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 11-Jun-2015

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

KELKEN CONSTRUCTION SYSTEMS

Safety Data Sheet

SECTION 1 - Product and Company Identification	**Effective Date: 5/20/15**
Manufacturer: Advance Coatings Company **Produced for:** Kelken Construction Systems Trade Name**: KELIGROUT Quarts** Chemical Name: Filled Unsaturated Polyester Resin	Emergency Phone 732-416-6730 (Kelken Construction) 800-424-9300 (Chemtrec 24 Hr. Emer.) **Prepared By:** Chuncai Yang

Section 2 - Hazards Identification				**Danger!** 
HMIS Rating:	**Health - 2**	**Flammability - 3**	**Reactivity - 1**	
NFPA Codes:	**Health - 2**	**Flammability - 3**	**Reactivity - 1**	

Hazard Statements:	**Precautionary Statements:** No Smoking
Harmful if inhaled	Read and understand all safety precautions & special instructions
Causes skin irritation and serious eye irritation	Use only outdoors or in well-ventilated areas and use protective
May cause cancer and/or respiratory irritation	equipment/clothing/gloves as required & eye protection
Prolonged/repeated exposure may cause hearing damage	Do not breathe mist, vapors, spray Store in a well-ventilated place
Harmful to aquatic life with long lasting effects	Do not eat, drink or smoke and keep away from heat/sparks/open flames
Flammable liquid and vapor	Gound/bond containers & keep tightly closed
	Keep cool and avoid release to the environment
	Keep container closed and away from heat/spark/open flames/hot surfaces

Section 3 - Composition/Information on Ingredients

Hazardous Component	**CAS #**		**Exposure Limits**	**% by Wt.**	
Polyester Resin	Proprietary		None assigned	28 ± 2%	
Styrene Monomer	100-42-5		50.0 ppm ACGIH TWA 100.0 ppm ACGIH STEL	18 ± 2%	
Pigments	Proprietary		None assigned	54 ± 2%	

Section 4 - First Aid Measures

Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Eyes: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse.

Ingestion: Call a physician or poison control center immediately. Induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person.

Additional protective Measures: First Aid Facilities: Eye bath, safety shower, washing facilitation. Advice to Physicians: None Known

Section 5 - Fire Fighting Measures Flammable Liquid Class 1C.

Extinguishing Media: Water spray, dry chemical, Carbon Dioxide, Foam. **Protective Equipment:** Wear self-contained breathing apparatus and protective clothing. **Special Exposure Hazard:** Containers can build pressure if exposed to heat or fire. The heat may cause polymerization which could cause violent rupture of closed drums. Vapors from the product may form explosive mixtures with air.

Special Fire Fighting Procedures: Use water spray to keep fire-exposed containers cool.

Section 6 - Accidental Release Measures **Personal Protection:** Wear protective clothing.

Leaks and Spills: Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. For large spills; flush spill area with water spray. Prevent runoff from entering drains, sewers or streams.

Section 7 - Handling and Storage

Handling: Material is a combustible liquid; keep away from heat, open flame, oxidizers, and other ignition sources. Avoid breathing vapors. Use protective equipment when handling.

Storage: Store with adequate ventilation and out of direct sunlight. Bond and ground containers of this product to prevent static sparks. Store away from oxidizing agents. Always use the oldest lot first.

Section 8 - Exposure Controls/Personal Protection

Engineering Control: Local exhaust ventilation should be used to control the emissions of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations. **Respiratory Protection:** If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. Respirator Type**:** Organic vapor. If respirators are used, a

program should be instituted to assure compliance w/OSHA Standard 29 CFR 190.134. **Eye Protection:** Wear safety glasses w/side shields or goggles. **Ventilation Required:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.

Section 9 - Physical and Chemical Properties

Appearance: Viscous liquid	Odor: Styrene odor	Physical State: Liquid
pH: Not determined	Boiling Point: 295°F	Freezing Point: Not determined
Flash Point: 89°F TCC	Vapor Pressure: 4.50 mm Hg @ 68°F	Oxidizing Properties: Reacts with strong oxidizing agents
Solubility in Water: Negligible	Density: 15.4 lb./gal.	Specific Gravity: 1.77 ± 0.2
Volatile by Weight: 18%	Viscosity 15,000 cps @ 72°F	Explosion Limits: LEL 1.1% by volume UEL 6.1% by volume
Partition Coefficient: Not Determined	Evaporation Rate: (Butyl Acetate = 1): Slower than Butyl Acetate	

Section 10 - Stability and Reactivity	Chemical Stability: Stable	Conditions to Avoid: Heat and open flame
Incompatibility with other materials: Avoid oxidizing agents		Hazardous Polymerization: May occur

Hazardous Decomposition Products: Carbon Dioxide, Carbon Monoxide and Organic Acids

Section 11 - Toxicological Information

Material	LD50.RAT.Oral
Styrene	>5g/kg

Eye Effects: Mildly irritating, Skin Effects: Mildly irritating, Ingestion Effects: May cause nausea

Inhalation Effects: Prolonged breathing of vapors can cause headache

Signs and Symptoms of Chronic Overexposure: No known chronic health effects have been observed w/normal use of this product.

Potential Health Effects/Health Hazard Identification

Acute Exposure: Eye - causes irritation, Skin - causes irritation, Ingestion - may cause irritation to the gastrointestinal track, Inhalation - mucous membrane irritant.

Chronic Exposure: Repeated exposure to high concentrations of styrene vapor may cause nausea, loss of appetite, CNS depression, liver and kidney damage.

Other Hazards: Known Synergist - none known, Explosion Hazard - empty containers are dangerous; they still may contain flammable vapors. Keep away from heat, sparks, or flames. Fire Hazard - classified as flammable liquid. Corrosion Hazard - not corrosive.

Ecotoxicity: The styrene in this product is expected to be toxic to aquatic organisms.

Persistence: The organic portion of this product is expected to biodegrade readily.

Section 13 - Disposal Considerations

Disposal: Discharge, treatment, or disposal may be subject to national, state and local laws. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14 - Transport Information

DOT Shipping Information: Single unit: consumer commodity, ORM-D

Bulk, UN1866, resin solution, 3 PG III

IATA/ICAO Shipping Name: Single unit/Bulk: UN1866, resin solution, 3 PG III

Section 15 - Regulatory Information

U.S. Federal Regulations: Toxic substances control act (TSCA) Inventory - Yes

US DOT Regulations: Hazard class: Adhesive containing a flammable liquid, ID Number: UN 1866, Packing Grp: III

Section 16. Other Information

Workers using this product should read and understand this SDS and be trained in the proper use of this material. This SDS has been prepared in accordance with the federal OSHA Hazard Communication Standard.

Information herein is accurate to the best of our knowledge. Suggestions are made without warranty or guarantee of results. Before using, the user should determine the suitability of the products for his intended use, and the user assumes the risk and liability in connection therewith. We do not suggest violation of any existing patents or give permission to practice any patented invention without license.

KELKEN CONSTRUCTION SYSTEMS

Safety Data Sheet

SECTION 1 - Product and Company Identification	Effective Date: 5/20/15
Manufacturer: Advance Coatings Company **Produced for:** Kelken Construction Systems Trade Name: **KELIGROUT 101-P** Chemical Name: Filled Unsaturated Polyester Resin	Emergency Phone 732-416-6730 (Kelken Construction Systems) 800-424-9300 (Chemtrec 24 Hr. Emer.) **Prepared By:** Chuncai Yang

Section 2 - Hazards Identification				Danger!
HMIS Rating:	**Health - 2**	**Flammability - 3**	**Reactivity - 1**	
NFPA Codes:	**Health - 2**	**Flammability - 3**	**Reactivity - 1**	

Hazard Statements:	Precautionary Statements:
Harmful if inhaled	Read and understand all safety precautions & special instructions
Causes skin irritation and serious eye irritation	Use only outdoors or in well-ventilated areas and use protective
May cause cancer and/or respiratory irritation	equipment/clothing/gloves as required & eye protection
Prolonged/repeated exposure may cause hearing damage	Do not breathe mist, vapors, spray Store in well-ventilated place
Harmful to aquatic life with long lasting effects	Do not eat, drink or smoke and keep away from heat/sparks/open flames
Flammable liquid and vapor	Gound/bond containers & keep tightly closed
	Keep cool and avoid release to the environment
	Keep container closed and away from heat/spark/open flames/hot surfaces

Section 3 - Composition/Information on Ingredients

Hazardous Component	CAS #		Exposure Limits	% by Wt.	
Polyester Resin	Proprietary		None assigned	28 ± 2%	
Styrene Monomer	100-42-5		50.0 ppm ACGIH TWA 100.0 ppm ACGIH STEL	18 ± 2%	
Pigments	Proprietary		None assigned	54 ± 2%	

Section 4 - First Aid Measures

Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Eyes: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse.

Ingestion: Call a physician or poison control center immediately. Induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person.

Additional protective Measures: First Aid Facilities: Eye bath, safety shower, washing facilitation. Advice to Physicians: None Known

Section 5 - Fire Fighting Measures Flammable Liquid. Flammability Class 1C

Extinguishing Media: Water spray, dry chemical, Carbon Dioxide, Foam. **Protective Equipment:** Wear self-contained breathing apparatus and protective clothing. **Special Exposure Hazard:** Containers can build pressure if exposed to heat or fire. The heat may cause polymerization which could cause violent rupture of closed drums. Vapors from the product may form explosive mixtures w/air.

Special Fire Fighting Procedures: Use water spray to keep fire-exposed containers cool.

Section 6 - Accidental Release Measures

Leaks and Spills: Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. For large spills; flush spill area with water spray. Prevent runoff from entering drains, sewers or streams.

Personal Protection: Wear protective clothing.

Section 7 - Handling and Storage

Handling: Material is a combustible liquid; keep away from heat, open flame, oxidizers, and other ignition sources. Avoid breathing vapors. Use protective equipment when handling.

Storage: Store indoors with adequate ventilation and out of direct sunlight. Store away from oxidizing agents. Always use oldest lots first. Material should last 6 months at not over 75°F.

Section 8 - Exposure Controls/Personal Protection

Engineering Control: Local exhaust ventilation should be used to control the emissions of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations. **Respiratory Protection:** If engineering controls do not

maintain airborne concentrations to an acceptable level, an approved respirator must be worn. **Respirator Type:** Organic vapor. If respirators are used, a program should be instituted to assure compliance w/OSHA Standard 29 CFR 1910.134. **Eye Protection:** Wear safety glasses w/side shields, or goggles. **Ventilation Required:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from lg. surfaces, spraying, heating, etc. **Skin Protection**: Wear impervious gloves, boots, and protective clothing appropriate for the risk of exposure.

Section 9 - Physical and Chemical Properties

Appearance: Viscous liquid	Odor: Styrene odor	Physical State: Liquid	pH: Not determined
Boiling Point: 295°F	Freezing Point: Not determined	Vapor Pressure: 4.50 mm Hg @ 68°F	
Flash Point: Before Cure: Pigments 54% noncombustible, Polyester Resin 28% over 380°F, Styrene Monomer 18% 89°F TCC **After Cure: over 380°F**		Solubility in Water: Negligible Density: 15.4 lb./gal. Specific Gravity: 1.77 ± 0.02	
Oxidizing Properties: Reacts with strong oxidizing agents		Partition Coefficient: Not Determined	
Volatile by Weight: 18%	Viscosity: 200,000 cps @ 72°F	Evap. Rate: (Butyl Acetate=1): Slower than Butyl Acetate	
Explosion Limits: LEL 1.1% by volume UEL 6.1% by volume			

Section 10 - Stability and Reactivity Chemical Stability: Unstable in extreme heat such as in fire. Conditions to Avoid: Heat and open flame. Incompatibility with other materials: Avoid oxidizing agents. Hazardous Decomposition Products: Carbon Dioxide, Carbon Monoxide and Organic Acids. Hazardous Polymerization: May occur

Section 11 - Toxicological Information

Material	LD50-RAT.Oral	
Styrene	>5g/kg	Eye Effects: Mildly irritating, Skin Effects: Mildly irritating, Inhalation Effect: Prolonged breathing of vapors can cause headaches. Ingestion Effects: May cause nausea.

Signs and Symptoms of Chronic Overexposure: No known chronic health effects have been observed with normal use of this product. Potential Health Effects/Health Hazard Identification: **Acute Exposure:** Eye - causes irritation, Skin - causes irrigation, Ingestion - May cause irritation to the gastrointestinal track, Inhalation - Mucous membrane irritant, **Chronic Exposure**: Long-term exposure to excess styrene vapor may cause nausea, loss of appetite, CNS depression and general weakness. **Other Hazards:** Known Synergist - None Known, **Explosion Hazard**: Empty containers are dangerous. They still may contain flammable vapors. Keep away from heat, sparks, or flames. **Fire Hazard:** Classified as Flammable Liquid. **Corrosion Hazard**: Not corrosive

Section 12 - Ecological Information Ecotoxicity:

Ecotoxicity: The styrene in this prod. is expected to be toxic to aquatic organisms. Persistence: This product is expected to biodegrade.

Section 13 - Disposal Considerations

Disposal: Discharge, treatment, or disposal may be subject to national, state and local laws. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14 - Transport Information United Nations Number: UN 1866
Packing Group: PG III

Section 15 - Regulatory Information

U.S. Federal Regulations: Toxic substances control act (TSCA) Inventory - Yes
US DOT Regulations: Hazard class: Adhesive containing a flammable liquid, ID Number: UN 1866, Packing Grp: III Flammable Liquid

Section 16. Other Information

Workers using this product should read and understand this SDS and be trained in the proper use of this material.
This SDS has been prepared in accordance w/the federal OSHA Hazard Communication Standard.
Information herein is accurate to the best of our knowledge. Suggestions are made without warranty or guarantee of results. Before using, the user should determine this suitability of the products for his intended use, and the user assumes the risk and liability in connection therewith. We do not suggest violation of any existing patents or give permission to practice any patented invention without license.

KOLD-FLO® Pourable Crack Filler

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : KOLD-FLO® Pourable Crack Filler

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Unique Paving Material Corporation
3993 East 93rd Street
Clevleand, 44106 - United States of America
T (216) 341-7711
http://www.uniquepavingmaterials.com/

1.4. Emergency telephone number

Emergency number : (800) 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2 H315
Eye Irrit. 2A H319
Carc. 1B H350

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :

GHS07 GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H315 - Causes skin irritation
H319 - Causes serious eye irritation
H350 - May cause cancer

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P264 - Wash hands thoroughly after handling
P280 - Wear personal protective equipment
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
P308+P313 - If exposed or concerned: Get medical advice/attention
P321 - Specific treatment (see first aid measures on this label)
P332+P313 - If skin irritation 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
P405 - Store locked up
P501 - Dispose of contents/container to meet all regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

10 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
15 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
5 percent of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Petroleum Asphalt Base	(CAS No) 8052-42-4	44.775 - 54.945	Carc. 1B, H350
Filler Clay	(CAS No) Trade Secret	13 - 20	Skin Irrit. 2, H315 Eye Irrit. 2A, H319
POTASSIUM HYDROXIDE	(CAS No) 1310-58-3	<= 0 .08	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Give oxygen or artificial respiration if necessary. Call a doctor. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion : MAY BE FATAL IF SWALLOWED. Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis. Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

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

Symptoms/injuries : Causes serious eye irratation.

Symptoms/injuries after inhalation : Inhaling this product can result in respiratory tract irritation, leading to mild to severe irritation of the nose, throat and lungs. Shortness of breath.

Symptoms/injuries after ingestion : Vomiting: prevent asphyxia/aspiration pneumonia.

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

No additional information available

SECTION 5: Firefighting measures

5.1. 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. Special hazards arising from the substance or mixture

Reactivity : Stable under normal conditions. Corrosive vapors.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

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

Special protective equipment for fire fighters : Full face piece respirator.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Never use a welding or cutting torch on or near drums of this material (even empty drums) because the material can ignite explosively.

6.1.1. For non-emergency personnel

Protective equipment : Wear personal protective equipment.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : 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

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

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : 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 vapor. Do not breathe fumes. Avoid contact during pregnancy/while nursing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Do not store these material for more than six months before using. Empty containers may contain enough residue to emit vapors or to be combustible. Dispose of used containers according to local, state and federal requirements. Protect from freezing. Comply with applicable regulations.

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 bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

KOLD-FLO® Pourable Crack Filler	
ACGIH	Not applicable
OSHA	Not applicable

Petroleum Asphalt Base (8052-42-4)		
ACGIH	ACGIH TWA (mg/m³)	5
OSHA	OSHA PEL (Ceiling) (ppm)	5 ppm as fumes

Filler Clay (Trade Secret)		
ACGIH	Not applicable	
OSHA	Remark (OSHA)	15 mg/m3 total dust, 5mg/m3 Respirable Dust

POTASSIUM HYDROXIDE (1310-58-3)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or face shield.

Skin and body protection : Provide readily accessible eye wash stations and safety showers. Wear suitable protective clothing.

Respiratory protection	: Wear appropriate mask.
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	: Liquid
Appearance	: Dark, Viscous Liquid.
Color	: Black brown Dark Gray
Odor	: characteristic Tar, Petroleum
Odor threshold	: No data available
pH	: 11.3 - 11.8
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 212 °F
Flash point	: > 300 °F Cleveland Tag Open Cup Method
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: Solubility in water of component(s) of the mixture : • : 0.4 % • : • POTASSIUM HYDROXIDE:
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions. Corrosive vapors.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Avoid contact with strong acids, oxidizing agents and petroleum solvents and soaps to preserve the quality of this material. Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates: Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified

Petroleum Asphalt Base (8052-42-4)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 94.4 ml/m³

Filler Clay (Trade Secret)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg

POTASSIUM HYDROXIDE (1310-58-3)	
LD50 oral rat	1.23 g/kg
ATE US (oral)	1230.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
pH: 11.3 - 11.8

Serious eye damage/irritation : Causes serious eye irritation.
pH: 11.3 - 11.8

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : May cause cancer.

Petroleum Asphalt Base (8052-42-4)	
IARC group	2A - Probably carcinogenic to humans, 2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : Inhaling this product can result in respiratory tract irritation, leading to mild to severe irritation of the nose, throat and lungs. Shortness of breath.

Symptoms/injuries after ingestion : Vomiting: prevent asphyxia/aspiration pneumonia.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

KOLD-FLO® Pourable Crack Filler	
Persistence and degradability	Not established.

Petroleum Asphalt Base (8052-42-4)	
Persistence and degradability	Not established.

POTASSIUM HYDROXIDE (1310-58-3)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

KOLD-FLO® Pourable Crack Filler	
Bioaccumulative potential	Not established.

Petroleum Asphalt Base (8052-42-4)	
Bioaccumulative potential	Not established.

POTASSIUM HYDROXIDE (1310-58-3)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer :

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to meet all regulations

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Not Evaluated

Additional information

Other information : No supplementary information available.

ADR

Not Evaluated

Transport by sea

Not Evaluated

Air transport

Not Evaluated

SECTION 15: Regulatory information

15.1. US Federal regulations

Petroleum Asphalt Base (8052-42-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

POTASSIUM HYDROXIDE (1310-58-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Not subject to reporting requirements of the United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

15.2.2. National regulations

15.3. US State regulations

Petroleum Asphalt Base (8052-42-4)
U.S. - New Jersey - Right to Know Hazardous Substance List

POTASSIUM HYDROXIDE (1310-58-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

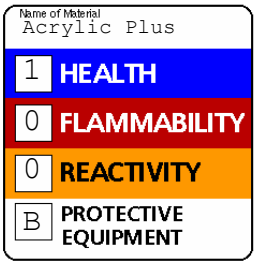
Other information : None.

Full text of H-phrases:

------	Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
------	Carc. 1B	Carcinogenicity Category 1B
------	Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
------	Skin Corr. 1A	Skin corrosion/irritation Category 1A
------	Skin Irrit. 2	Skin corrosion/irritation Category 2
------	H302	Harmful if swallowed
------	H315	Causes skin irritation
------	H319	Causes serious eye irritation
------	H350	May cause cancer

GHS US SDS

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 I – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Latexite® 4gal Acrylic Plus Driveway Revitalizer Filler / Sealer (Blacktop)
Manufacturer Name: Dalton Enterprises, Inc.
Item #: 51766
UPC #: 0 90932 51766 0
Address: 131 Willow Street Cheshire, CT 06410
Package Size: Container size 5gal (liquid inside 4gal)
Telephone Number: (203) 272-3221
24 Hour Emergency Number: (203) 272-3221
U.S. And Canada: (203) 272-3221
Trade Names and Synonyms: Acrylic Copolymer Emulsion
Recommended Use and Restrictions: Filler / Sealer for asphalt pavement

Product Description: Consumer packaged (ready-to-use) Latex•ite® Acrylic Plus Driveway Filler / Sealer is for asphalt surfaces. Proper application of ready-to-use emulsified product as applied presents no degree of hazard to the user. Outdoor use only.

Section II – HAZARDS IDENTIFICATION

Classification

Skin Corrosion/Irritation	Category 2
Serious Eye Damage, Eye Irritation	Category 2
Carcinogenicity	1A

Label Elements

Signal Word: Warning
Hazard Statements:
May cause eye irritation
May cause skin irritation
May cause cancer

GHS Pictogram: 

Precautionary Statements – Prevention
Obtain special instructions before use

Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area

Eyes: Contact may cause irritation.
Skin: Prolonged or repeated contact may cause irritation.
Ingestion: May cause nausea, vomiting and diarrhea.
Inhalation: May cause irritation

Precautionary Statements - Storage
Store locked up
Precautionary Statements - Disposal
Dispose of contents/container in accordance with local regulations.
Hazards not otherwise classified (HNOC)
Not applicable
Unknown Toxicity
0% of the mixture consists of ingredient(s) of unknown toxicity
Other information
No information available
Interactions with Other Chemicals
No information available.

Section III – COMPOSITION

CAS #	Component	% Composition
7732-18-5	Water	10 – 50%
25067-01-0	Vinyl Acrylic Latex	10 – 50%
1317-65-3	Calcium Carbonate	0 – 7 %
14808-60-7	Quartz	0 – 7%
9003-55-8	Rubber	0 – 7%
1333-86-4	Carbon Black (pigment)	0 – 5%

Section IV – FIRST-AID MEASURES

Emergency and First Aid Procedures

General Advice: Present this safety data sheet to the physician in attendance.
Eye Contact: Flush thoroughly with water. If irritation persists, see a physician.

Skin Contact: Clean exposed area thoroughly with soap and water. If irritation persists see a physician.
Ingestion: If swallowed do NOT induce vomiting. Seek medical attention if symptoms develop.
Inhalation: Move to fresh air if symptoms develop. If irritation persists see a physician.
Most Important Symptoms: Possibility of minor eye and skin irritation.
Indication of Immediate Medical Attention and Special Treatment Needed: Treat Symptomatically

Section V – FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical, carbon dioxide, foam and water fog.
Unsuitable Extinguishing Media: N/A
Specific Hazards arising From the Chemical: Combustion may yield oxides of carbon, hydrogen sulfide and sulfur oxides.
Special Protective Equipment and Precautions for Firefighters: Wear full protective clothing, including self-contained breathing apparatus (Positive Pressure/Pressure Demand), helmet, and face mask.

Section VI – ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Avoid skin and eye contact, use proper protective equipment recommended in section 8.
Methods and Materials for Containment and Cleanup: Contain spill and dike with inert material (sand, sawdust, dirt, etc.). Place in closed container for proper disposal. Avoid runoff to waterways and sewers. Dispose of in accordance with local regulations.

Section VII – HANDLING AND STORAGE

Precautions for Safe Handling: Store in a dry area, avoid eye contact and wash thoroughly after handling
Conditions for Safe Storage, Including Incompatibilities: Keep container closed and upright to prevent leakage. Store in a cool, dry, ventilated area. Avoid freezing. Keep container upright to prevent leakage.

Section VIII – EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TWA (mg/m³)	OSHA PEL (TWA) (mg/m3)
Crystalline Silica	0.025 mg/m³	(30)/(%SiO2 + 2) mg/m3 TWA, total dust (250)/(%SiO2 + 5) mppcf TWA, respirable fraction (10)/(%SiO2 + 2) mg/m3 TWA, respirable fraction
Carbon Black	3 mg/m³	3.5 mg/m³

Engineering Controls: Ensure adequate ventilation

Individual Protection Measures

Eyes/Face: Safety goggles
Skin: Gloves
Respiratory: None required if good ventilation is maintained. This product is an emulsified,

encapsulated mixture which greatly reduces the likelihood of exposure to hazardous particles.

Hygienic controls: Wash thoroughly with soap and water before eating or drinking. Wash contaminated clothing.

Section IX – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Black liquid
Physical State: Liquid
Odor: Mild
Odor Threshold: N/A
pH: 6.0 – 7.0
Melting Point: N/A
Boiling Point: 900°F/482°C
Flash Point: N/A
Evaporation Rate: Slower than ether
Flammability: N/A
Upper Explosive Limit: N/A
Lower Explosive Limit: N/A
Vapor Pressure: Nearly equal to water
Vapor Density: Heavier than air
Specific Gravity: 1.354
Solubility In Water: Miscible
Partition Coefficient (n-octanol/water): N/A
Auto Ignition Temperature: N/A
Decomposition Temperature: N/A
Max Voc: < 25g/L

Section X – STABILITY AND REACTIVITY

Reactivity: None known under normal conditions
Stability: Stable
Hazardous Reactions: None known under normal conditions
Conditions to avoid: Keep from freezing and extreme heat
Incompatibility: Strong oxidizers
Hazardous Decomposition Products: Combustion may yield fumes, smoke, carbon monoxide and carbon dioxide.

Section XI – TOXICOLOGICAL INFORMATION

Health Effects

Eye Contact: Minor irritation may result
Skin Contact: Minor irritation may result
Ingestion: Minor irritation may result
Inhalation: Minor irritation may result

Toxicological Effects

Component	CAS #	Acute oral toxicity LD50	Acute dermal toxicity LD50
Carbon Black	1333-86-4	> 8,000 mg/kg (rat)	no data available
Crystalline Silica	14808-60-7	1,300 mg/kg (rat)	no data available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization: Product not known to cause sensitization
Mutagenic Effects: None known

Carcinogenicity: May cause cancer

Component	CAS #	IARC	NTP	OSHA
Carbon Black	1333-86-4	2B	Not Listed	
Crystalline Silica	14808-60-7	Group 1	Known	

Crystalline silica in respirable form is carcinogenic to humans. The crystalline silica present is not respirable as this product is supplied.

Reproductive Toxicity: No toxicity known
STOT – Single Exposure: None Known
STOT – Repeated Exposure: None Known
Chronic Toxicity: No Known Effect
Target Organ Effects: Eyes, Skin.
Aspiration Hazard: Based on available data, the classification criteria are not met.

Numerical Measures of Toxicity
No data available

Section XII – ECOLOGICAL INFORMATION

Ecological Fate: No data available
Persistence/Degradability: No data available
Bioaccumulation Potential: No data available
Mobility in Soil: No data available
Other Adverse Effects: No data available

Analysis for ecological effects has not been conducted.

Section XIII – DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of in accordance with Local, State, and Federal regulations.

Section XIV – TRANSPORT INFORMATION

DOT
Proper Shipping Name: Not regulated
UN Number: N/A
Hazard Class: N/A

Section XV – REGULATORY INFORMATION

International Inventories
TSCA: Complies

US Federal Regulations

SARA 313: This product contains no chemicals subject to Annual Release Reporting Requirements under SARA Title III, Section 313 (40 CFR 372)

SARA Hazard Category (311/312): Non Hazardous

CWA (Clean Water Act): This product contains no chemicals regulated by the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA: This product contains no substances regulated by the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

US State Regulations

Component Name	CAS	State Right to Know		
		MA	NJ	PA
Water	7732-18-5	no	no	no
Calcium Carbonate	1317-65-3	yes	yes	yes
Quartz	14808-60-7	yes	yes	yes
Rubber	9003-55-8	no	yes	yes
Carbon Black	1333-86-4	yes	yes	yes

California Prop 65:
WARNING! This product contains a chemical known to the State of California to cause cancer: Carbon Black (CAS-No: 1333-86-4) and Crystalline Silica (CAS-No: 14808-60-7).

International Regulations

WHMIS: Non Hazardous

Section XVI – OTHER INFORMATION

Other Precautions:
Do not take internally.
Keep away from children.
For external use only.
Store in a cool, dry place.
Keep away from sources of ignition.
Do not apply during or before rain to avoid runoff.
Do not apply if pavement is below 55 degrees F.
The crystalline silica present is not respirable as this product is supplied.

NFPA Rating: Health 1; Fire 0: Reactivity 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Revision Date: 04/21/2015

Supersedes: 07/22/14
Prepared By: RL

Disclaimer/Statement of Liability:

THE INFORMATION AND RECOMMENDATIONS PROVIDED HEREIN ARE BELIEVED TO BE ACCURATE AND ARE BASED UPON EXPERIENCE, TESTS, LITERATURE REFERENCES, AND/OR CALCULATIONS. THE MANUFACTURER MAKES NO GUARANTEE, EXPRESSED OR IMPLIED, AS TO THE AFFECT OF USE, OR THE SAFETY AND TOXICITY OF THE PRODUCT. THE INFORMATION CONTAINED IN THIS SHEET CANNOT BE TAKEN AS THE SUM TOTAL OF ALL PROTECTIVE MEASURES TO BE TAKEN.

1. Identification

Product Identification

Product Identifier: **A Component FX-70®-6 1:1** (FX70-61:1-1PTSA, FX70-61:1-1A, FX70-61:1-5A)
Recommended Use: Three Component 1:1 Marine Epoxy Grout– A Component
Use Restrictions: For industrial use only.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588, USA
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada)
1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

FX-70®-6 1:1 Marine Epoxy Grout is a three part system. The three parts of this product have been assessed individually according to GHS. This Safety Data Sheet covers hazards and responses for Component A. See Component B and Component C Safety Data Sheet for complete product information. The final hardened material is considered nonhazardous; some hazards apply upon grinding or cutting through hardened product, see Hazardous Not Otherwise Classified if working with hardened product.

Component A GHS Classification

Physical Hazards:	Not Classified.	
Health Hazards	Skin Corrosion/Irritation	Category 2
	Serious Eye Damage/Irritation	Category 2A
	Sensitization, Skin	Category 1
Environmental Hazards:	Acute Environmental Hazard	Category 2
	Chronic Environmental Hazard	Category 2

Signal Word: **WARNING!**

Hazard Statements: Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/clothing/eye protection/face protection. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated clothing should not be allowed out of the workplace. Avoid release to the environment.

Response: If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. 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.

Storage: Store locked up. Store in a well-ventilated place.

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

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured A component of FX-70-6 1:1. Upon combination with the B and C components of FX-70-6 1:1 an innocuous solid is formed which does not present any immediate hazards. Upon grinding or cutting through the cured product the following hazards may apply.

Health Hazard	Carcinogenicity	Category 1A
	STOT, Repeated Exposure	Category 2 (Lung)
Hazard Statements:	May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure (processing dust).	
Precautionary Statements:	Do not breathe dust.	

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	CAS Number	Weight %
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	25085-99-8	70-90
Alkyl (C12-C14) glycidyl ether	68609-97-2	1-10
Titanium Dioxide	13463-67-7	< 1

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**

Skin Contact: Remove contaminated clothing and product; wash affected area with soap and water. Do not apply greases or ointments. If redness, burning, or swelling persists, **consult a physician**.

Ingestion: Rinse mouth. If you feel unwell, c**onsult a physician.**

Inhalation: Remove patient to fresh air. Oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Irritant effects. Sensitization. Symptoms include itching, burning, redness and tearing.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder, or water fog.

Additional Information: None known.

Hazards during Fire-Fighting: Hazardous decomposition products may occur when materials polymerize at temperatures above 500°F (260°C).

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill to contain material. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Wear appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. When in use do not eat, drink, or smoke. Wash thoroughly after handling. Observe good industrial hygiene practices. When grinding or cutting cured product avoid inhalation of processing dust, use respiratory protection if airborne dust concentrations exceed exposure limits.

Storage

Store in a closed container away from incompatible materials (Section 10 of the SDS). Keep in original container. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Keep away from heat and sources of ignition. Protect from physical damage.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirts/long pants and other clothing as required to minimize contact.
Respirator Protection: The use of a respirator is not required during normal use of this product. An approved respirator should be worn whenever workplace conditions warrant respirator use, or when grinding or cutting cured product.
General Hygiene: 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.

Engineering Controls

If exposure limits have not been established, maintain airborne levels to an acceptable level. When using indoors good general ventilation should be used. Provide eyewash station and emergency shower.

Exposure Limits

No exposure limits noted for ingredients.

9. Physical and Chemical Properties

Physical State:	Liquid	**Freezing/Melting Point:**	N/E
Form:	Liquid	**Boiling Point:**	N/E
Color:	White	**Flash Point:**	302°F (150°C) Closed Cup
Odor:	Sweet	**Evaporation Rate:**	N/E
Odor Threshold:	N/E	**Specific Gravity:**	1.13
pH:	N/E	**VOC(A+B+C):**	26 g/L
Flammability:	N/E	**U/L Flammability:**	N/E
Vapor Pressure:	N/E	**Vapor Density:**	N/E
Solubility:	Slight	**Kow:**	N/E
Decomposition:	N/E	**Viscosity:**	N/E

10. Stability and Reactivity

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Oxidizing agents, acids, organic bases, and amines.
Hazardous Reactions: Hazardous polymerization will not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Ingestion may cause irritation to the gastrointestinal tract.
Inhalation: May cause respiratory irritation.
Skin contact: Causes skin irritation. May cause an allergic skin reaction.
Eye contact: Causes serious eye irritation.

Information on Toxicological Effects

Acute toxicity: Not expected to be acutely toxic.

Component	Species	Test Result
Bisphenol A-Epichlorohydrin Resin, CAS 25068-38-6 (Similar Material)		
Acute, *Dermal*, LD50	Rabbit	>2000 mg/kg
Acute, *Oral,* LD50	Rabbit	>5000 mg/kg

Skin corrosion/irritation: Causes skin irritation.
Eye damage/eye irritation: Causes serious eye irritation.
Respiratory sensitization: No data available.
Skin sensitization: May cause skin sensitization by contact.
Germ cell mutagenicity: The available data does not indicate that any component present at greater than 0.1% is genotoxic or mutagenic.
Carcinogenicity (Product Dust): May cause cancer. This product contains components that are listed carcinogens. These components are considered carcinogens only in their inhalable form. Due to the nature of this product inhalation is highly unlikely. Exposure to respirable carcinogens is likely only when grinding or cutting cured product, ensure good work practice and use of personal protective equipment as needed to control exposure to processing dust.

IARC Monographs. Overall Evaluation of Carcinogenicity

Quartz (14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (13463-67-7)	2B Possibly Carcinogenic to humans.
Carbon Black (1333-86-4)	2B Possibly Carcinogenic to humans.

NTP Report on Carcinogens

Quartz (14808-60-7)	Known to be Human Carcinogen.

Reproductive toxicity: Not expected to damage fertility or the unborn child.
Aspiration hazard: No data available.
Specific target organ toxicity:
Single Exposure: No data available.
Repeated Exposure: May cause damage to organs (lung) through prolonged or repeated exposure (inhalation of processing dust).

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. The product is classified as toxic to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component	Species	Test Result
Propane, 2,2-bis[p-(2,3 epoxypropoxy)phenyl]-, polymers (CAS 25085-99-8)		
Aquatic, Fish, LC50	Fish	1-10 mg/l
Aquatic, Crustacea, EC50	Daphnia magna	1.8 mg/l, 48 Hours
Aquatic, Algae, EC50	Algae	11 mg/l, 72 Hours

Persistence and degradability: No data available.
Bioaccumulative potential: No data available for the product.
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 product.

13. Disposal Considerations

Waste Disposal of Substance: 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.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

FX-70-6 Component A is not regulated for ground transportation by US DOT; check specific requirements for other regions and other shipping methods.

UN number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A Epichlorohydrin Resin), 9, III, Marine Pollutant
Precautions: Marine Pollutant
Required Labels: 9
ERG Code (IATA): 9L
EmS (IMDG): F-A, S-F

Additional Information

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:
This substance/mixture is not intended to be transported in bulk.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	No	No	No	No

SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous chemical Yes
SARA 313 (TRI reporting) Not regulated.

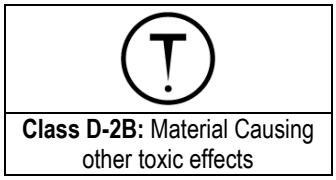
US. California Proposition 65: WARNING: This product contains a chemical listed by the State of California as known to cause cancer, birth defects, or reproductive harm.

Component (*Can be absorbed through the skin)	Regulation	% In Blend (approx.)	Remark
Titanium Dioxide (13463-67-7)	ACGIH	< 1	Carcinogenic

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification



Class D-2B: Material Causing other toxic effects

International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

Country or Region	Inventory	On Inventory? (Yes/No)
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)	Yes
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)	No
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

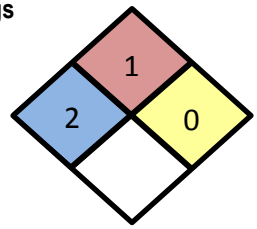
"Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
"No" indicates that one or more components of the product are not listed or exempt from listing.

16. Other Information

Date Prepared or Revised: November 2014
Supersedes: December 2013
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Additional Classifications

NFPA Ratings



HMIS Rating

HEALTH	2	PHYSICAL	0
FLAMMABILITY	1	PPE	B

Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
CAS No.: Chemical Abstract Service Registry Number
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR: Controlled Product Regulations (Canada)

GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)
STOT:	Specific Target Organ Toxicity (GHS Classification)
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act (U.S.)
TWA:	Time Weighted Average (exposure for 8-hour workday)
VOC:	Volatile Organic Compounds
WHMIS:	Canadian Workplace Hazardous Materials Information System

Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

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Internal

FOR INTERNAL USE ONLY

A Component 70-6 1:1	B Component 70-6 1:1	C Component 70-6 1:1
XCOM3B	XCOM3A	NSR
	XCORR	

1. Identification

Product Identification

Product Identifier: **B Component FX-70®-6 1:1** (FX70-61:1-1PTSB, FX70-61:1-1B, FX70-61:1-5B)
Recommended Use: Three Component 1:1 Marine Epoxy Grout– B Component
Use Restrictions: For industrial use only.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588 USA
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada)
1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

FX-70®-6 1:1 Marine Epoxy Grout is a three part system. The three parts of this product have been assessed individually according to GHS. This Safety Data Sheet covers hazards and responses for Component B. See Component A and Component C Safety Data Sheet for complete product information. The final hardened material is considered nonhazardous; some hazards apply upon grinding or cutting through hardened product, see Hazardous Not Otherwise Classified if working with hardened product.

Component B GHS Classification

Physical Hazards:	Flammable Liquid	Category 4
Health Hazard:	Acute Toxicity, Oral	Category 4
	Acute Toxicity, Dermal	Category 4
	Skin Corrosion/Irritation	Category 1
	Serious Eye Damage/Irritation	Category 1
	Sensitization, Skin	Category 1
	Carcinogenicity	Category 2
	Reproductive Toxicity	Category 2
	Aspiration Hazard	Category 2
Environmental Hazards:	Acute Environmental Hazard	Category 2
	Chronic Environmental Hazard	Category 3

Signal Word: **DANGER!**
Hazard Statements: Combustible Liquid. Harmful if swallowed. Harmful in contact with skin. Causes skin burns and serious eye damage. May cause an allergic skin reaction. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May be harmful if swallowed and enters the lungs. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flame, hot surfaces. No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing mist or vapor. Do not eat, drink, or smoke when using this product. Wash thoroughly after handling. Contaminated clothing must not be allowed out of the workplace. Avoid release to the environment.

Response: If exposed or concerned: Call a poison center/doctor. If Inhaled: Remove victim to fresh air and keep in a rest position comfortable for breathing. If experiencing respiratory symptoms: Call poison center/doctor. If swallowed: Do NOT induce vomiting. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. 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.

Storage:	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Disposal:	Dispose of contents/container in accordance with local/regional/national regulations.

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured B component of FX-70-6 1:1. Upon combination with the A and C components of FX-70-6 1:1 an innocuous solid is formed which does not present any immediate hazards. Upon grinding or cutting through the cured product the following hazards may apply.

Health Hazard	Carcinogenicity	Category 1A
	STOT, Repeated Exposure	Category 2 (Lung)
Hazard Statements:	May cause cancer. May cause damage to organs (lung) through prolonged or repeated exposure (processing dust).	
Precautionary Statements:	Do not breathe dust.	

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	CAS Number	Weight %
Benzyl Alcohol	100-51-6	10-30
Solvent, naphtha (petroleum), heavy aromatic	64742-94-5	10-30
Tris-2,4,6-(dimethylaminomethyl)phenol	90-72-2	10-30
Triethylenetetramine	112-24-3	1-10
Benzoic Acid	65-85-0	1-5
Bis(dimethylaminomethyl)phenol	71074-89-0	1-5
Naphthalene	91-20-3	< 2
Carbon Black	1333-86-4	< 1
Xylenes	1330-20-7	< 1
Ethylbenzene	100-41-4	< 1

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact:	Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**
Skin Contact:	Remove contaminated clothing and product, immediately wash affected area with soap and water. If rash or irritation persists **consult a physician.**
Ingestion:	Rinse mouth immediately. Do NOT induce vomiting. **Consult a physician.**
Ingestion Note:	**This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity when decided whether to induce vomiting. All treatments should be based on observed signs and symptoms of distress.**
Inhalation:	Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Irritant effects. Symptoms include itching, burning, redness and tearing. Central nervous system depression (drowsiness, dizziness, weakness, fatigue). Respiratory irritation, difficulty breathing, coughing.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder, or water fog.

Additional Information: None known.

Hazards during Fire-Fighting: Irritating and toxic fumes may be produced at high temperature. Hazardous gases/vapors produced are carbon monoxide, carbon dioxide, oxides of nitrogen, cyanide, aldehydes, and miscellaneous hydrocarbons. Do not allow run-off from fire-fighting to enter drains or water courses.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill to contain material. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Mechanical ventilation or local exhaust ventilation is required. Keep workplace clean. Wear appropriate personal protective equipment. Avoid breathing mist or vapor. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Work practice should minimize contact. Wash thoroughly after handling. Observe good industrial hygiene practices.

Storage

Prevent exposure to moisture. Store locked up. Keep in cool, dry, well-ventilated area in closed containers. Protect containers from physical damage. Store away from incompatible materials(see section 10 of the SDS). Keep in original container. Keep away from heat and sources of ignition. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.

Eye Protection: Wear chemical splash goggles or safety glasses with side shield.

Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.

Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact.

Respirator Protection: The use of a respirator is not required during normal use of this product in properly ventilated areas. An approved respirator should be worn whenever workplace conditions warrant respirator use, when discomfort or irritation is experienced, or when grinding or cutting cured product.

General Hygiene: 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.

Engineering Controls

When using indoor good general ventilation should be used, use local exhaust or general dilution ventilation to control exposure. Provide eyewash station and emergency shower.

Exposure Limits

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Benzyl Alcohol (CAS 100-51-6)	N/E	N/E	10 ppm (WEEL)
Ethylbenzene (CAS 100-41-4)	435 mg/m³ 100 ppm	20 ppm (TWA)	125 ppm (STEL) 100 ppm (TWA)
Naphthalene (CAS 91-20-3)	10 ppm	10 ppm	10 ppm
Triethylenetetramine (CAS 112-24-3)	1 ppm	1 ppm	1 ppm
Xylenes (CAS 1330-20-7)	435 mg/m³ 100 ppm	150 ppm (STEL) 100 ppm (TWA)	150 ppm (STEL) 100 ppm (TWA)

9. Physical and Chemical Properties

Physical State:	Liquid	**Freezing/Melting Point:**	N/E
Form:	Liquid	**Boiling Point:**	N/E
Color:	Black	**Flash Point:**	151°F (66°C) Closed Cup
Odor:	Ammonia	**Evaporation Rate:**	N/E
Odor Threshold:	N/E	**Specific Gravity:**	0.99
pH:	N/E	**VOC (A+B+C):**	26 g/L
U. Flammability:	N/E	**L Flammability:**	N/E
Vapor Pressure:	N/E	**Vapor Density:**	N/E
Solubility:	Slight	**Kow:**	N/E
Decomposition:	N/E	**Viscosity:**	N/E

10. Stability and Reactivity

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Oxidizing agents and acids.
Hazardous Reactions: Hazardous polymerization will not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Harmful if swallowed. Ingestion may cause irritation to the gastrointestinal tract. Aspiration hazard, do not induce vomiting if product is swallowed.
Inhalation: May cause respiratory irritation.
Skin contact: Harmful in contact with skin. Causes skin burns. May cause an allergic skin reaction.
Eye contact: Causes serious eye damage.

Information on Toxicological Effects

Acute toxicity: Harmful if swallowed. Harmful in contact with skin.

Product	Species	Test Result
Benzyl Alcohol (CAS 100-51-6)		
Acute, *Oral,* LD50	Rat	1230-3100 mg/kg
Acute, *Dermal,* LD50	Rabbit	2000 mg/kg
Acute, *Inhalation,* LC50	Rat	200-300 mg/l, 8Hours
Triethylenetetramine (CAS 112-24-3)		
Acute, *Oral,* LD50	Rat	2500 mg/kg
Acute, *Dermal,* LD50	Rabbit	550 mg/kg
Tris-2,4,6-(dimethylaminomethyl)phenol (CAS 90-72-2)		
Acute, *Oral,* LD50	Rat	2169 mg/kg

Skin corrosion/irritation: Causes skin burns.

Eye damage/eye irritation: Causes serious eye damage.
Respiratory sensitization: No data available.
Skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: The available data does not indicate that any component present at greater than 0.1% is mutagenic or genotoxic.
Carcinogenicity (B Component): Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Naphthalene (91-20-3)	2B Possibly Carcinogenic to humans.
Ethylbenzene (100-41-4)	2B Possibly Carcinogenic to humans.
Xylenes (1330-20-7)	3 Not classifiable as to carcinogenicity in humans.

NTP Report on Carcinogens

Naphthalene (91-20-3)	Reasonably Anticipated to be a Human Carcinogen.

Carcinogenicity (Product Dust): May cause cancer. This product contain components that are listed carcinogens. These components are considered carcinogens only in their inhalable form. Due to the nature of this product inhalation is highly unlikely. Exposure to respirable carcinogens is likely only when grinding or cutting cured product, ensure good work practice and use of personal protective equipment as needed to control exposure to processing dust. **IARC Monographs. Overall Evaluation of Carcinogenicity**

Quartz (14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (13463-67-7)	2B Possibly Carcinogenic to humans.
Carbon Black (1333-86-4)	2B Possibly Carcinogenic to humans.

NTP Report on Carcinogens

Quartz (14808-60-7)	Known to be Human Carcinogen.

Reproductive toxicity: A component of this product is suspected of damaging fertility or the unborn child.
Aspiration hazard: May be harmful if swallowed and enters the lungs.
Specific target organ toxicity:
Single exposure No data available.
Repeated exposure May cause damage to organs (lung) through prolonged or repeated exposure (inhalation of processing dust).

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. The product is classified as toxic to aquatic life and harmful to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component		Species	Test Result
Benzyl Alcohol (CAS 100-51-6)			
	Aquatic, Fish, LC50	Bluegill	10 mg/l, 96 hours

Persistence and degradability: No data available.
Bioaccumulative potential: No data available.
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 product.

13. Disposal Considerations

Waste Disposal of Substance: 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 regulations.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

UN number: UN2735
UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Triethylenetetramine), 8, III, Marine Pollutant
Precautions: Corrosive, Marine Pollutant
Required Labels: 8 (9)
ERG Code (IATA): 8L
EmS (IMDG): F-A, S-B

Additional Information

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 applicable.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4):

Naphthalene (91-20-3)	LISTED (RQ: 100lbs)
Xylenes (1330-20-7)	LISTED (RQ: 100lbs)
Ethylbenzene (100-41-4)	LISTED (RQ: 1000lbs)
Benzoic Acid (65-85-0)	LISTED (RQ: 5000lbs)

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	Yes	No	No

SARA 302 Extremely hazardous substance: No
SARA 311/312 Hazardous chemical: Yes
SARA 313 (TRI reporting)

Component	CAS	% In Blend (approx.)
Naphthalene	91-20-3	< 2
Xylenes	1330-20-7	< 1
Ethylbenzene	100-41-4	< 1

US. California Proposition 65: WARNING: This product contains a chemical listed by the State of California as known to cause cancer, birth defects, or reproductive harm.

Component (*Can be absorbed through the skin)	Regulation	% In Blend (approx.)	Remark
Naphthalene (91-20-3)	ACGIH	< 2	Carcinogenic
Ethylbenzene (100-41-4)	ACGIH	< 1	Carcinogenic
Carbon Black (1333-86-4)	ACGIH	< 5	Carcinogenic
Methanol (67-56-1)	ACGIH	Trace	Reproductive Harm

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
Benzyl Alcohol (CAS 100-51-6)	Listed		Listed	
Triethylenetetramine (CAS 112-24-3)	Listed	Listed	Listed	
Xylene (CAS 1330-20-7)	Listed	Listed	Listed	Listed
Ethylbenzene (CAS 100-41-4)	Listed	Listed	Listed	Listed
Naphthalene (CAS 91-20-3)	Listed	Listed	Listed	Listed

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification

		
Class E: Corrosive Material	**Class B:** Combustible Liquid	**Class D-2B:** Material Causing other toxic effects

International

The product is classified and labeled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work.

This product is not subject to or not applicable for any of the following International Regulations; **Stockholm Convention, Rotterdam Convention, Kyoto Protocol, Montreal Protocol, Basel Convention.**

International Inventories

Country or Region	Inventory	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

"Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
"No" indicates that one or more components of the product are not listed or exempt from listing.

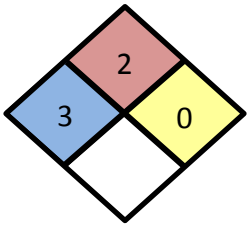
16. Other Information

Date Prepared or Revised: November 2014
Supersedes: December 2013

Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Additional Classifications

NFPA Ratings



HMIS Rating

HEALTH	3	PHYSICAL	0
FLAMMABILITY	2	PPE	B

Abbreviations

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS No.:	Chemical Abstract Service Registry Number
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR:	Controlled Product Regulations (Canada)
EPA:	Environmental Protection Agency (U.S.)
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)
STOT:	Specific Target Organ Toxicity (GHS Classification)
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act (U.S.)
TWA:	Time Weighted Average (exposure for 8-hour workday)
VOC:	Volatile Organic Compounds
WHMIS:	Canadian Workplace Hazardous Materials Information System

Disclaimer

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Internal

FOR INTERNAL USE ONLY

A Component 70-6 1:1 XCOM3B	B Component 70-6 1:1 XCOM3A XCORR	C Component 70-6 1:1 NSR

1. Identification

Product Identification

Product Identifier: **C Component FX-70®-6 1:1** (FX70-61:1-1GSC, FX70-61:1-C, FX70-61:1-CP)
Recommended Use: Three Component 1:1 Marine Epoxy Grout– C Component
Use Restrictions: For industrial use only.

Company Identification

Company: Simpson Strong-Tie Company Inc.
Address: 5956 W. Las Positas Blvd.
Pleasanton, CA 94588
Phone: 1-800-999-5099
Website: www.strongtie.com
Emergency: 1-800-535-5053 (US/Canada)
1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

FX-70®-6 1:1 Marine Epoxy Grout is a three part system. The three parts of this product have been assessed individually according to GHS. This Safety Data Sheet covers hazards and responses for Component C. See Component A and Component B Safety Data Sheet for complete product information.

Component C GHS Classification

The following hazards are for the powdered C component of FX-70-6 1:1. Upon combination with the A and B components of FX-70-6 1:1 an innocuous solid is formed which does not present any immediate hazards. Upon grinding or cutting through the cured product the same hazards apply to the processing dust.

Physical Hazards: Not Classified.
Health Hazards:

Carcinogenicity	Category 1A
STOT, Single Exposure	Category 3 (Respiratory Irritation)
STOT, Repeated Exposure	Category 2 (Lung)

Environmental Hazards: Not Classified.
OSHA Hazard: Combustible Dust.

Signal Word: **DANGER!**
Hazard Statements: May cause cancer. May cause respiratory irritation. Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation). May form combustible dust concentrations in air.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust. Use only outdoors or in a well-ventilated area. Do not allow dust to build up on surfaces.

Response: If exposed or concerned: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call poison center/doctor if you feel unwell.

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

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

Hazards Not Otherwise Classified (HNOC)

Can form explosive air-dust mixtures, avoid creating dust.

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Composition – All concentrations are in percent by weight unless otherwise indicated.

Chemical Name	CAS Number	Weight %
Crystalline Silica, Quartz	14808-60-7	50-70
Fly Ash	68131-74-8	20-30
Barium Sulfate	7727-43-7	5-15

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If you experience redness, burning, blurred vision, or swelling **consult a physician immediately.**

Skin Contact: Remove contaminated clothing and product, wash affected area with soap and water. Do not apply greases or ointments. If rash or irritation occurs **consult a physician.**

Ingestion: Rinse mouth. Do not induce vomiting. **Consult a physician.**

Inhalation: Remove patient to fresh air. Oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Respiratory irritation.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).

Additional Information: Can form explosive air-dust mixtures, avoid creating dust.

Hazards during Fire-Fighting: During a fire, gases hazardous to health may be formed.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Avoid generating dust. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust. Ensure adequate ventilation. If the concentration of silica dust exceeds the PEL wear a respirator.

Clean-Up Methods

Avoid dry sweeping. Do not use compressed air to clean spilled silica sand. Use water spraying/flushing or ventilated or HEPA filtered vacuum cleaning system. Dispose of in closed containers.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Avoid generating dust. Mechanical ventilation or local exhaust ventilation is recommended. Use all available work practices to control dust exposure, such as water sprays. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Do not breathe dust. Keep airborne dust concentrations below permissible exposure limits. Wear a respirator if silica dust concentrations exceed PEL. Do not permit dust to collect and build up on work surfaces, use good housekeeping. Observe good industrial hygiene practices.

Storage

Use dust collection to trap dust produced during loading and unloading. Store in a closed container away from incompatible materials (See Section 10 of the SDS). Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Protect against physical damage.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact. In case of dust production dust-proof clothing. Avoid contact with unhardened cement products, if contact occurs wash immediately with soap and water.
Respirator Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.
General Hygiene: 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.

Engineering Controls

Mechanical ventilation or local exhaust ventilation is recommended. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and emergency shower.

Exposure Limits

Component	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Barium Sulfate (CAS 7727-43-7)	5 mg/m³ (respirable) 15 mg/m³ (Total dust)	10 mg/m³	5 mg/m³ (respirable) 10 mg/m³ (Total dust)
Quartz (CAS 14808-60-7)	$\frac{10}{\%SiO_2 + 2}$ mg/m^3 (respirable)	0.025 mg/m³ (respirable)	0.05 mg/m³ (respirable)
Fly Ash (CAS 68131-74-8)	1 mg/m³ (respirable)	5 mg/m³ (respirable)	N/E

9. Physical and Chemical Properties

Physical State:	Solid	**Freezing/Melting Point:**	N/E
Form:	Powder	**Boiling Point:**	N/E
Color:	Tan	**Flash Point:**	N/A
Odor:	Characteristic	**Evaporation Rate:**	N/A
Odor Threshold:	N/E	**Specific Gravity:**	2.6
pH:	N/E	**VOC (A+B+C):**	26 g/L
Flammability:	N/A	**U/L Flammability:**	N/A
Vapor Pressure:	N/A	**Vapor Density:**	N/A
Solubility:	Slight	**Kow:**	N/A
Decomposition:	N/E	**Viscosity:**	N/A

10. Stability and Reactivity

Reactivity: Stable and non-reactive under normal conditions of use and storage.
Chemical Stability: Stable and non-reactive under normal conditions of use and storage.
Condition to Avoid: Conditions which generate dust.
Substances to Avoid: Hydrofluoric acid, fluorine, chlorine trifluoride, or oxygen difluoride.
Hazardous Reactions: The product is stable if stored and handled as prescribed/indicated.
Decomposition Products: None.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Expected to be a low ingestion hazard.
Inhalation: Irritation to nose and respiratory tract.
Skin contact: Possible mild skin irritation.
Eye contact: Particles can cause corneal abrasion.

Information on Toxicological Effects

Acute toxicity: Occupational exposure to the substance or mixture may cause adverse effects.
Skin corrosion/irritation: Possible mild skin irritation.
Eye damage/eye irritation: Direct contact may cause temporary eye irritation.
Respiratory sensitization: Not a respiratory sensitizer.
Skin sensitization: Not a skin sensitizer.
Germ cell mutagenicity: No data available.
Carcinogenicity: May cause cancer. This product contains components that are listed carcinogens. These components are considered carcinogens only in their inhalable form. Due to the nature of this product inhalation is highly unlikely. Exposure to respirable carcinogens is likely only when grinding or cutting cured product, ensure good work practice and use of personal protective equipment as needed to control exposure to processing dust.

IARC Monographs. Overall Evaluation of Carcinogenicity
Quartz (14808-60-7) 1 Carcinogenic to humans.
Titanium Dioxide (13463-67-7) 2B Possibly Carcinogenic to humans.
Carbon Black (1333-86-4) 2B Possibly Carcinogenic to humans.

NTP Report on Carcinogens
Quartz (14808-60-7) Known to be Human Carcinogen.

Reproductive toxicity: No data available.
Aspiration hazard: No data available.
Specific target organ toxicity:
Single Exposure: No data available.
Repeated Exposure: Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation). Repeated or prolonged exposure to respirable silica dust will cause lung damage in the form of silicosis. Symptoms include progressively more difficult breathing, cough, fever, and weight loss. Acute silicosis can be fatal.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with certain pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. This material 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.

Supporting Data

Component	Species	Test Result
Barium Sulfate (CAS 7727-43-7)		
Aquatic, Crustacea, EC50	Tubificid worm	28.61-38.03 mg/l, 48 hours

Persistence and degradability: Not readily biodegradable.
Bioaccumulative potential: Not expected to bioaccumulate.
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 product.

13. Disposal Considerations

Waste Disposal of Substance: Do not allow 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.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

FX-262 is not regulated for transport by the United States Department of Transportation (DOT), the International Air Transportation Association (IATA), or the International Maritime Dangerous Goods Code (IMDG).

Additional Information

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 applicable.

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4):
Barium Sulfate (CAS 7727-43-7) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories: Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance: No
SARA 311/312 Hazardous chemical: Yes
SARA 313 (TRI reporting): Not regulated.

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
Barium Sulfate (CAS 7727-43-7)	Listed	Listed	Listed	
Quartz (CAS 14808-60-7)	Listed	Listed	Listed	

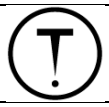
US. California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or reproductive harm.

Component	Regulation	% In Blend (approx.)	Remark
Quartz (14808-60-7)	ACGIH	50-70	Carcinogenic
Titanium Dioxide (13463-67-7)	ACGIH	Trace	Carcinogenic

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification



Class D-2A: Material Causing other toxic effects

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United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

"Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
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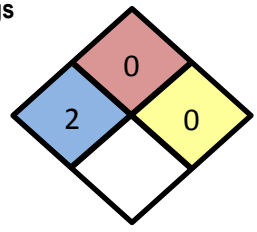
17. Other Information

Date Prepared or Revised: November 2014
Supersedes: December 2013
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com.

Additional Classifications

NFPA Ratings



HMIS Rating

HEALTH	2	PHYSICAL	0
FLAMMABILITY	0	PPE	B

Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
CAS No.: Chemical Abstract Service Registry Number
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GHS: Globally Harmonized System of Classification and Labeling of Chemicals
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Internal

FOR INTERNAL USE ONLY

A Component 70-6 1:1 XCOM3B	B Component 70-6 1:1 XCOM3A XCORR	C Component 70-6 1:1 NSR

We create chemistry

Safety Data Sheet
MasterSeal 590 INDUST also WATERPLUG

1. Identification

Product identifier used on the label

MasterSeal 590 INDUST also WATERPLUG

Recommended use of the chemical and restriction on use
Recommended use*: for industrial and professional users

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification
Chemical family: No data available.

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
STOT RE	1 (by inhalation)	Specific target organ toxicity — repeated exposure

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H372	Causes damage to organs (Lung) through prolonged or repeated exposure (inhalation).

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye/face protection.
P260	Do not breathe dust.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash before reuse.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

Labeling of special preparations (GHS):
In combination with water, repeated or prolonged dermal exposure can cause moderate to severe alkali burns.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

CAS Number	Weight %	Chemical name
14808-60-7	>= 25.0 - < 50.0%	crystalline silica
65997-15-1	>= 20.0 - < 50.0%	Cement, portland, chemicals
1305-62-0	>= 1.0 - < 7.0%	Calcium dihydroxide

1317-65-3	>= 0.3 - < 5.0%	Limestone
13397-24-5	>= 0.3 - < 3.0%	Gypsum (Ca(SO4).2H2O)

According to Controlled Products Regulations (CPR) (SOR/88-66)

CAS Number	Weight %	Chemical name
14808-60-7	>= 25.0 - < 50.0%	crystalline silica
65997-15-1	>= 20.0 - < 50.0%	Cement, portland, chemicals
1305-62-0	>= 1.0 - < 7.0%	Calcium dihydroxide
1317-65-3	>= 0.3 - < 5.0%	Limestone
13397-24-5	>= 0.3 - < 3.0%	Gypsum (Ca(SO4).2H2O)

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. Remove contaminated clothing.

If inhaled:
After inhalation of dust. Keep patient calm, remove to fresh air. If difficulties occur: Obtain medical attention.

If on skin:
After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Product itself is non-combustible. Only the packaging materials can catch fire. The extinguishing agents normally used are sufficient.

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
carbon monoxide, carbon dioxide, harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire. Product is not combustible or explosive.

Advice for fire-fighters
Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. The degree of risk is governed by the burning substance and the fire conditions. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid dust formation. Avoid contact with skin and eyes. Use personal protective clothing. Handle in accordance with good building materials hygiene and safety practice.

Environmental precautions
Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
For small amounts: Pick up with suitable appliance and dispose of.
For large amounts: Pick up with suitable appliance and dispose of. Pack in tightly closed containers for disposal.
For residues: Rinse with plenty of water.
Avoid raising dust.

7. Handling and Storage

Precautions for safe handling
Avoid dust formation. The Cement contained in this product reacts alkaline when in contact with water or humidity. This may cause severe irritation of skin or mucous membranes. The humidity of the skin or mucous membranes is enough for this reaction. Prolonged direct contact to the dry product should be avoided therefore. Avoid inhalation of dusts. Avoid skin contact. Pour downwind and allow as little free fall as possible while emptying bags into equipment. Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Protection against fire and explosion:
No special precautions necessary.

Conditions for safe storage, including any incompatibilities

Segregate from metals. Segregate from acids. Segregate from lyes. Segregate from oxidants. Segregate from foods and animal feeds.

Suitable materials for containers: tinned carbon steel (Tinplate)

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

Calcium dihydroxide	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 5 mg/m3 ;
	ACGIH TLV	TWA value 5 mg/m3 ;
Limestone	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ;
Gypsum (Ca(SO4).2H2O)	OSHA PEL	PEL 5 mg/m3 Respirable fraction ; PEL 15 mg/m3 Total dust ; TWA value 15 mg/m3 Total dust ; TWA value 5 mg/m3 Respirable fraction ;
	ACGIH TLV	TWA value 10 mg/m3 Inhalable fraction ;
crystalline silica	OSHA PEL	TWA value 2.4 millions of particles per cubic foot of air Respirable ; The exposure limit is calculated from the equation, 250/(%SiO2+5), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits. TWA value 0.1 mg/m3 Respirable ; The exposure limit is calculated from the equation, 10/(%SiO2+2), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits. TWA value 0.3 mg/m3 Total dust ; The exposure limit is calculated from the equation, 30/(%SiO2+2), using a value of 100% SiO2. Lower percentages of SiO2 will yield higher exposure limits.
	ACGIH TLV	TWA value 0.025 mg/m3 Respirable fraction ;
Cement, portland, chemicals	OSHA PEL	PEL 15 mg/m3 Total dust ; PEL 5 mg/m3 Respirable fraction ;
	ACGIH TLV	TWA value 1 mg/m3 Respirable fraction ; The value is for particulate matter containing no asbestos and <1% crystalline silica.

Advice on system design:
Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:
Breathing protection if dusts are formed.

Hand protection:
Chemical resistant protective gloves, Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (chemical goggles).

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:
Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts. In order to prevent contamination while handling, closed working clothes and working gloves should be used. Handle in accordance with good building materials hygiene and safety practice. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Contaminated equipment or clothing should be cleaned after each use or disposed of.

9. Physical and Chemical Properties

Form:	powder
Odour:	odourless
Odour threshold:	No applicable information available.
Colour:	grey
pH value:	approx. 12 - 13 (approx. 20 °C) (as aqueous suspension)
Melting point:	The product has not been tested.
Sublimation point:	No applicable information available.
Flash point:	The product has not been tested.
Flammability:	not flammable
Vapour pressure:	The product has not been tested.
Bulk density:	approx. 1,800 - 2,400 kg/m3
Vapour density:	The product is a non-volatile solid.
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	not applicable, the product is a solid
Viscosity, kinematic:	No applicable information available.
Solubility in water:	(20 °C) dispersible
Miscibility with water:	miscible
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.
Evaporation rate:	The product is a non-volatile solid.

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is stable if stored and handled as prescribed/indicated.
Strong bases are formed on the addition of water.

Conditions to avoid
Avoid dust formation. Avoid humidity.

Incompatible materials
strong bases, strong acids

Hazardous decomposition products

Decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation. The product has not been tested. The statement has been derived from the properties of the individual components.

Oral
No applicable information available.

Inhalation
No applicable information available.

Dermal
No applicable information available.

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

The product has not been tested. The statement has been derived from the properties of the individual components.

Irritation / corrosion
Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes. The product has not been tested. The statement has been derived from the properties of the individual components.

Sensitization
Assessment of sensitization: There is no evidence of a skin-sensitizing potential. The product has not been tested. The statement has been derived from the properties of the individual components. Chromate in this product has been reduced. Sensitization due to chromate within stated shelf-live is unlikely.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: Inhalation of dust may cause respiratory tract irritation, coughing and breathing difficulties. This product contains crystalline silica (quartz). Prolonged or repeated inhalation of respirable crystalline silica may result in silicosis.

Genetic toxicity
Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Carcinogenicity
Assessment of carcinogenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Information on: crystalline silica
Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. In long-term animal studies in which the substance was given by inhalation in high doses, a carcinogenic effect was observed. The substance and its compounds in the form of respirable dusts/aerosolsis classified by the German MAK commision as a category 1 carcinogen (substances that cause cancer to humans). A carcinogenic effect cannot safely be ruled out. The inhalation uptake of the alveolar fraction of the fine dust may cause damage to the lungs. The International Agency for Research on Cancer (IARC) has classified this substance as a Group 1 (known) human carcinogen.
NTP listed carcinogen

Reproductive toxicity
Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Teratogenicity
Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect. Based on available Data, the classification criteria are not met.

Other Information
Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.
The product gives rise to pH shifts. Based on available Data, the classification criteria are not met.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Inorganic product which cannot be eliminated from water by biological purification processes. The product is slightly soluble in water. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

Experience shows this product to be inert and non-degradable.

Elimination information

not applicable

Bioaccumulative potential

Assessment bioaccumulation potential
The product will not be readily bioavailable due to its consistency and insolubility in water.

Mobility in soil

Assessment transport between environmental compartments
The substance will not evaporate into the atmosphere from the water surface.
Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.

Additional information

Other ecotoxicological advice:
Do not discharge product into the environment without control. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

13. Disposal considerations

Waste disposal of substance:
Observe national and local legal requirements. Residues should be disposed of in the same manner as the substance/product.

Container disposal:
Completely emptied packagings can be given for recycling.

14. Transport Information

Land transport

TDG

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:
Chemical DSL, CA released; restriction on quantity / not listed

According to Controlled Products Regulations (CPR) (SOR/88-66)

WHMIS classification:
D2A: Materials Causing Other Toxic Effects - Very toxic material

D2B: Materials Causing Other Toxic Effects - Toxic material

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2015/10/20

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET

MATERIAL SAFETY DATA SHEET

MSDS Name: POLYSEAMSEAL 100% SILICONE SEALANT - SQUEEZE TUBE
MSDS Number: sD11526
Version Number
MSDS Date: MAY-28-1999
Page Number: 1

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name:	POLYSEAMSEAL 100% SILICONE SEALANT - SQUEEZE TUBE
Hazard Rating:	Health: 1 Fire: 1 Reactivity: 0 PPI: B
Company Identification:	OSI SEALANTS, INC. 7405 PRODUCTION DRIVE MENTOR OH 44060
Contact:	Safety Officer
Telephone/Fax:	(440) 255-8900 (440) 974-2395
Emergency Phone (24 hour)	CHEMTREC (800) 424-9300
Chemtrec (outside-USA)	(703) 527-3887
Preparer	T.F.Barr Sr. R.&D. Chemist
Product Class	SEALANT
Trade Name	POLYSEAMSEAL
Product Code	Squeeze tube

Description: Low modulus, neutral-cure silicone sealant.

SECTION II - INGREDIENT AND HAZARD INFORMATION

Ingredient Name	CAS Number	Percent	TSCA
METHYL ETHYL KETOXIME ***	96-29-7	< 5.0	Y

Ingredient Notes:
***MEKO is not a component but is released upon curing
in the presence of humid air.

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SECTION III - PHYSICAL AND CHEMICAL PROPERTIES

Form:	Non-sag, high viscosity caulk.
Appearance/Color:	White, Clear
Odor:	Mild ammonia-like
Solubility (in water):	insol.
pH Value, +/-.3:	Not Applicable

Boiling Range:	Not Applicable
Vapor Pressure (mmHg):	1.@ 68.øF (20.øC)
Evaporation Rate:	0.5 times Slower than n-Butyl Acetate
Vapor Density:	Heavier than air
% Volatile, Weight	2.%
% Volatile, Volume	2.4%
Specific Gravity:	1.06
VOC (less H2O or exempt)	< 5 g/l
Heavy Elements (ppm)	0.

NOTE:
Odor : Mild ammonia-like odor. pH : N/A
Physical State : Semi-solid Freeze Point : N/A

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SECTION IV - FIRE FIGHTING MEASURES (Flash,UEL,LEL for solvent only)

Flammability Class	III B
Flash Range:	over 212.øF (100.øC) Tag Closed Cup
Explosive Range (LEL/UEL):	Not Applicable

EXTINGUISHING MEDIA:
Water---Carbon Dioxide---Dry Chemical---Foam
use water to cool material in vicinity of fire.
SPECIAL FIRE-FIGHTING PROCEDURES:
Use self-contained breathing apparatus with full facepiece
operated in pressure demand or other positive pressure mode.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Water may be unsuitable except as a cooling agent.
Use fog nozzle. Any container may rupture when exposed to
extreme heat.

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SECTION V - HEALTH HAZARD DATA

ROUTES OF ENTRY:
ENTRY THROUGH...
Inhalation? Yes | Skin? Yes | Ingestion? Yes
TARGET ORGANS...
Note: Methylethyl Ketoxime (MEKO) is formed upon contact

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with water or humid air.
Normal Exposure -- Methyl Ethyl Ketoxime: Skin, Eye
Overexposure -- Methyl Ethyl Ketoxime: Male rodents exposed to MEKO vapors over their lifetime developed liver cancer. Additional testing is planned to determine any relevance to humans.

CARCINOGENICITY...
NTP? N/E | IARC Monographs? N/E | OHSA? NO

EFFECTS OF OVEREXPOSURE

Eyes: Direct contact can cause irritation, redness and tearing.
Skin: Prolonged or repeated contact can cause moderate irritation. Oximes are possible skin sensitizers.
Inhalation: Excessive inhalation of vapors can cause respiratory irritation, headache, and drowsiness. High concentrations of vapors are anesthetic and may have blood oxygen effects.
Ingestion: Small amounts transferred to the mouth during use will not injure. Large amounts could injure slightly.

FIRST AID MEASURES

Eyes: Flush with large amounts of water for at least 15 minutes lifting eyelids occasionally; get prompt medical attention
Skin: Wash thoroughly with soap and water; apply a mild skin cream.
Inhalation: Remove affected person to fresh air; if breathing is difficult, administer oxygen, get medical attention.
Ingestion: DO NOT INDUCE VOMITING! Get immediate medical attention.
Cured sealant is non-hazardous.

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SECTION VI - STABILITY AND REACTIVITY

Stability: This product is stable
Hazardous Polymerization: Hazardous polymerization will not occur

INCOMPATABILITY:
Strong oxidizing agents cause a reaction. Air and moisture cause curing and release of Methylethyl Ketoxime.

CONDITIONS TO AVOID:
Exposure to air and moisture untill ready to use.

HAZARDOUS DECOMPOSITION PRODUCTS:
Silicone dioxide, carbon dioxide and traces of incompletely
burned carbon products.

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SECTION VII - ACCIDENTAL RELEASE AND DISPOSAL MEASURES:

STEPS TO BE TAKEN IN CASE OF SPILL:
Ventilate confined areas. (Open windows and doors)
Scoop into sealable safety container.
Clean spill area to reduce risk of slipping hazard.
WASTE DISPOSAL METHOD:
Dispose of following local, state, and federal regulations.
Cured material is not a hazardous waste.

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SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
METHYL ETHYL KETOXIME ***	10.00 PPM	N/est	10.00 PPM	N/est	N/est

RESPIRATORY PROTECTION:
Use NIOSH approved respiratory protection if TLV is exceeded.
VENTILATION:
Use only in well ventilated areas.
Provide sufficient mechanical (general and/or local exhaust)
ventilation to maintain exposure below TLV.
PROTECTIVE CLOTHING:
Rubber gloves should be worn.
EYE PROTECTION:
Chemical goggles should be worn.
HANDLING AND STORAGE PRECAUTIONS:
Keep container closed when not in use.
Avoid contact with eyes and skin. Do not handle contact lenses
until all sealant has been removed from hands. Residual
sealant may transfer to lenses and cause severe eye irritation.
Keep out of reach of children.

SECTION IX - TRANSPORT INFORMATION:

DOT CLASSIFICATIONS FOR CARTRIDGES 10 or 29 oz.

DESCRIPTION: Non-hazardous
DOT CLASSIFICATIONS for 1 GALLON or larger CONTAINERS

DESCRIPTION: Non-hazardous
Caulking type product

SECTION X - REGULATORY INFORMATION:

The following ingredients are registered for TSCA 12B

Ingredient Name	CAS Number	Percent
METHYL ETHYL KETOXIME ***	96-29-7	2.40

This material fits the EPA Hazard Category definition of Immediate (Acute) and Delayed (Chronic) Health Hazards under SARA Sections 311, 312.
SARA Section 313 toxic chemicals: None

Chemical Substances have been reported to the EPA Office of Toxic Substances in accordance with the requirements of the Toxic Chemical Substances Control Act (Title 40 CFR 710).
California PROP.65 Chemicals: none known

DISCLAIMER:
The information contained herein is based on data available as of the date of preparation of this MSDS and which we believe to be reliable. However, no warranty is expressed or implied regarding the accuracy of the data. We shall not be responsible for the use of this information, or of any product, method, or apparatus mentioned, and the user must make his own investigation to determine the suitability of the information or products for his particular purpose, for the protection of the environment, and the health and safety of the users of this material.

MATERIAL SAFETY DATA SHEET

MSDS Name: POLYSEAMSEAL(R) PAINTABLE ACRYLIC with silicone CAULK
MSDS Number: sD11535
Version Number
MSDS Date: APR-08-1999
Page Number: 1

SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name:	POLYSEAMSEAL(R) PAINTABLE ACRYLIC with silicone CAULK
Hazard Rating:	Health: 1 Fire: 0 Reactivity: 0 PPI: B
Company Identification:	OSI SEALANTS, INC. 7405 PRODUCTION DRIVE MENTOR OH 44060
Contact:	Safety Officer
Telephone/Fax:	(440) 255-8900 (440) 974-2395
Emergency Phone (24 hour)	CHEMTREC (800) 424-9300
Chemtrec (outside-USA)	(703) 527-3887
Preparer	T.F.Barr Sr. R.&D. Chemist
Product Class	Acrylic Latex Caulk
Trade Name	POLYSEAMSEAL
Product Code	--

SECTION II - INGREDIENT AND HAZARD INFORMATION

Ingredient Name	CAS Number	Percent	TSCA
MINERAL SPIRITS	64742-48-9	< 2.0	Y
ETHYLENE GLYCOL	107-21-1	< 2.0	Y

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SECTION III - PHYSICAL AND CHEMICAL PROPERTIES

Form:	High viscosity caulk
Appearance/Color:	WHITE
Solubility (in water):	yes
pH Value, +/-.3:	8.
Boiling Range:	212.øF (100.øC)
Vapor Pressure (mmHg):	15.@ 68.øF (20.øC)
Evaporation Rate:	0.5 times Slower than n-Butyl Acetate
Vapor Density:	Heavier than air

% Volatile, Weight	approx. 18.%
% Volatile, Volume	approx. 30.%
Specific Gravity:	1.63
VOC (less H2O or exempt)	33 Gr/L
Heavy Elements (ppm)	0.

NOTE:
Odor : Mild acrylic odor. Freeze Point : 32 Deg F

SECTION IV - FIRE FIGHTING MEASURES (Flash,UEL,LEL for solvent only)

Flammability Class	N/A
Flash Range:	Not Available
Explosive Range (LEL/UEL):	Not Applicable

EXTINGUISHING MEDIA:
Dry chemical -- Carbon Dioxide -- Foam -- Water Fog
Will not burn in wet state.
SPECIAL FIRE-FIGHTING PROCEDURES:
Water may be used to cool and protect exposed containers.
Caution should be taken because uncured material is water soluble.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Any closed container may burst when exposed to extreme
heat or fire.

SECTION V - HEALTH HAZARD DATA

ROUTES OF ENTRY:
ENTRY THROUGH...
Inhalation? Yes | Skin? Yes | Ingestion? Yes
TARGET ORGANS...
Exposure -- Mineral Spirits: Eyes, Skin
-- Ethylene Glycol: Eyes
Overexposure -- Mineral Spirits: Central Nervous System,
Nose & Throat Irritation
-- Ethylene Glycol: Ingestion or exposure to
heated or sprayed product: Central Nervous
System, heart, kidney, respiratory tract.
CARCINOGENICITY...
NTP? N/E | IARC Monographs? N/E | OHSA? NO
EFFECTS OF OVEREXPOSURE

Inhalation: May irritate respiratory tract.
Skin/Eye Contact: May cause irritation.
Ingestion: Swallowing large amounts may cause nausea, vomiting. (an unlikely route of entry)

FIRST AID MEASURES
Inhalation: If affected by inhalation, remove to fresh air.
Eye Contact: Flush with water for at least 15 minutes, and get prompt medical attention.
Skin Contact: Wash skin thoroughly with soap and water.
Ingestion: Drink water, and get medical attention.

N/A= Not applicable N/AV=Not available N/E, N/est=Not established

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SECTION VI - STABILITY AND REACTIVITY
Stability: This product is stable
Hazardous Polymerization: Hazardous polymerization will not occur

INCOMPATABILITY:
None
CONDITIONS TO AVOID:
None
HAZARDOUS DECOMPOSITION PRODUCTS:
May produce oxides of carbon and oxides of nitrogen when burned.

- -

SECTION VII - ACCIDENTAL RELEASE AND DISPOSAL MEASURES:

STEPS TO BE TAKEN IN CASE OF SPILL:
Wear appropriate protective clothing. Add dry absorbent and shovel or sweep up. Place in an appropriate container and seal.
WASTE DISPOSAL METHOD:
Dispose of in accordance with Federal, State, and Local regulations.

- -

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
MINERAL SPIRITS	100.00 PPM	N/est	N/est	N/est	100.00 PPM
ETHYLENE GLYCOL					

50.00 PPM	N/est	N/est	N/est	50.00 PPM

RESPIRATORY PROTECTION:
NIOSH approved respirators recommended if vapors and mists are generated.
VENTILATION:
Local exhaust is recommended for safe practice.
PROTECTIVE CLOTHING:
Rubber gloves and impervious clothing should be worn to prevent repeated skin contact.
EYE PROTECTION:
Splashproof goggles or safety glasses should be worn.
HANDLING AND STORAGE PRECAUTIONS:
Keep from freezing. Keep away from heat.
Keep out of the reach of children
Keep containers closed when not in use
Avoid prolonged or repeated contact with skin.

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SECTION IX - TRANSPORT INFORMATION:

DOT CLASSIFICATIONS FOR CARTRIDGES 10 or 29 oz.

DESCRIPTION: Non-hazardous
DOT CLASSIFICATIONS for 1 GALLON or larger CONTAINERS

DESCRIPTION: Non-hazardous
Caulking type product

- -

SECTION X - REGULATORY INFORMATION:
SARA TITLE III SECTION 313:
This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372:

Ingredient Name	CAS Number	Percent
ETHYLENE GLYCOL	107-21-1	< 2.0

The following ingredients are registered for TSCA 12B

Ingredient Name	CAS Number	Percent

ETHYLENE GLYCOL	107-21-1	< 2.0

Ethylene Glycol fits the EPA Hazard Category definition of
Immediate (Acute) and Delayed (Chronic) Health Hazards
under SARA Sections 311, 312.
All chemical substances are TSCA listed.
California PROP.65 Chemicals: none known

DISCLAIMER:
The information contained herein is based on data available as of the date of preparation of this MSDS and which we believe to be reliable. However, no warranty is expressed or implied regarding the accuracy of the data. We shall not be responsible for the use of this information, or of any product, method, or apparatus mentioned, and the user must make his own investigation to determine the suitability of the information or products for his particular purpose, for the protection of the environment, and the health and safety of the users of this material.

SAFETY DATA SHEET
PRO PLUG 45

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: PRO PLUG 45	**Product Use:** Fast Setting Repair Product
Manufacturer's Name: CMP Specialty Products	**Emergency Telephone:** 215-638-4400 OR 800-523-6570
Address: 1445 Ford Road, Bensalem, PA 19020	**Telephone Number:** 267-522-8000
Date Prepared: MARCH 2015	**Date Updated:** November 10, 2015

SECTION 2: HAZARDS IDENTIFICATION

HAZARD CLASSIFICATION

Skin Irritation 2
Serious Eye Damage 1
Skin Sensitization 1
Carcinogenicity 1A
Specific Target Organ Toxicity – Single Exposure 3
Specific Target Organ Toxicity – Repeated Exposure 1

LABEL ELEMENTS

Hazard Pictogram:

Signal Word: Danger

Hazard Statement: Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause cancer. May be harmful if swallowed. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure.

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

Response: If on skin: Wash with plenty of water. Take off contaminated clothing and wash clothing before reuse. If skin irritation or rash occurs: get medical advice and/or attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easily removed and continue rinsing. Immediately call a poison center or doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. If exposed or concerned: Get medical advice and attention.

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

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

ADDITIONAL INFORMATION

Hazards not otherwise classified: Not applicable.
30.0 % of the mixture consists of ingredient(s) of unknown acute toxicity.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

MATERIAL OR INGREDIENT	CAS #	WT. %
Silica, crystalline, quartz	14808-60-7	30-50
Sodium Aluminate	1302-42-7	< 1
Portland Cement	65997-15-1	50-70
Exact composition percentage/concentration has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.		

SECTION 4: FIRST-AID MEASURES

DESCRIPTION OF THE FIRST AID MEASURE

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

Skin: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Give oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical advice/attention if you feel unwell.

Ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Give 2 cupfuls of water if victim is conscience and alert. Get medical advice/attention.

IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Eye: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns in the presence of moisture.

Skin: Causes skin irritation. May cause burns in the presence of moisture. Skin contact during hydration may slowly develop sufficient heat that may cause severe burns possibly resulting in permanent injury. Do not allow product to harden around any body part or allow continuous, prolonged contact with skin. Handling can cause dry skin. May cause sensitization by skin contact.

Inhalation: May cause respiratory tract irritation. May cause burns in the presence of moisture.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to Physicians: Symptoms may not appear immediately.

Specific Treatments: In case of accident or if you feel unwell, seek medical advice immediately (show the label or MSDS where possible).

SECTION 5 – FIRE-FIGHTING MEASURES

FLAMMABILITY

Flammability: Not flammable by WHMIS/OSHA criteria.

EXTINGUISHING MEDIA

Suitable Extinguishing Media: Treat for surrounding material. Powder, water spray, foam, carbon dioxide.

Unsuitable Extinguishing Media: Not available.

SPECIAL HAZARDS ARISING FROM THE CHEMICAL

Products of Combustion: May include, and are not limited to: oxides of carbon.

Explosion Data: **Sensitivity to Mechanical Impact:** Not available.
Sensitivity to Static Discharge: Not available.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN - UP

Methods for Containment: Contain spill with inert material (sand, vermiculite, etc.) and place in a suitable container. Do not flush to sewer or allow material to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Cleaning-Up: Vacuum or sweep material and place in a disposal container. Provide adequate ventilation.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Handling: Avoid contact with skin and eyes. Do not swallow. Good housekeeping is important to prevent accumulation of dust. Avoid generating dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Use only in well-ventilated areas. Handle and open container with care. Do not eat or drink when using. Wash hands before eating, drinking, or smoking. (See section 8)

General Hygiene Advice: Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Keep out of the reach of children. Store in dust-tight, dry, labeled containers. Keep containers closed when not in use. Avoid any dust buildup by frequent cleaning and suitable construction of the storage area. Do not store in an area equipped with emergency water sprinklers. Use corrosion-resistant structural materials and lighting and ventilation systems in the storage area. (See section 10)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

Exposure Guidelines

Occupational Exposure Limits		
Ingredient	**OSHA-PEL**	**ACGIH-TLV**
Silica, crystalline, quartz	((10 mg/m3)/(%SiO2+2) TWA (resp)) ((30 mg/m3)/(%SiO2+2) TWA (total)) ((250)/(%SiO2+5) mppcf TWA (resp))	0.025 mg/m³
Portland cement	15 mg/m³ (total); 5 mg/m³ (resp)	1 mg/m³ (no asbestos and <1% crystalline silica, respirable fraction)
Sodium Aluminate	2 mg/m³ TWA (total)	2 mg/m³(ceiling) STEL

EXPOSURE CONTROLS

Engineering Controls: Use adequate ventilation to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

INDIVIDUAL PROTECTIVE MEASURES

Personal Protective Equipment:

Eye/Face Protection: Wear approved eye (properly fitted dust- or splash-proof chemical safety goggles) / face (face shield) protection.

Skin Protection:

Hand Protection: Wear suitable gloves.
Body Protection: Wear suitable protective clothing.

Respiratory Protection: A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

General Health and Safety Measures: Handle according to established industrial hygiene and safety practices.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Powder
Color	Gray
Odor	Not Available
Odor Threshold	Not Available
Physical State	Solid
pH	Not Available
Melting Point/Freezing Point	Not Available
Initial Boiling Point and Boiling Range	Not Available
Flash Point	Not Available
Evaporation Rate	Not Available
Flammability	Not Flammable
Lower Flammability/Explosive Limit	Not Available
Upper Flammability/Explosive Limit	Not Available
Vapor Pressure	Not Available
Vapor Density	Not Available
Relative Density/Specific Gravity	2.8 to 3.0
Solubility	Partial
Partition coefficient: n-octanol/water	Not Available
Auto-Ignition Temperature	Not Available
Decomposition Temperature	Not Available
Viscosity	Not Available
Oxidizing Properties	Not Available
Explosive Properties	Not Available

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY
No dangerous reaction known under conditions of normal use.
CHEMICAL STABILITY
Stable under normal storage conditions. Keep dry in storage.
POSSIBILITY OF HAZARDOUS REACTIONS
No dangerous reaction known under conditions of normal use.
CONDITIONS TO AVOID
Heat. Incompatible materials. Moisture.
INCOMPATIBLE MATERIALS
Acids. Ammonium salts. Aluminum. Alkalis.
HAZARDOUS DECOMPOSITION PRODUCTS
May include, and are not limited to: oxides of carbon.

SECTION 11: TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Skin contact, skin absorption, eye contact, inhalation, and ingestion.

Symptoms related to physical/chemical/toxicological characteristics:

Eye: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns in the presence of moisture.

Skin: Causes skin irritation. May cause burns in the presence of moisture. Skin contact during hydration may slowly develop sufficient heat that may cause severe burns possibly resulting in permanent injury. Do not allow product to harden around any body part or allow continuous, prolonged contact with skin. Handling can cause dry skin. May cause sensitization by skin contact.

Inhalation: May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

Acute Toxicity:

Ingredient	LC50	LD50
Silica, crystalline, quartz	Not available.	Oral 500 mg/kg, rat
Portland Cement	Not available.	Not available.
Sodium Aluminate	Not available.	Not available.

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
Not available.	Not available.	Not available.

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*
Silica, crystalline, quartz	G-A2, I-1, N-1, O, CP65
Portland Cement	G-A4
Sodium Aluminate	Not listed.

(* See Section 15)

DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT-TERM AND LONG-TERM EXPOSURE

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye damage.

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

Skin Sensitization: May cause an allergic skin reaction.

STOT-Single Exposure: May cause respiratory irritation.

Chronic Health Effects:

Carcinogenicity: May cause cancer.

Germ Cell Mutagenicity: This product is not classified as a mutagen.

Reproductive Toxicity:

Developmental: Based on available data, the classification criteria are not met.
Teratogenicity: Not hazardous by WHMIS/OSHA criteria.
Embryotoxicity: Not hazardous by WHMIS/OSHA criteria.
Fertility: Based on available data, the classification criteria are not met.

STOT-Repeated Exposure: Causes damage to organs through prolonged or repeated exposure.

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

Toxicologically Synergistic Materials: Not available.

Other Information: Not available.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY

Acute/Chronic Toxicity: May cause long-term adverse effects in the aquatic environment.

PERSISTENCE AND DEGRADABILITY

Not available.

BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Not available.

MOBILITY IN SOIL

Not available.

OTHER ADVERSE EFFECTS

Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

Disposal Method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Other Disposal Recommendations: Not available

SECTION 14: TRANSPORT INFORMATION

UN NUMBER

Not regulated.

UN PROPER SHIPPING NAME

Not applicable.

TRANSPORT HAZARD CLASS (ES)

Not applicable.

ENVIRONMENTAL HAZARDS

Not available.

SPECIAL PRECAUTIONS

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

SECTION 15: REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

SDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SARA Title III				
Ingredient	**Section 302 (EHS) TPQ (lbs.)**	**Section 304 EHS RQ (lbs.)**	**CERCLA RQ (lbs.)**	**Section 313**
Silica, crystalline, quartz	Not listed.	Not listed.	Not listed.	Not listed.
Portland Cement	Not listed.	Not listed.	Not listed.	Not listed.
Sodium Aluminate	Not listed.	Not listed.	Not listed.	Not listed.

California Proposition 65: This product contains a chemical known to the state of California to cause cancer.

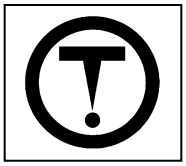
WHMIS Classification(s):

Class D2A – Carcinogenicity
Class D2A - Chronic Toxic Effects
Class D2B - Skin/Eye Irritant
Class E – Corrosive material

TSCA:

Ingredient	USA TSCA LISTED
Silica, crystalline, quartz	Yes.
Portland Cement	Yes.
Sodium Aluminate	Yes.

WHMIS Hazard Symbols:



All ingredients used to manufacture this product are listed or exempted from being listed on the TSCA and DSL inventories.

NFPA National Fire Protection Association	
Health:	1
Fire:	0
Reactivity:	0

HMIS-Hazardous Materials Identification System	
Health:	2*
Fire:	0
Reactivity:	0

Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

*** SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:**

CP65 **California Proposition 65**

OSHA (O) **Occupational Safety and Health Administration.**

ACGIH (G) **American Conference of Governmental Industrial Hygienists.**
A1 - Confirmed human carcinogen.
A2 - Suspected human carcinogen.
A3 - Animal carcinogen.
A4 - Not classifiable as a human carcinogen.
A5 - Not suspected as a human carcinogen.

IARC (I) **International Agency for Research on Cancer.**
1 - The agent (mixture) is carcinogenic to humans.
2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.
2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.
4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

NTP (N) **National Toxicology Program.**
1 - Known to be carcinogens.
2 - Reasonably anticipated to be carcinogens.

SECTION 16: OTHER INFORMATION

Date of Preparation:	March 11, 2015
Version:	1511
Revision Date:	November 10, 2015
Prepared by:	

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

SAFETY DATA SHEET

Date of issue/Date of revision 1 May 2016
Version 5

Section 1. Identification

Product name : LN-704 PROJECTS AHE70412WH0
Product code : 00407678
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.
Use of the substance/ mixture : Adhesive.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

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 : CARCINOGENICITY - Category 1A

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 40.3%

GHS label elements
Hazard pictograms :

Signal word : Danger
Hazard statements : May cause cancer.
Precautionary statements

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing.

Response : IF exposed or concerned: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Sanding and grinding dusts may be harmful if inhaled. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : LN-704 PROJECTS AHE70412WH0

Ingredient name	%	CAS number
crystalline silica, respirable powder (<10 microns)	<1.0	14808-60-7
titanium dioxide	≤1.0	13463-67-7
crystalline silica, respirable powder (>10 microns)	≤1.0	14808-60-7

SUB codes represent substances without registered CAS Numbers.

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

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Section 4. First aid measures

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 : In a fire or if heated, a pressure increase will occur and the container may burst.

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. Avoid breathing vapor or mist. 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).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

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.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
crystalline silica, respirable powder (<10 microns)	**ACGIH TLV (United States, 3/2015).** TWA: 0.025 mg/m³ 8 hours. Form: Respirable **OSHA PEL Z3 (United States, 2/2013).** TWA: 10 MG/M3 / (%SiO2+2) 8 hours. Form: Respirable TWA: 250 MPPCF / (%SiO2+5) 8 hours. Form: Respirable **OSHA PEL Z3 (United States).** TWA: 30 mg/m³ Form: Total dust
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 3/2015).** TWA: 10 mg/m³ 8 hours.
crystalline silica, respirable powder (>10 microns)	**ACGIH TLV (United States, 3/2015).** TWA: 0.025 mg/m³ 8 hours. Form: Respirable **OSHA PEL Z3 (United States, 2/2013).** TWA: 10 MG/M3 / (%SiO2+2) 8 hours. Form: Respirable TWA: 250 MPPCF / (%SiO2+5) 8 hours. Form: Respirable **OSHA PEL Z3 (United States).** TWA: 30 mg/m³ Form: Total dust

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Section 8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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 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 : 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. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Characteristic.

Odor threshold : Not available.

pH : 8

Section 9. Physical and chemical properties

Melting point	:	Not available.
Boiling point	:	>37.78°C (>100°F)
Flash point	:	Closed cup: 96°C (204.8°F)
Material supports combustion.	:	Yes.
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Upper: 0%
Evaporation rate	:	Not available.
Vapor pressure	:	Not available.
Vapor density	:	Not available.
Relative density	:	1.45
Density (lbs / gal)	:	12.1
Solubility	:	Soluble in the following materials: cold water.
Partition coefficient: n-octanol/water	:	Not available.
Viscosity	:	Kinematic (40°C (104°F)): <0.07 cm^2/s (<7 cSt)
Volatility	:	55% (v/v), 37.719% (w/w)
% Solid. (w/w)	:	62.281

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	:	When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
Incompatible materials	:	Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
Hazardous decomposition products	:	Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>11 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
crystalline silica, respirable powder (<10 microns)	-	1	Known to be a human carcinogen.
titanium dioxide	-	2B	-
crystalline silica, respirable powder (>10 microns)	-	1	Known to be a human carcinogen.

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category
crystalline silica, respirable powder (<10 microns)	Category 1

Section 11. Toxicological information

Target organs : Contains material which causes damage to the following organs: eyes.
Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, stomach.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

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

Conclusion/Summary : There are no data available on the mixture itself. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : No known significant effects or critical hazards.
Carcinogenicity : May cause cancer. Risk of cancer depends on duration and level of exposure.
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

Section 11. Toxicological information

Route	ATE value
Oral	81626.5 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

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.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

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.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
crystalline silica, respirable powder (<10 microns)	No.	No.	No.	No.	Yes.
titanium dioxide	No.	No.	No.	No.	Yes.
crystalline silica, respirable powder (>10 microns)	No.	No.	No.	No.	Yes.

Section 15. Regulatory information

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16. Other information

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

Health : 1 * **Flammability** : 1 **Physical hazards** : 0

(*) - Chronic effects

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 are not required on MSDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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

Health : 1 **Flammability** : 1 **Instability** : 0

Date of previous issue : **7/7/2015**

Organization that prepared the MSDS : EHS

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

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

SAFETY DATA SHEET

1. Identification

Product identifier **Crafco Roadsaver Silicone NS Sealant, Roadsaver Silicone SL**

Other means of identification Not available.

Recommended use Pavement Joint Sealant

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer: Crafco, Inc.

Address: 6165 West Detroit St.
Chandler, AZ 85226 USA

Contact Name: Jim Chehovits

Telephone: 602-276-0406

E-mail: jim.chehovits@crafco.com

CHEMTREC: 800-424-9300 (North America)
+ 1-703-527-3887 (International)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Reproductive toxicity Category 2

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Suspected of damaging fertility or the unborn child. Harmful to aquatic life with long lasting effects.

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

Response IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. If exposed or if you feel unwell: Get medical advice/attention.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations. See section 13 of this SDS for disposal instructions.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Polydimethylsiloxane		9016-00-6	15 - 40
Silica		112945-52-5	0 - 5
Toluene		108-88-3	0 - 2
Other components below reportable levels			40 - 70

Composition comments The full text for all R-phrases is displayed in Section 16 of the SDS.

4. First-aid measures

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact IF ON SKIN: Gently wash with plenty of soap and water. If irritation persists get medical attention.

Eye contact Immediately rinse with water for several minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed Not available.

Indication of immediate medical attention and special treatment needed In case of shortness of breath, give oxygen. Keep victim warm. Symptoms may be delayed.

General information If you feel unwell, seek medical advice (show the label where possible). Keep victim warm. Keep victim under observation. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use.

5. Fire-fighting measures

Suitable extinguishing media Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical Irritating, corrosive and/or toxic gases or fumes will be released during a fire.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Fire-fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and materials for containment and cleaning up Stop the flow of material, if this is without risk. Eliminate sources of ignition. Dike far ahead of spill for later disposal. Following product recovery, flush area with water.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes and clothing. Do not ingest. Wash hands after handling and before eating. When using, do not eat, drink or smoke. Avoid contact during pregnancy/while nursing. Avoid release to the environment.

Conditions for safe storage, including any incompatibilities Store in a cool and well-ventilated place. Keep away from heat and sources of ignition. Keep out of the reach of children. Keep container tightly closed.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Silica (CAS 112945-52-5)	TWA	0.8 mg/m3 20 mppcf

US. ACGIH Threshold Limit Values

Components	Type	Value
Toluene (CAS 108-88-3)	TWA	20 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Silica (CAS 112945-52-5)	TWA	6 mg/m3
Toluene (CAS 108-88-3)	STEL	560 mg/m3 150 ppm
	TWA	375 mg/m3 100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*
	0.02 mg/l	Toluene	Blood	*

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

Exposure guidelines

US - California OELs: Skin designation

Toluene (CAS 108-88-3) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (CAS 108-88-3) Skin designation applies.

Appropriate engineering controls Provide adequate ventilation if fumes or vapors are generated.

Individual protection measures, such as personal protective equipment

Eye/face protection Goggles/face shield are recommended.

Hand protection Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection In the case of respirable dust and/or fumes, use self-contained breathing apparatus. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards Not available.

General hygiene considerations When using, do not eat, drink or smoke. Use good industrial hygiene practices in handling this material. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Appearance Paste.

Physical state Liquid.

Form Paste.

Color Grey.

Odor Slight.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range < 150 °F (< 65.56 °C)

Flash point > 392.0 °F (> 200.0 °C)

Evaporation rate Not available.

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	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 700 °F (> 371.11 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Percent volatile	< 5 %
Specific gravity	1 - 1.5

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions. Stable under normal temperature conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames and sparks. Avoid high temperatures. Temperatures above 100 °C
Incompatible materials	Strong acids, alkalies and oxidizing agents.
Hazardous decomposition products	Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Toxic gas.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Inhalation	Health injuries are not known or expected under normal use.
Skin contact	Causes mild skin irritation.
Eye contact	May be irritating to eyes.
Symptoms related to the physical, chemical and toxicological characteristics	Not available.

Information on toxicological effects

Acute toxicity Not classified.

Product	Species	Test Results
Crafco Roadsaver Silicone NS Sealant, Roadsaver Silicone SL (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	594.9618 ml/kg estimated
Inhalation		
LC50	Mouse	16878.3496 ppm, 24 Hours estimated
Oral		
LD50	Rat	109.7093 g/kg estimated
Other		
LD50	Mouse	2489.5566 mg/kg estimated

Product	Species	Test Results
	Rat	56204.9023 mg/kg estimated

Components	Species	Test Results
Silica (CAS 112945-52-5)		
Acute		
Oral		
LD50	Mouse	> 15000 mg/kg
	Rat	> 22500 mg/kg
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	12124 mg/kg
		14.1 ml/kg
Inhalation		
LC50	Mouse	5320 ppm, 8 Hours
		400 ppm, 24 Hours
	Rat	26700 ppm, 1 Hours
		12200 ppm, 2 Hours
		8000 ppm, 4 Hours
Oral		
LD50	Rat	2.6 g/kg
Other		
LD50	Mouse	59 mg/kg
	Rat	1332 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes mild skin irritation. Not classified.

Serious eye damage/eye irritation Not available.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization Not available.

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

Silica (CAS 112945-52-5)	3 Not classifiable as to carcinogenicity to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

Chronic effects Not relevant at normal room temperatures. When heated, harmful vapors may be formed.

12. Ecological information

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment.

Product		Species	Test Results
Crafco Roadsaver Silicone NS Sealant, Roadsaver Silicone SL (CAS Mixture)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hr

Product		Species	Test Results
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	5.5 mg/l, 96 hr

Components		Species	Test Results
Polydimethylsiloxane (CAS 9016-00-6)			
Aquatic			
Fish	LC50	Channel catfish (Ictalurus punctatus)	2.36 - 4.15 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability Not available.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

Toluene	2.73

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Do not dispose of waste into sewer. Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose in accordance with all applicable regulations.

Hazardous waste code Not regulated.

US RCRA Hazardous Waste U List: Reference

Toluene (CAS 108-88-3)	U220

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Offer rinsed packaging material to local recycling facilities.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

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.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Toluene (CAS 108-88-3)	Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Toluene	108-88-3	0 - 2

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Toluene (CAS 108-88-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130) Hazardous substance

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)

Toluene (CAS 108-88-3)

DEA Essential Chemical Code Number

Toluene (CAS 108-88-3) 6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Toluene (CAS 108-88-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3) 594

US state regulations WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Silica (CAS 112945-52-5)
Toluene (CAS 108-88-3)

US. New Jersey Worker and Community Right-to-Know Act

Toluene (CAS 108-88-3) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

Silica (CAS 112945-52-5)
Toluene (CAS 108-88-3)

US. Rhode Island RTK

Toluene (CAS 108-88-3)

US. California Proposition 65

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Toluene (CAS 108-88-3) Listed: January 1, 1991

US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

Toluene (CAS 108-88-3) Listed: August 7, 2009

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)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
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 that all components of this product comply 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 01-28-2015

Revision date 03-19-2015

Version # 02

Further information HMIS® is a registered trade and service mark of the NPCA.

References ACGIH
EPA: AQUIRE database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity
National Toxicology Program (NTP) Report on Carcinogens
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision Information Composition / Information on Ingredients: Disclosure Overrides
Physical & Chemical Properties: Multiple Properties
Toxicological Information: Toxicological Data

Safety Data Sheet

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Document Group:	16-0684-7	**Version Number:**	17.01
Issue Date:	05/02/14	**Supercedes Date:**	04/07/14

SECTION 1: Identification

1.1. Product identifier
SCOTCHKOTE 323 Patch, Brush, and Spray Grades, Part A

Product Identification Numbers
80-6116-1152-8, 80-6300-0059-6, 80-6300-0061-2, 80-6300-0247-7

1.2. Recommended use and restrictions on use

Recommended use
Coating, Part A of 2 Part Liquid Epoxy Coating System

1.3. Supplier's details

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

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 2B.
Skin Sensitizer: Category 1.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Causes eye irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.

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

Precautionary Statements

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.

Storage:
Store locked up.

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

2.3. Hazards not otherwise classified
None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	60 - 70 Trade Secret *
HYDROUS MAGNESIUM SILICATE	14807-96-6	20 - 30 Trade Secret *
TITANIUM DIOXIDE	13463-67-7	1 - 5 Trade Secret *
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	< 1 Trade Secret *

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

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

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

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Irritant Vapors or Gases	During Combustion
Ammonia	During Combustion
Oxides of Nitrogen	During Combustion

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for

information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

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

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid breathing of vapors created during cure cycle. Avoid skin contact with hot material. For industrial or professional use only. Do not use in a confined area with minimal air exchange. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
TITANIUM DIOXIDE	13463-67-7	Amer Conf of Gov. Indust. Hyg.	TWA:10 mg/m3	
TITANIUM DIOXIDE	13463-67-7	Chemical Manufacturer Rec Guid	TWA(as respirable dust):5 mg/m3	
TITANIUM DIOXIDE	13463-67-7	US Dept of Labor - OSHA	TWA(as total dust):15 mg/m3	
HYDROUS MAGNESIUM SILICATE	14807-96-6	Amer Conf of Gov. Indust. Hyg.	TWA(respirable fraction):2 mg/m3	
HYDROUS MAGNESIUM SILICATE	14807-96-6	Chemical Manufacturer Rec Guid	TWA(as respirable dust):0.5 mg/m3	
HYDROUS MAGNESIUM SILICATE	14807-96-6	US Dept of Labor - OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft.	

LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Chemical Manufacturer Rec Guid	TWA:50 ppm(245 mg/m3)	

Amer Conf of Gov. Indust. Hyg. : American Conference of Governmental Industrial Hygienists
American Indust. Hygiene Assoc : American Industrial Hygiene Association
Chemical Manufacturer Rec Guid : Chemical Manufacturer's Recommended Guidelines
US Dept of Labor - OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining. Provide local exhaust ventilation at transfer points.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Wear protective gloves.
Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

Wear respiratory protection if ventilation is inadequate to prevent overexposure. An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Full facepiece air-purifying respirator suitable for organic vapors and particulates

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

Thermal hazards
Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Viscous
Odor, Color, Grade:	Viscous, White
Odor threshold	*No Data Available*
pH	*Not Applicable*

Melting point	*No Data Available*
Boiling Point	> 200 ºF
Flash Point	> 200 ºF [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	< 1 [*Ref Std:* BUOAC=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	0.01 mmHg [*Test Method:* Calculated] [*Details:* at 25C, Raoult's Law]
Vapor Density	> 1 [*Ref Std:* AIR=1]
Density	1.425 g/cm3
Specific Gravity	1.425 [*Ref Std:* WATER=1]
Solubility In Water	*No Data Available*
Solubility- non-water	*No Data Available*
Solubility- non-water	Nil
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	120,000 - 280,000 centipoise [@ 72 ºC] [*Test Method:* Brookfield]
Volatile Organic Compounds	12 g/l [*Details:* For coating mixture of Parts A and B]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	**Condition**
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be

reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause target organ effects after inhalation.

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

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

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

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

Target Organ Effects:

Prolonged or repeated exposure may cause:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	C.A.S. No.	Class Description	Regulation
TITANIUM DIOXIDE	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Rat	LD50 > 1,000 mg/kg
HYDROUS MAGNESIUM SILICATE	Dermal		LD50 Not available
HYDROUS MAGNESIUM SILICATE	Ingestion		LD50 Not available
TITANIUM DIOXIDE	Dermal	Rabbit	LD50 > 10,000 mg/kg
TITANIUM DIOXIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l

TITANIUM DIOXIDE	Ingestion	Rat	LD50 > 10,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Dermal	Rabbit	LD50 > 2,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation-Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Mild irritant
HYDROUS MAGNESIUM SILICATE	Rabbit	No significant irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Moderate irritant
HYDROUS MAGNESIUM SILICATE	Rabbit	No significant irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human and animal	Sensitizing
TITANIUM DIOXIDE	Human and animal	Not sensitizing
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human	Some positive data exist, but the data are not sufficient for classification
HYDROUS MAGNESIUM SILICATE	Human	Not sensitizing

Germ Cell Mutagenicity

Name	Route	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	In Vitro	Some positive data exist, but the data are not sufficient for classification
HYDROUS MAGNESIUM SILICATE	In Vitro	Not mutagenic
HYDROUS MAGNESIUM SILICATE	In vivo	Not mutagenic
TITANIUM DIOXIDE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
HYDROUS MAGNESIUM SILICATE	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
TITANIUM DIOXIDE	Ingestion	Multiple animal species	Not carcinogenic
TITANIUM DIOXIDE	Inhalation	Rat	Carcinogenic
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation
HYDROUS MAGNESIUM SILICATE	Ingestion	Not toxic to development	Rat	NOAEL 1,600 mg/kg	during organogenesis
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to female reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to male reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 500 ppm	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
HYDROUS MAGNESIUM SILICATE	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
HYDROUS MAGNESIUM SILICATE	Inhalation	pulmonary fibrosis | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 18 mg/m3	113 weeks
TITANIUM DIOXIDE	Inhalation	respiratory system	Some positive data exist, but the	Rat	LOAEL	2 years

			data are not sufficient for classification		0.010 mg/l	
TITANIUM DIOXIDE	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Aspiration hazard

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

SECTION 12: Ecological information

Ecotoxicological information

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

Chemical fate information

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

SECTION 13: Disposal considerations

13.1. Disposal methods

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

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

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

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

15.2. State Regulations

Contact 3M for more information.

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

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

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

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

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

HMIS Hazard Classification
Health: *2 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

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

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SECTION 1: Identification

1.1. Product identifier
SCOTCHKOTE 323 Patch, Brush, and Spray Grades, Part B

Product Identification Numbers
80-6116-1153-6, 80-6300-0060-4, 80-6300-0062-0, 80-6300-0248-5

1.2. Recommended use and restrictions on use

Recommended use
Coating, Part B of 2 Part Liquid Epoxy Coating System

1.3. Supplier's details

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

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 1B.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.
Specific Target Organ Toxicity (respiratory irritation): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Corrosion | Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause respiratory irritation.
Suspected of damaging fertility or the unborn child.

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

Precautionary Statements

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

Response:
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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

2.3. Hazards not otherwise classified
May cause chemical gastrointestinal burns. Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

8% of the mixture consists of ingredients of unknown acute oral toxicity.
8% of the mixture consists of ingredients of unknown acute dermal toxicity.
8% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt

P-TERT-BUTYLPHENOL	98-54-4	20 - 30 Trade Secret *
HYDROUS MAGNESIUM SILICATE	14807-96-6	20 - 30 Trade Secret *
PHENOL FORMALDEHYDE AMINE POLYMER	104242-08-2	5 - 10 Trade Secret *
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	5 - 15 Trade Secret *
4-NONYL PHENOL, branched	84852-15-3	5 - 15 Trade Secret *
TRIMETHYLHEXAMETHYLENEDIAMINE	25620-58-0	5 - 15 Trade Secret *
C.I. PIGMENT GREEN 7	1328-53-6	1 - 3 Trade Secret *
POLYAMIDE	Unknown	1 - 3 Trade Secret *
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	< 1 Trade Secret *
PHENOL, 2-ISONONYL-	27938-31-4	< 0.5 Trade Secret *

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

Skin Contact:
Immediately flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

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

If Swallowed:
Rinse mouth. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

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

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
COPPER COMPOUNDS	1328-53-6	ACGIH	TWA(as Cu dust or mist):1 mg/m3;TWA(as Cu, fume):0.2 mg/m3	
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	ACGIH	CEIL:0.1 mg/m3	Skin Notation
HYDROUS MAGNESIUM SILICATE	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
HYDROUS MAGNESIUM SILICATE	14807-96-6	CMRG	TWA(as respirable dust):0.5 mg/m3	
HYDROUS MAGNESIUM	14807-96-6	OSHA	TWA concentration(as total	

SILICATE			dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft.	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	CMRG	TWA:50 ppm(245 mg/m3)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Full Face Shield
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

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

Thermal hazards
Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Odor, Color, Grade:	Viscous, Green, Strong Amine Odor
Odor threshold	*No Data Available*
pH	*No Data Available*
Melting point	*No Data Available*
Boiling Point	> 200 ºF
Flash Point	> 200 ºF [*Test Method:* Pensky-Martens Closed Cup]
Evaporation rate	< 1 [*Ref Std:* BUOAC=1]
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	1 % volume
Flammable Limits(UEL)	7 % volume
Vapor Pressure	0.05 mmHg [*Test Method:* Calculated] [*Details:* at 25C, Raoult's Law]
Vapor Density	> 1 [*Ref Std:* AIR=1]
Density	1.2 g/ml
Specific Gravity	1.2 [*Ref Std:* WATER=1]
Solubility in Water	Slight (less than 10%)
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	13,000 - 20,000 centipoise [@ 72 ºF] [*Test Method:* Brookfield]
Volatile Organic Compounds	12 g/l [*Details:* For coating mixture of Parts A and B]
Percent volatile	1.28 % volume
VOC Less H2O & Exempt Solvents	*Not Applicable*

SECTION 10: Stability and reactivity

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

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
Strong oxidizing agents
Reducing agents

10.6. Hazardous decomposition products

Substance	Condition
Ammonia	During Storage

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:
May be harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

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

May cause additional health effects (see below).

Skin Contact:
May be harmful in contact with skin.
Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

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

May cause additional health effects (see below).

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

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

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

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Dermal Effects: Signs/symptoms may include changes in skin pigmentation and/or coloration.

Prolonged or repeated exposure may cause target organ effects:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Reproductive/Developmental Toxicity:

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

Additional Information:
Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE 2,000 - 5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE 5 - 12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
P-TERT-BUTYLPHENOL	Dermal	Rabbit	LD50 2,318 mg/kg
P-TERT-BUTYLPHENOL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.6 mg/l
P-TERT-BUTYLPHENOL	Ingestion	Rat	LD50 4,000 mg/kg
HYDROUS MAGNESIUM SILICATE	Dermal		LD50 Not available
HYDROUS MAGNESIUM SILICATE	Ingestion		LD50 Not available
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Dermal	Rabbit	LD50 > 2,000 mg/kg
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.2 mg/l
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	Rat	LD50 980 mg/kg
4-NONYL PHENOL, branched	Dermal	Rabbit	LD50 > 2,000 mg/kg
4-NONYL PHENOL, branched	Ingestion	Rat	LD50 1,531 mg/kg
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	Rat	LD50 910 mg/kg
C.I. PIGMENT GREEN 7	Ingestion	Rat	LD50 > 5,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Dermal	Rabbit	LD50 > 2,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation-Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
P-TERT-BUTYLPHENOL	Rabbit	Irritant
HYDROUS MAGNESIUM SILICATE	Rabbit	No significant irritation
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Rat	Corrosive
4-NONYL PHENOL, branched	Rabbit	Corrosive
TRIMETHYLHEXAMETHYLENEDIAMINE	Not available	Corrosive
C.I. PIGMENT GREEN 7	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
P-TERT-BUTYLPHENOL	Rabbit	Corrosive
HYDROUS MAGNESIUM SILICATE	Rabbit	No significant irritation
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Rabbit	Corrosive
4-NONYL PHENOL, branched	Rabbit	Corrosive
TRIMETHYLHEXAMETHYLENEDIAMINE	Rabbit	Corrosive
C.I. PIGMENT GREEN 7	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
P-TERT-BUTYLPHENOL	Human and animal	Some positive data exist, but the data are not sufficient for classification
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Guinea pig	Sensitizing
4-NONYL PHENOL, branched	Guinea pig	Not sensitizing
TRIMETHYLHEXAMETHYLENEDIAMINE	Guinea pig	Sensitizing
C.I. PIGMENT GREEN 7	Guinea pig	Not sensitizing
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value
HYDROUS MAGNESIUM SILICATE	Human	Not sensitizing

Germ Cell Mutagenicity

Name	Route	Value
P-TERT-BUTYLPHENOL	In Vitro	Not mutagenic
HYDROUS MAGNESIUM SILICATE	In Vitro	Not mutagenic
HYDROUS MAGNESIUM SILICATE	In vivo	Not mutagenic
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	In Vitro	Not mutagenic
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	In vivo	Not mutagenic
4-NONYL PHENOL, branched	In Vitro	Not mutagenic
4-NONYL PHENOL, branched	In vivo	Not mutagenic
TRIMETHYLHEXAMETHYLENEDIAMINE	In vivo	Not mutagenic
C.I. PIGMENT GREEN 7	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
P-TERT-BUTYLPHENOL	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
HYDROUS MAGNESIUM SILICATE	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
P-TERT-BUTYLPHENOL	Ingestion	Not toxic to male reproduction	Rat	NOAEL 600 mg/kg/day	2 generation
P-TERT-BUTYLPHENOL	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 600 mg/kg/day	2 generation
P-TERT-BUTYLPHENOL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 70 mg/kg/day	2 generation
HYDROUS MAGNESIUM SILICATE	Ingestion	Not toxic to development	Rat	NOAEL 1,600 mg/kg	during organogenesis
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 450 mg/kg/day	1 generation
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 450 mg/kg	1 generation

M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	Not toxic to development	Rat	NOAEL 450 mg/kg/day	1 generation
4-NONYL PHENOL, branched	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	28 days
4-NONYL PHENOL, branched	Ingestion	Toxic to female reproduction	official classification	NOAEL Not available	
4-NONYL PHENOL, branched	Ingestion	Toxic to development	official classification	NOAEL Not available	
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 120 mg/kg/day	2 generation
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	Not toxic to development	Rat	NOAEL 120 mg/kg/day	2 generation
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 10 mg/kg/day	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to female reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to male reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 500 ppm	2 generation

Lactation

Name	Route	Species	Value
4-NONYL PHENOL, branched	Ingestion	Rat	Does not cause effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P-TERT-BUTYLPHENOL	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	LOAEL 5.6 mg/l	4 hours
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not avaliable	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P-TERT-BUTYLPHENOL	Ingestion	endocrine system | liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 600 mg/kg/day	2 generation
P-TERT-BUTYLPHENOL	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg	6 weeks
HYDROUS MAGNESIUM SILICATE	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

HYDROUS MAGNESIUM SILICATE	Inhalation	pulmonary fibrosis | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 18 mg/m3	113 weeks
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	endocrine system | blood | bone marrow	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 600 mg/kg/day	28 days
4-NONYL PHENOL, branched	Ingestion	endocrine system | hematopoietic system | liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	28 days
4-NONYL PHENOL, branched	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 150 mg/kg/day	90 days
4-NONYL PHENOL, branched	Ingestion	heart | bone, teeth, nails, and/or hair | immune system | muscles | nervous system | respiratory system	All data are negative	Rat	NOAEL 150 mg/kg/day	90 days
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	hematopoietic system | liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 180 mg/kg/day	13 weeks

Aspiration Hazard

Name	Value
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Aspiration hazard

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

SECTION 12: Ecological information

Ecotoxicological information

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

Chemical fate information

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

SECTION 13: Disposal considerations

13.1. Disposal methods

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

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

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

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

This material contains a chemical which requires export notification under TSCA Section 12[b]:

Ingredient (Category if applicable)	C.A.S. No	Regulation	Status
PHENOL, 2-ISONONYL- (Phenol, nonyl-)	27938-31-4	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Proposed
4-NONYL PHENOL, branched (Phenol, nonyl-)	84852-15-3	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Proposed
4-NONYL PHENOL, branched (Phenol, 4-nonyl-, branched)	84852-15-3	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Proposed
4-NONYL PHENOL, branched	84852-15-3	Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals	Proposed

This material contains a chemical subject to a proposed EPA Significant New Use Rule (TSCA Section 5)

Ingredient (Category if applicable)	C.A.S. No	Reference
4-NONYL PHENOL, branched	84852-15-3	79 FR 59186

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

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

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

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

SECTION 16: Other information

NFPA Hazard Classification
Health: 3 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None
Corrosive: Yes

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

HMIS Hazard Classification
Health: *3 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

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

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SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

SCS1001 12C-Crtrg (0.730 Lbs-0.331 Kg)

Section 1. Product and company identification

Product name : SCS1001 12C-Crtrg (0.730 Lbs-0.331 Kg)
Chemical name : Not available

Manufacturer/Importer/ Distributor Information : Momentive Amer Seal.
260 Hudson River Road
Waterford NY 12188

Contact person : 4information@momentive.com

Telephone : General information
+1-800-295-2392

Emergency telephone number
Supplier : CHEMTREC
1-800-424-9300

Section 2. Hazards identification

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
TOXIC TO REPRODUCTION - Category 2

GHS label elements

Hazard pictograms :

Signal word : Warning
Hazard statements : H315 Causes skin irritation.
H361f Suspected of damaging fertility.

Precautionary statements

General : Not applicable.

Prevention : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Use personal protective equipment as required.
Wear protective gloves.
Wash hands thoroughly after handling.

Response : IF exposed or concerned:
Get medical attention.
IF ON SKIN:
Wash with plenty of soap and water.

Take off contaminated clothing.
Wash contaminated clothing before reuse.
If skin irritation occurs:
Get medical attention.

Storage : Store locked up.

Disposal : P501Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : Uncured product is irritating to eyes, skin, and respiratory system. Generates acetic acid during cure.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture
Chemical name : Not available

Hazardous ingredients	% by weight	CAS number
Silanetriol, 1-methyl-, 1,1,1-triacetate	1 - 5	4253-34-3
Octamethylcyclotetrasiloxane	1 - 5	556-67-2

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.

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 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 : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. 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. 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.

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 aid personnel	:	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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	:	Use dry chemical, CO2, alcohol-resistant foam or water spray (fog).
Unsuitable extinguishing media	:	water jet
Specific hazards arising from the chemical	:	No specific fire or explosion hazard.
Hazardous thermal decomposition products	:	Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation.
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. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
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 specialised 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).

Methods and material for containment and cleaning up

Small spill	:	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a

licensed waste disposal contractor. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see section 8 of SDS). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. 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.

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. 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 of SDS) and food and drink. Store locked up. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Octamethylcyclotetrasiloxane	**()** Recommended exposure limit (REL): 5 ppm

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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: chemical splash goggles.

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

Section 9. Physical and chemical properties

Appearance

Physical state : Paste
Color : colorless.

Odor : Acetic acid.
Odor threshold : Not available
pH : Not available
Melting point : Not available
Boiling point : Not available
Flash point : 93 °C (199.40 °F) (Estimated.)

Burning time : Not available
Burning rate : Not available
Evaporation rate : Not available
Flammability (solid, gas) : Not available
Lower and upper explosive (flammable) limits : **Lower:** Not applicable. **Upper:** Not applicable.

Vapor pressure	:	Not available
Vapor density	:	Not available
Relative density	:	Not available
Density	:	1.06 g/cm3
Solubility	:	Soluble in toluene
Solubility in water	:	Insoluble
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
SADT	:	Not available
Viscosity	:	**Dynamic:** Not available **Kinematic:** Not available
Volatile organic content	:	1.5 % (w/w) 20 g/l

Other information

No additional information.

Section 10. Stability and reactivity

Reactivity	:	Stable under normal conditions.
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
Octamethylcyclotetrasiloxane				
	LD50 Oral	Rat	4,800 mg/kg OECD-Guideline 401 (Acute Oral Toxicity)	-
	LC50 Inhalation	Rat	> 12.1 mg/l	4 h
	LC50 Inhalation	Rat	36 mg/l OECD Test Guideline 403	4 h
	LD50 Dermal	Rat	> 2,400 mg/kg OECD Test Guideline 402	-

Conclusion/Summary : Not determined

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
SCS1001	Skin - Moderate irritant OECD-Guideline 404 (Acute Dermal Irritation/Corrosion)	Rabbit			-
Remarks:	Classification according to test study data of a similar product.				
	eyes - Mild irritant OECD-Guideline 405 (Acute Eye Irritation/Corrosion)	Rabbit			-
Remarks:	Classification according to test study data of a similar product.				
Octamethylcyclotetrasiloxane	Skin OECD-Guideline 404 (Acute Dermal Irritation/Corrosion)	Rat			-
Remarks:	Non-irritating to the skin.				
	eyes OECD-Guideline 405 (Acute Eye Irritation/Corrosion)	Rabbit			-
Remarks:	Non-irritating to the eyes.				

Conclusion/Summary

Skin : Moderate irritant

eyes : Mild irritant

Respiratory : Not determined

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Octamethylcyclotetrasiloxane	-	Guinea pig	Not sensitizing OECD-Guideline 406 (Skin Sensitisation)

Conclusion/Summary

Skin : Not determined

Respiratory : Not determined

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Octamethylcyclotetrasiloxane	OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)	In vitro	Negative
	Mouse Lymphoma Assay (OECD Guidline 476)	In vitro	Negative
	OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test)	In vivo	Negative

Conclusion/Summary : Not determined

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	Inhalation - OECD 453	Rat - Female	150 mg/kg	24 months
Remarks:	NOAEC			
	Inhalation - OECD 453	Rat - Male	> 700 mg/kg	24 months
Remarks:	NOAEC			

Conclusion/Summary : Not determined

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	-	-	-	Rat	Inhalation: 300 mg/kg OECD 416	-
Remarks:	NOAEL parents					
	-	-	-	Rat	Inhalation: 300 mg/kg OECD 416	-
Remarks:	NOAEL F1					

Conclusion/Summary : Not determined

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	- Inhalation OECD Test Guideline 414	Rabbit	500 mg/kg	18 days
Remarks:	NOAEL			
	- Inhalation OECD Test Guideline 414	Rabbit	300 mg/kg	18 days
Remarks:	NOAEL maternity			

Conclusion/Summary : Not determined

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Silanetriol, 1-methyl-, 1,1,1-triacetate	Category 3		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 : Causes serious eye irritation.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes skin irritation.
Ingestion : Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

Product/ingredient name	Result	Species	Dose	Exposure
Octamethylcyclotetrasiloxane	NOAEC Inhalation	Rat	150 mg/kg OECD 453	24 months
Remarks:	NOAEC			
	NOAEL Dermal	Rabbit	> 1 mg/kg OECD 410	3 weeks
Remarks:	NOAEL			

Conclusion/Summary : Not determined

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 : Suspected of damaging fertility.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	11,982.6 mg/kg

Other information

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage of Octamethylcyclotetrasiloxane (1600mg/kg/day,14 days), developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to Octamethylcyclotetrasiloxane (300 ppm five days/week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. This response in rats, which does not affect the animal's health, is well-documented and widely recognized. It is related to an increase of liver enzymes that metabolize and eliminate a material from the body. The increased liver weight reverses even while the D4 exposure continues. The finding is not adverse, but is considered a natural adaptive change in rats, and does not represent a hazard to humans. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents. Range finding reproductive studies were conducted (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation), with D4. Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. A two-year, combined chronic/carcinogenicity study, during which rats were exposed to D4 by inhalation, data showed a statistically significant increase in a benign uterine tumor in female rats exposed at the highest level--a level much higher than the low levels that consumers or workers may encounter. An expert panel of independent scientists who have reviewed the results of this research concur that the finding seen in the two-year study occurred through a biological pathway that is specific to the rat and is not relevant to humans. Therefore, this observed effect does not indicate a potential health hazard to humans. In developmental toxicity studies, rats and rabbits were exposed to D4 at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

Section 12. Ecological information

Ecotoxicity

Conclusion/Summary : Not available

Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
octamethylcyclotetrasiloxane	310 Ready Biodegradability - CO_2 in Sealed Vessels	3.7 % - 29 d		Activated sludge

	(Headspace Test)			
Remarks:	Not readily biodegradable.			

Conclusion/Summary : Not available

Bioaccumulative potential

Product/ingredient name	Species	Exposure	LogPow	BCF	Potential
Octamethylcyclotetrasiloxane	Fathead minnow	28 d		12.40	low

Mobility in soil

Soil/water partition coefficient (KOC) : Not available

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

Other information

Octamethylcyclotetrasiloxane (D4) meets the current REACh Annex XIII criteria for PBT and vPvB. However, D4 does not behave similarly to known PBT/vPvB substances. The silicones industries interpretation of the available data is that the weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

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

Special precautions for user : This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15.Regulatory information

United States

U.S. Federal regulations : **United States - TSCA 12(b) - Chemical export notification:** None required.
United States - TSCA 5(a)2 - Final significant new use rules: Not listed
United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed
United States - TSCA 5(e) - Substances consent order: Not listed

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

California Prop. 65: : None required.

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

International regulations

International lists : **Australia inventory (AICS):** All components are listed or exempted.
Canada inventory: At least one component is not listed in DSL but all such components are listed in NDSL.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory (NZIoC): Not determined.
Philippines inventory (PICCS): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.

Section 16. Other information

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

Health	1
Flammability	1
Physical hazards	0

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 are not required on MSDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Full text of abbreviated H statements : Not applicable.

History

Date of printing : 05/19/2015

Date of issue/Date of revision	:	04/10/2015
Date of previous issue	:	04/03/2015
Version	:	1.5
Prepared by	:	Product Safety Stewardship
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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail UN = United Nations
References	:	Not available

Notice to reader

Unless otherwise specified in section 1, Momentive Products are intended for industrial application only. They are not intended for specific medical applications, neither for long-lasting (> 30 days) implantation into the human body, injected or directly ingested, nor for the manufacture of multiple usable contraceptives
Keep out of the reach of children.

Further Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

1. Identification

Product name	:	SikaBond® Construction Adhesive
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Respiratory sensitization , Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity , Category 1A	H350: May cause cancer.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350 May cause cancer.

Precautionary Statements :
Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.

P285 In case of inadequate ventilation wear respiratory protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

** See section 11 for more detailed information on health effects and symptoms.
** There are no hazards not otherwise classified that have been identified during the classification process.
** There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
titanium dioxide	13463-67-7	>= 2 - < 5 %
xylene	1330-20-7	>= 2 - < 5 %
ethylbenzene	100-41-4	>= 0 - < 1 %
Quartz (SiO2)	14808-60-7	>= 0 - < 1 %
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 0 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Remove contact lenses.

		Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Induce vomiting immediately and call a physician. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	sensitizing effects carcinogenic effects Asthmatic appearance Allergic reactions See Section 11 for more detailed information on health effects and symptoms.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling : Do not breathe vapors or spray mist.
Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
titanium dioxide	13463-67-7	ACGIH	TWA	10 mg/m3
		OSHA P0	TWA	10 mg/m3 Total
		OSHA Z-1	TWA	15 mg/m3 total dust
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
		OSHA P0	STEL	150 ppm 655 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
ethylbenzene	100-41-4	ACGIH	TWA	100 ppm

		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	125 ppm 545 mg/m3
Quartz (SiO2)	14808-60-7	ACGIH	TWA	0.025 mg/m3 Respirable fraction
		OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

__Basis**__
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk

assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	paste
Color	:	various
Odor	:	aromatic
Odor Threshold	:	no data available
Flash point	:	Note: not applicable
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	no data available

Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	1.45 g/cm3
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	42.3 g/l

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

4,4'-methylenediphenyl diisocyanate :

Acute inhalation toxicity : Acute toxicity estimate : 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgment

Skin corrosion/irritation

Product

no data available

Serious eye damage/eye irritation

Product

no data available

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Product

Mutagenicity : no data available

Carcinogenicity

Product

Carcinogenicity : May cause cancer.

IARC	Group 1: Carcinogenic to humans	
	Quartz (SiO2)	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
	ethylbenzene	100-41-4
NTP	Known to be human carcinogen	
	Quartz (SiO2)	14808-60-7

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : no data available

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information	Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods
IATA
Not dangerous goods
IMDG
Not dangerous goods

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard
Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

xylene	1330-20-7	2.51 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

xylene	1330-20-7	2.51 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.
WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification

Health	*	3
Flammability		0
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 08/07/2014

Material number: 466100

1. Identification

Product name	:	Sikadur® 31 Hi-Mod Gel Part A
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Skin irritation , Category 2	H315: Causes skin irritation.
Eye irritation , Category 2A	H319: Causes serious eye irritation.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity , Category 1A	H350: May cause cancer.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H350 May cause cancer.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection/ face protection.

P280 Wear protective gloves.
P281 Use personal protective equipment as required.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Quartz (SiO2)	14808-60-7	>= 25 - < 50 %
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	>= 25 - < 50 %
titanium dioxide	13463-67-7	>= 1 - < 2 %
Quartz (SiO2) <5µm	14808-60-7	>= 0 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Induce vomiting immediately and call a physician.

Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed	:	Allergic reactions Excessive lachrymation Erythema Dermatitis See Section 11 for more detailed information on health effects and symptoms. irritant effects sensitizing effects carcinogenic effects
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling	:	Do not breathe vapors or spray mist.

Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
Quartz (SiO2)	14808-60-7	ACGIH	TWA	0.025 mg/m3 Respirable fraction
		OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction
titanium dioxide	13463-67-7	ACGIH	TWA	10 mg/m3
		OSHA P0	TWA	10 mg/m3 Total
		OSHA Z-1	TWA	15 mg/m3 total dust
Quartz (SiO2) <5µm	14808-60-7	ACGIH	TWA	0.025 mg/m3

				Respirable fraction
		OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**__Basis__
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	paste
Color	:	white
Odor	:	aromatic
Odor Threshold	:	no data available
Flash point	:	> 212 °F (> 100 °C)
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	no data available
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	1.8 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available

Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	4 g/l A+B Combined

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

bisphenol-A-(epichlorhydrin) epoxy resin :

Acute oral toxicity	:	LD50 Oral rat: > 5,000 mg/kg
Acute dermal toxicity	:	LD50 Dermal rabbit: > 20,000 mg/kg

Skin corrosion/irritation

Product

Causes skin irritation.

Serious eye damage/eye irritation

Product

Causes serious eye irritation.

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity : no data available

Carcinogenicity

Product

Carcinogenicity : May cause cancer.

IARC	Group 1: Carcinogenic to humans	
	Quartz (SiO2)	14808-60-7
	Quartz (SiO2) <5µm	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
NTP	Known to be human carcinogen	
	Quartz (SiO2)	14808-60-7
	Quartz (SiO2) <5µm	14808-60-7

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : no data available

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information	Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May be harmful to the environment if released in large quantities. Water polluting material.

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated

IATA

UN number	3082
Description of the goods	Environmentally hazardous substance, liquid, n.o.s. (bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
Packing instruction (cargo aircraft)	964
Packing instruction (passenger aircraft)	964
Packing instruction (passenger aircraft)	Y964

IMDG

UN number	3082
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

	(bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
EmS Number 1	F-A
EmS Number 2	S-F
Marine pollutant	yes

IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.

16. Other information

HMIS Classification

Health	*	3
Flammability		1
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 05/14/2014

Material number: 459284

1. Identification

Product name	:	Sikadur® 31 Hi-Mod Gel Part B
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Skin irritation , Category 2	H315: Causes skin irritation.
Serious eye damage , Category 1	H318: Causes serious eye damage.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity , Category 1A	H350: May cause cancer.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H350 May cause cancer.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear eye protection/ face protection.

P280 Wear protective gloves.
P281 Use personal protective equipment as required.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P310 Immediately call a POISON CENTER or doctor/ physician.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Quartz (SiO2)	14808-60-7	>= 50 - <= 100 %
Benzyl alcohol	100-51-6	>= 2 - < 5 %
3,6-diazaoctanethylenediamin	112-24-3	>= 2 - < 5 %
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	>= 2 - < 5 %
m-phenylenebis(methylamine)	1477-55-0	>= 1 - < 2 %
Quartz (SiO2) <5µm	14808-60-7	0 - < 1 %
Naphthalene, pure	91-20-3	0 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Keep eye wide open while rinsing.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Induce vomiting immediately and call a physician. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	irritant effects sensitizing effects carcinogenic effects Allergic reactions Excessive lachrymation Erythema Dermatitis See Section 11 for more detailed information on health effects and symptoms. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. May cause cancer.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling	:	Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Follow standard hygiene measures when handling chemical products.
Conditions for safe storage	:	Prevent unauthorized access. Store in original container. Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Store in accordance with local regulations.
Materials to avoid	:	No data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
Quartz (SiO2)	14808-60-7	ACGIH	TWA	0.025 mg/m3 Respirable fraction
		OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	

				10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction
		OSHA P0	TWA	0.1 mg/m3 respirable dust fraction
		ACGIH	TWA	0.025 mg/m3 Respirable fraction
		ACGIH	TWA	0.025 mg/m3 Respirable fraction
m-phenylenebis(methylamine)	1477-55-0	ACGIH	C	0.1 mg/m3
		OSHA P0	C	0.1 mg/m3
Quartz (SiO2) <5µm	14808-60-7	ACGIH	TWA	0.025 mg/m3 Respirable fraction
		OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction
		OSHA P0	TWA	0.1 mg/m3 respirable dust fraction
		ACGIH	TWA	0.025 mg/m3 Respirable fraction
		ACGIH	TWA	0.025 mg/m3 Respirable fraction

Naphthalene, pure	91-20-3	ACGIH	TWA	10 ppm
		OSHA Z-1	TWA	10 ppm 50 mg/m3
		OSHA P0	TWA	10 ppm 50 mg/m3
		OSHA P0	STEL	15 ppm 75 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**__Basis__
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	paste
Color	:	black
Odor	:	amine-like
Odor Threshold	:	No data available
Flash point	:	> 212 °F (> 100 °C)
Ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Lower explosion limit (Vol%)	:	No data available
Upper explosion limit (Vol%)	:	No data available
Flammability (solid, gas)	:	No data available
Oxidizing properties	:	No data available
Autoignition temperature	:	No data available
pH	:	No data available
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	No data available
Density	:	2.1 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: slightly soluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	No data available

Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	4 g/l A+B Combined

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available

11. Toxicological information

Acute toxicity

Not classified based on available information.

Ingredients:

Benzyl alcohol:

Acute oral toxicity	:	LD50 Oral (Rat): 1,620 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 4.178 mg/l Exposure time: 4 h Test atmosphere: dust/mist

3,6-diazaoctanethylenediamin:

Acute oral toxicity	:	LD50 Oral (Rat): 1,716 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 1,465 mg/kg

m-phenylenebis(methylamine):

Acute oral toxicity	:	LD50 Oral (Rat): 930 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 1.34 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 Dermal (Rat): > 3,100 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Product:

Result: Skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

May cause cancer.

IARC	Group 1: Carcinogenic to humans	
	Quartz (SiO2)	14808-60-7
	Quartz (SiO2) <5µm	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	Naphthalene, pure	91-20-3
NTP	Known to be human carcinogen	
	Quartz (SiO2)	14808-60-7
	Quartz (SiO2) <5µm	14808-60-7
	Reasonably anticipated to be a human carcinogen	
	Naphthalene, pure	91-20-3

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

Aspiration toxicity

Not classified based on available information.

12. Ecological information

Other information	Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

3,6-diazaoctanethylenediamin	112-24-3	Toxicity to fish: LC50 Species: Pimephales promelas (fathead minnow) Dose: > 100 mg/l

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
EC50
Species: Daphnia
Dose: 10 - 100 mg/l
Exposure time: 48 h

Toxicity to algae:
EC50
Species: Pseudokirchneriella subcapitata (green algae)
Dose: 10 - 100 mg/l
Exposure time: 72 h

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods
IATA
Not dangerous goods
IMDG
Not dangerous goods

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list	:	All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
The following components are subject to reporting levels established by SARA Title III, Section 313:

Naphthalene, pure	91-20-3	0.53 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.

16. Other information

HMIS Classification

Health	*	3
Flammability		1
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 03/12/2015

Material number: 459285

1. Identification

Product name	:	Sikadur®-32 Hi-Mod Part A
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2A	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.

GHS Label element

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	>= 50 - <= 100 %
Phenol, 4-nonyl, branched	84852-15-3	>= 5 - < 10 %
2,3-epoxypropyl o-tolyl ether	2210-79-9	>= 2 - < 5 %
solvent naphtha (petroleum), heavy arom.	64742-94-5	>= 1 - < 2 %
Naphthalene, pure	91-20-3	>= 0 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Induce vomiting immediately and call a physician. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	irritant effects sensitizing effects Allergic reactions Excessive lachrymation Erythema Dermatitis See Section 11 for more detailed information on health effects and symptoms.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling : Do not breathe vapors or spray mist.
Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
Naphthalene, pure	91-20-3	ACGIH	TWA	10 ppm
		ACGIH	STEL	15 ppm
		OSHA Z-1	TWA	10 ppm 50 mg/m3
		OSHA P0	TWA	10 ppm 50 mg/m3
		OSHA P0	STEL	15 ppm 75 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

****Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance : liquid

Color	:	clear
	:	straw-like
Odor	:	aromatic
Odor Threshold	:	no data available
Flash point	:	> 212 °F (> 100 °C)
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	no data available
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	1.14 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	35 g/L (Sikadur®-32 Hi-Mod Part A + Sikadur®-32 Hi-Mod Part B); 55 g/L(Sikadur®-32 Hi-Mod Part A + Sikadur®-32 Hi-Mod LPL Part B)

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.

Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

bisphenol-A-(epichlorhydrin) epoxy resin :

Acute oral toxicity	:	LD50 Oral rat: > 5,000 mg/kg
Acute dermal toxicity	:	LD50 Dermal rabbit: > 20,000 mg/kg

Phenol, 4-nonyl, branched :

Acute dermal toxicity	:	LD50 Dermal rabbit: 3,160 mg/kg

Skin corrosion/irritation

Product

Result: Skin irritation

Causes skin irritation.

Serious eye damage/eye irritation

Product

Result: Eye irritation
no data available

Causes serious eye irritation.

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity : Suspected of causing genetic defects.

Carcinogenicity

Product

Carcinogenicity : Suspected of causing cancer.

IARC	Group 2B: Possibly carcinogenic to humans	
	Naphthalene, pure	91-20-3
NTP	Reasonably anticipated to be a human carcinogen	
	Naphthalene, pure	91-20-3

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information: Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
May be harmful to the environment if released in large quantities.
Water polluting material.

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated

IATA

UN number	3082
Description of the goods	Environmentally hazardous substance, liquid, n.o.s. (bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
Packing instruction (cargo aircraft)	964
Packing instruction (passenger aircraft)	964
Packing instruction (passenger aircraft)	Y964

IMDG

UN number	3082
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
EmS Number 1	F-A
EmS Number 2	S-F

Marine pollutant yes

IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Chronic Health Hazard
Acute Health Hazard

SARA 302 : Not listed

SARA 313 : Not listed

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.

16. Other information

HMIS Classification

Health	*	2
Flammability		1
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 05/29/2014

Material number: 459772

1. Identification

Product name	:	Sikadur®-32 Hi-Mod Part B
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Skin corrosion, Category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 1A	H350: May cause cancer.
Reproductive toxicity, Category 2	H361: Suspected of damaging fertility or the unborn child.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust or mist.
P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
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/ attention.
P310 Immediately call a POISON CENTER or doctor/ physician.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Quartz (SiO2)	14808-60-7	>= 50 - <= 100 %
Phenol, 4-nonyl, branched	84852-15-3	>= 5 - < 10 %
Isophoronediamine	2855-13-2	>= 5 - < 10 %
2-piperazin-1-ylethylamine	140-31-8	>= 2 - < 5 %
solvent naphtha (petroleum), heavy arom.	64742-94-5	>= 1 - < 2 %
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	>= 1 - < 2 %
Benzyl alcohol	100-51-6	>= 1 - < 2 %
3,6-dioxaoctamethylenediamine	929-59-9	>= 1 - < 2 %
titanium dioxide	13463-67-7	>= 0 - < 1 %
Quartz (SiO2) <5µm	14808-60-7	>= 0 - < 1 %
Naphthalene, pure	91-20-3	>= 0 - < 1 %

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.

4. First aid measures

If inhaled	:	Move to fresh air. Consult a physician after significant exposure.
In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
In case of eye contact	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Keep eye wide open while rinsing.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	Health injuries may be delayed. corrosive effects sensitizing effects carcinogenic effects Allergic reactions Dermatitis See Section 11 for more detailed information on health effects and symptoms.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must

be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Deny access to unprotected persons.

Environmental precautions : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
Naphthalene, pure	91-20-3	ACGIH	TWA	10 ppm
		ACGIH	STEL	15 ppm

		OSHA Z-1	TWA	10 ppm 50 mg/m3
		OSHA P0	TWA	10 ppm 50 mg/m3
		OSHA P0	STEL	15 ppm 75 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

****Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the

product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	liquid
Color	:	gray
Odor	:	amine-like
Odor Threshold	:	no data available
Flash point	:	> 212 °F (> 100 °C)
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	no data available
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	1.7 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: slightly soluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available

Volatile organic compounds (VOC) content	:	35 g/l A+B Combined

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

Phenol, 4-nonyl, branched :

Acute dermal toxicity	:	LD50 Dermal rabbit: 3,160 mg/kg

Isophoronediamine :

Acute oral toxicity	:	LD50 Oral rat: 1,030 mg/kg

2-piperazin-1-ylethylamine :

Acute oral toxicity	:	LD50 Oral rabbit: ca. 2,097 mg/kg
Acute dermal toxicity	:	LD50 Dermal rabbit: ca. 866 mg/kg

Benzyl alcohol :

Acute oral toxicity	:	LD50 Oral rat: 1,230 mg/kg
Acute inhalation toxicity	:	LC50 rat: 4.178 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Skin corrosion/irritation

Product

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Product

no data available

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity : no data available

Carcinogenicity

Product

Carcinogenicity : May cause cancer by inhalation., Suspected of causing cancer.

IARC	Group 1: Carcinogenic to humans	
	Quartz (SiO2)	14808-60-7
	Quartz (SiO2) <5µm	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
	Naphthalene, pure	91-20-3
NTP	Known to be human carcinogen	
	Quartz (SiO2)	14808-60-7
	Quartz (SiO2) <5µm	14808-60-7
	Reasonably anticipated to be a human carcinogen	
	Naphthalene, pure	91-20-3

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information

Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
May be harmful to the environment if released in large quantities.
Water polluting material.

Component:

2-piperazin-1-ylethylamine	140-31-8	Toxicity to fish: LC50 Species: Fish Dose: > 100 mg/l Exposure time: 96 h

13. Disposal considerations

Disposal methods

Waste from residues : 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number 3267

Description of the goods	Corrosive liquid, basic, organic, n.o.s. (Phenol, 4-nonyl, branched, Isophoronediamine)
Class	8
Packing group	III
Labels	8
Emergency Response Guidebook Number	153

IATA

UN number	3267
Description of the goods	Corrosive liquid, basic, organic, n.o.s. (Phenol, 4-nonyl, branched, Isophoronediamine)
Class	8
Packing group	III
Labels	8
Packing instruction (cargo aircraft)	856
Packing instruction (passenger aircraft)	852
Packing instruction (passenger aircraft)	Y841

IMDG

UN number	3267
Description of the goods	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Phenol, 4-nonyl, branched, Isophoronediamine)
Class	8
Packing group	III
Labels	8
EmS Number 1	F-A
EmS Number 2	S-B
Marine pollutant	yes

DOT: For Limited Quantity exceptions reference 49 CFR 173.154 (b)
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.

16. Other information

HMIS Classification

Health	*	3
Flammability		1
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in

combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 05/29/2014

Material number: 459773

Material Safety Data Sheet

1 . Identification of the material and supplier

Names

Product name	:	Sikadur - 32 Long Pot Life Part B
ADG	:	Amines, liquid, corrosives, n.o.s.

Supplier

Supplier/Manufacturer	:	Sika Australia Pty. Ltd. 55 Elizabeth Street (Locked Bag 482 BDC) Wetherill Park, NSW 2164 Australia
Telephone no.	:	+61 2 9725 11 45
Fax no.	:	+61 2 9725 33 30
Emergency telephone number	:	+61 1800 033 111
Use of the substance/mixture		Chemical product for construction and industry

2 . Hazards identification

Classification	:	C; R34 R43 R52/53
Risk phrases	:	R34- Causes burns. R43- May cause sensitisation by skin contact. R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases	:	S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
Statement of hazardous/dangerous nature	:	HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

3 . Composition/information on ingredients

Mixture : Yes.

3-aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2	1 - <10
3,6-diazaoctanethylenediamin	112-24-3	1 - <10

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

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.

4 . First-aid measures

First-aid measures

Inhalation : Get medical attention immediately. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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.

4 . First-aid measures

Ingestion : Get medical attention immediately. 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. Chemical burns must be treated promptly by a physician. 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.

Skin contact : Get medical attention immediately. Flush contaminated skin with plenty of 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Get medical attention immediately. 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. Chemical burns must be treated promptly by a physician.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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.

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.

5 . Fire-fighting measures

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : 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. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

In a fire or if heated, a pressure increase will occur and the container may burst.

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.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

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.

Hazchem code : 2X

6 . Accidental release measures

Personal precautions : 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 spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilt 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). Water polluting material.

6 . Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). 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. 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 breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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.

Storage : 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Occupational exposure limits : **No exposure standard allocated.**

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Exposure controls

Engineering measures : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

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

Hands : 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.

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

8 . Exposure controls/personal protection

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

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.

9 . Physical and chemical properties

Physical state : Liquid.

Colour : Grey.

Odour : Amine-like.

Density : 1.4 g/cm^3 [20°C (68°F)]

Flash point : Closed cup: >100°C (>212°F)

Solubility : Insoluble in the following materials: cold water.

10 . Stability and reactivity

Stability : The product is stable.

Conditions to avoid : No specific data.

Materials to avoid : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Potential acute health effects

Inhalation : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : May cause burns to mouth, throat and stomach.

Skin contact : Corrosive to the skin. Causes burns. May cause sensitisation by skin contact.

Eye contact : Corrosive to eyes. Causes burns.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
3-aminomethyl-3,5,5-trimethylcyclohexylamine	LD50 Dermal	Rat	1100 mg/kg	-
	LD50 Oral	Rat	1030 mg/kg	-
3,6-diazaoctanethylenediamin	LD50 Dermal	Rabbit	1465 mg/kg	-
	LD50 Oral	Rat	1716 mg/kg	-

Conclusion/Summary : Not available.

Potential chronic health effects

Chronic toxicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Chronic effects : 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.

11 . Toxicological information

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : Adverse symptoms may include the following:
stomach pains

Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eyes : Adverse symptoms may include the following:
pain
watering
redness

Target organs : Contains material which may cause damage to the following organs: kidneys, lungs, upper respiratory tract, skin, eye, lens or cornea, testes.

12 . Ecological information

Environmental effects : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
3,6-diazaoctanethylenediamin	-	Acute EC50 10 to 100 mg/l	Daphnia	48 hours
	-	Acute EC50 10 to 100 mg/l	Algae	72 hours
	-	Acute LC50 >100 mg/l	Fish	96 hours

Conclusion/Summary : Not available.

Other ecological information

Biodegradability

Conclusion/Summary : Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
3,6-diazaoctanethylenediamin	-1.66 to -1.4	-	low

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

13 . Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

ADG

UN number : UN2735

ADG Class : 8

Packing group : III

Proper shipping name : Amines, liquid, corrosives, n.o.s.

Contains : Triethylenetetramine

Label No. : 8

Hazchem code : 2X

14 . Transport information

ADR

UN number	:	UN2735
ADR Class	:	8
Classification code	:	C7
Packing group	:	III
Proper shipping name	:	Amines, liquid, corrosives, n.o.s.
Contains	:	Triethylenetetramine
Label No.	:	8

IMDG

UN number	:	UN2735
IMDG Class	:	8
Packing group	:	III
Proper shipping name	:	Amines, liquid, corrosives, n.o.s.
Contains	:	Triethylenetetramine
Emergency schedules (EmS)	:	F-A, S-B
Marine pollutant	:	No.
Label no.	:	8

IATA

UN number	:	UN2735
IATA Class	:	8
Packing group	:	III
Proper shipping name	:	Amines, liquid, corrosives, n.o.s.
Contains	:	Triethylenetetramine
Label no.	:	8

15 . Regulatory information

Standard for the Uniform Scheduling of Drugs and Poisons

Not regulated.

Control of Scheduled Carcinogenic Substances

Ingredient name	Schedule
No listed substance	

Australia inventory (AICS) : All components are listed or exempted.

EU Classification : C; R34
R43

16 . Other information

Person who prepared the MSDS : Validated by DeSilva on 27.11.2012.

Date of previous issue : **No previous validation.**

Indicates information that has changed from previously issued version.

Disclaimer

Material Safety Data Sheets are updated frequently. Please ensure that you have a current copy. MSDS may be obtained from the following website: www.sika.com.au

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

1. Identification

Product name	:	Sikadur®-33 Part A
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Skin irritation , Category 2	H315: Causes skin irritation.
Eye irritation , Category 2A	H319: Causes serious eye irritation.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity , Category 1A	H350: May cause cancer.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H350 May cause cancer.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection/ face protection.

P280 Wear protective gloves.
P281 Use personal protective equipment as required.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	>= 25 - < 50 %
1,3-bis(2,3-epoxypropoxy)-2,2-dimethylpropane	17557-23-2	>= 2 - < 5 %
titanium dioxide	13463-67-7	>= 0 - < 1 %
Quartz (SiO2)	14808-60-7	>= 0 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

		Induce vomiting immediately and call a physician. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	Allergic reactions Excessive lachrymation Erythema Dermatitis See Section 11 for more detailed information on health effects and symptoms. irritant effects sensitizing effects carcinogenic effects
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling : Do not breathe vapors or spray mist.
Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
titanium dioxide	13463-67-7	ACGIH	TWA	10 mg/m3
		OSHA P0	TWA	10 mg/m3 Total
		OSHA Z-1	TWA	15 mg/m3 total dust
Quartz (SiO2)	14808-60-7	ACGIH	TWA	0.025 mg/m3 Respirable fraction
		OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable

		OSHA P0	TWA	0.1 mg/m3 Respirable fraction

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**__Basis__
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	paste
Color	:	light gray
Odor	:	aromatic
Odor Threshold	:	no data available
Flash point	:	> 212 °F (> 100 °C)
Ignition temperature	:	not applicable
Decomposition temperature	:	no data available
Lower explosion limit (Vol%)	:	no data available
Upper explosion limit (Vol%)	:	no data available
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	no data available
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	no data available
Vapor pressure	:	no data available
Density	:	ca.1.84 g/cm3 at 73 °F (23 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	ca.> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	3 g/l A+B Combined

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no data available
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

bisphenol-A-(epichlorhydrin) epoxy resin :

Acute oral toxicity	:	LD50 Oral rat: > 5,000 mg/kg
Acute dermal toxicity	:	LD50 Dermal rabbit: > 20,000 mg/kg

Skin corrosion/irritation

Product

Causes skin irritation.

Serious eye damage/eye irritation

Product

Causes serious eye irritation.

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity	:	no data available

Carcinogenicity

Product

Carcinogenicity : May cause cancer.

IARC	Group 1: Carcinogenic to humans	
	Quartz (SiO2)	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
NTP	Known to be human carcinogen	
	Quartz (SiO2)	14808-60-7

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : no data available

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: no data available

STOT-repeated exposure

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: no data available

Aspiration toxicity

Product

no data available

12. Ecological information

Other information

Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
May be harmful to the environment if released in large quantities.
Water polluting material.

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not regulated

IATA

UN number	3082
Description of the goods	Environmentally hazardous substance, liquid, n.o.s. (bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
Packing instruction (cargo aircraft)	964
Packing instruction (passenger aircraft)	964
Packing instruction (passenger aircraft)	Y964

IMDG

UN number	3082
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
EmS Number 1	F-A
EmS Number 2	S-F
Marine pollutant	yes

DOT & Domestic Aircraft: As per 49 CFR 171.4, Non-bulk materials (<119 Gal) are excepted from being classed as a Marine Pollutant.
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.

16. Other information

HMIS Classification

Health	*	3
Flammability		1
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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Revision Date 10/09/2014

Material number: 188408

MOMENTIVE
performance materials

Material Safety Data Sheet

Version: 1.3
09/10/2007

GE5096 12C-CRTRG (0.730LB-0.331KG)
Silicone II W&D almond

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured By: **Waterford Plant**
260 Hudson River Rd
Waterford NY 12188
Revised: 09/10/2007
Preparer: PRODUCT STEWARDSHIP COMPLIANCE AND STANDARDS
CHEMTREC 1-800-424-9300

Chemical Family/Use: Sealant
Formula: Mixture

HMIS

Flammability:	0	Reactivity:	0	Health:	1

NFPA

Flammability:	0	Reactivity:	0	Health:	1

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
WARNING! Harmful by inhalation, in contact with skin and if swallowed. May cause central nervous system depression. May cause adverse reproductive effects. Adverse reproductive effects reported in animals.
Form: Solid Color: ALMOND Odor: Ammonia

POTENTIAL HEALTH EFFECTS

INGESTION
May be harmful if swallowed. May cause central nervous system effects. May cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

SKIN
Skin irritation is possible after contact with the uncured product. Uncured product contact will irritate lips, gums and tongue. May be absorbed through skin and produce effects as listed under "Ingestion".

INHALATION
Causes mild respiratory tract irritation. Applies in uncured state. May also cause other effects as listed under "Ingestion".

EYES
Eye irritation on contact with the uncured product.

MEDICAL CONDITIONS AGGRAVATED
Pre-existing skin or respiratory diseases.

SUBCHRONIC (TARGET ORGAN)
Skin; Central nervous system

CHRONIC EFFECTS / CARCINOGENICITY

This product or one of its ingredients present at 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

ROUTES OF EXPOSURE

Inhalation; Dermal; Eyes; Oral.

3. COMPOSITION / INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION	CAS REG NO.	WGT. %
A. HAZARDOUS		
DISTILLATES, PETROLEUM,HYDROTREATED	64742-47-8	5 - 10 %
Hexamethyldisilazane	999-97-3	1 - 5 %
Methyl trimethoxysilane	1185-55-3	1 - 5 %
B. NON-HAZARDOUS		
Methoxypolydimethylsiloxane	68037-58-1	60 - 90 %
Polydimethylsiloxane	63148-62-9	10 - 30 %
Treated Filler	68611-44-9	10 - 30 %

4. FIRST AID MEASURES

INGESTION

Do not induce vomiting. If victim is conscious, give 1-3 glasses of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if irritation persists.

SKIN

To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water. Get medical attention if irritation persists.

INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

EYES

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN
None known.

5. FIRE-FIGHTING MEASURES

FLASH POINT:	> 93.3 °C; 200 °F
METHOD:	estimated
IGNITION TEMPERATURE:	Unknown
FLAMMABLE LIMITS IN AIR - LOWER (%):	Not applicable
FLAMMABLE LIMITS IN AIR - UPPER (%):	Not applicable
SENSITIVITY TO MECHANICAL IMPACT:	No

SENSITIVITY TO STATIC DISCHARGE
Sensitivity to static discharge is not expected.

EXTINGUISHING MEDIA
All standard extinguishing agents are suitable.

SPECIAL FIRE FIGHTING PROCEDURES
Firefighters must wear NIOSH/MSHA approved positive pressureself-contained breathing apparatus with full face mask and fullprotective clothing.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Avoid contact with skin and eyes. Keep container tightly closed. Eye irritation is possible after contact with the uncured product. Skin irritation is possible after contact with the uncured product. Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the fingertips, nails and cuticles. Residual sealant may remain on fingers for several days and transfer to lenses and cause severe eye irritation. Use mechanical ventilation to stay below TLV of 25 ppm ammonia. Product releases methanol during application and curing. Product releases ammonia during application and curing.

STORAGE
Store away from heat, sources of ignition, and incompatibles. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS
Eyewash stations; Showers

RESPIRATORY PROTECTION
If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

PROTECTIVE GLOVES
Cloth gloves.

EYE AND FACE PROTECTION
Safety glasses

OTHER PROTECTIVE EQUIPMENT
Wear suitable protective clothing and eye/face protection.

Exposure Guidelines

Component	CAS RN	Source	Value

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average

OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT - C & F:	Not applicable
VAPOR PRESSURE (20 C) (MM HG):	Not applicable
FREEZING POINT:	Unknown
MELTING POINT:	Unknown
PHYSICAL STATE:	Solid
ODOR:	Ammonia
COLOR:	ALMOND
EVAPORATION RATE (BUTYL ACETATE=1):	< 1
SPECIFIC GRAVITY (WATER=1):	1.05
DENSITY:	ca. 1.05 g/cm3
ACID / ALKALINITY (MEQ/G):	Not applicable
pH:	Not applicable
VOLATILE ORGANIC CONTENT (VOL):	2.2 %(m)

SOLUBILITY IN WATER (20 C):	Insoluble
SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):	PARTIAL IN TOLUENE
VOC EXCL. H2O & EXEMPTS (G/L):	27

10. STABILITY AND REACTIVITY

STABILITY
Stable

HAZARDOUS POLYMERIZATION
Will not occur.

HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS
Methanol; Carbon dioxide (CO2); Formaldehyde; Carbon monoxide; Ammonia; Silicon dioxide.

INCOMPATIBILITY (MATERIALS TO AVOID)
None known.

CONDITIONS TO AVOID
None known.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL
Remarks: Not applicable.

ACUTE DERMAL
Remarks: Not applicable.

ACUTE INHALATION
Remarks: Not applicable.

OTHER
Contains dibutyltin compound(s) - May impair fertility. May cause harm to unborn child.

SENSITIZATION
No data available

SKIN IRRITATION
No data available

EYE IRRITATION
No data available

MUTAGENICITY
Unknown

OTHER EFFECTS OF OVEREXPOSURE

This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150'C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

No data available

DISTRIBUTION

No data available

CHEMICAL FATE

No data available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

Further Information: This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15. REGULATORY INFORMATION

Inventories

Canada DSL Inventory	y (Positive listing)
Korea Existing Chemicals Inventory (KECI)	y (Positive listing)
China Inventory of Existing Chemical Substances	y (Positive listing)
Australia Inventory of Chemical Substances (AICS)	y (Positive listing)
Philippines Inventory of	y (Positive listing)

Chemicals and Chemical Substances (PICCS)	
EU list of existing chemical substances	y (Positive listing)
Canada NDSL Inventory	n (Negative listing)
Japan Inventory of Existing & New Chemical Substances (ENCS)	n (Negative listing)
TSCA list	y (Positive listing)

For inventories that are marked as quantity restricted or special cases, please contact Momentive.

US Regulatory Information

SARA (311,312) HAZARD CLASS

Acute Health Hazard; Chronic Health Hazard

SARA (313) CHEMICALS

Canadian Regulatory Information

WHMIS HAZARD CLASS

D2A VERY TOXIC MATERIALS, D2B TOXIC MATERIALS

Other

SCHDLE B/HTSUS: 3214.10.00.10 Mastic based on rubber

ECCN: EAR99

CALIFORNIA PROPOSITION 65

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

OTHER

C = ceiling limit NEGL = negligible EST = estimated NF = none found NA = not applicable UNKN = unknown NE = none established REC = recommended ND = none determined V = recommended by vendor SKN = skin TS = trade secret R = recommended MST = mist NT = not tested STEL = short term exposure limit ppm = parts per million ppb = parts per billion By-product= reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2)., These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the

intended use and determine whether they are appropriate.

GE50.08 12C-Crtrg (0.730 Lbs-0.331 Kg) WINDOW & DOOR CAULK (GRAY)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured By: **Waterford Plant**
260 Hudson River Rd
Waterford NY 12188
Revised: 09/10/2007
Preparer: PRODUCT STEWARDSHIP COMPLIANCE AND STANDARDS
CHEMTREC 1-800-424-9300

Chemical Family/Use: Sealant
Formula: Mixture

HMIS

Flammability:	0	Reactivity:	0	Health:	1

NFPA

Flammability:	0	Reactivity:	0	Health:	1

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
WARNING! May be harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. May cause central nervous system depression.
Form: Solid Color: NEUTRAL GRAY Odor: Ammonia

POTENTIAL HEALTH EFFECTS

INGESTION
May be harmful if swallowed. May cause central nervous system effects. May cause gastrointestinal irritation, nausea, vomiting, and diarrhea.

SKIN
Skin irritation is possible after contact with the uncured product. Uncured product contact will irritate lips, gums and tongue. May be absorbed through skin and produce effects as listed under "Ingestion".

INHALATION
Causes mild respiratory tract irritation. Applies in uncured state. May also cause other effects as listed under "Ingestion".

EYES
Eye irritation is possible after contact with the uncured product.

MEDICAL CONDITIONS AGGRAVATED
Pre-existing skin or respiratory diseases.

SUBCHRONIC (TARGET ORGAN)
Skin; Central nervous system

CHRONIC EFFECTS / CARCINOGENICITY

This product or one of its ingredients present at 0.1% or more is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC, or OSHA.

ROUTES OF EXPOSURE

Inhalation; Dermal; Eyes; Oral.; Absorption through skin.

3. COMPOSITION / INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION	CAS REG NO.	WGT. %
A. HAZARDOUS		
DISTILLATES, PETROLEUM,HYDROTREATED	64742-47-8	5 - 10 %
Hexamethyldisilazane	999-97-3	1 - 5 %
Methyl trimethoxysilane	1185-55-3	1 - 5 %
B. NON-HAZARDOUS		
Methoxypolydimethylsiloxane	68037-58-1	30 - 60 %
Polydimethylsiloxane	63148-62-9	10 - 30 %

4. FIRST AID MEASURES

INGESTION

Do not induce vomiting. If victim is conscious, give 1-3 glasses of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if irritation persists.

SKIN

To clean from skin, remove completely with a dry cloth or paper towel, before washing with detergent and water. Get medical attention if irritation persists.

INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

EYES

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN

Treatment is symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

FLASH POINT:	> 93.3 °C; 200 °F
METHOD:	estimated
IGNITION TEMPERATURE:	Unknown
FLAMMABLE LIMITS IN AIR - LOWER (%):	Not applicable
FLAMMABLE LIMITS IN AIR - UPPER (%):	Not applicable
SENSITIVITY TO MECHANICAL IMPACT:	No

SENSITIVITY TO STATIC DISCHARGE

Sensitivity to static discharge is not expected.

EXTINGUISHING MEDIA

All standard extinguishing agents are suitable.

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters must wear NIOSH/MSHA approved positive pressureself-contained breathing apparatus with full face mask and fullprotective clothing.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED

Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Use only in well-ventilated areas. Avoid contact with skin and eyes. Remove contact lenses before using sealant. Do not handle lenses until all sealant has been cleaned from the fingertips, nails and cuticles. Residual sealant may remain on fingers for several days and transfer to lenses and cause severe eye irritation. Product releases methanol during application and curing. Product releases ammonia during application and curing.

STORAGE

Store away from heat, sources of ignition, and incompatibles. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Eyewash stations; Showers; Exhaust ventilation

RESPIRATORY PROTECTION

If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

PROTECTIVE GLOVES

Impermeable or chemical resistant gloves.

EYE AND FACE PROTECTION

Safety glasses

OTHER PROTECTIVE EQUIPMENT

Wear suitable protective clothing and eye/face protection.

Exposure Guidelines

Component	CAS RN	Source	Value

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average

OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT - C & F:	Not applicable
VAPOR PRESSURE (20 C) (MM HG):	Not applicable
VAPOR DENSITY (AIR=1):	No data available
FREEZING POINT:	Not applicable
MELTING POINT:	Not applicable
PHYSICAL STATE:	Solid
ODOR:	Ammonia
COLOR:	NEUTRAL GRAY
EVAPORATION RATE (BUTYL ACETATE=1):	< 1
SPECIFIC GRAVITY (WATER=1):	ca. 1.05
DENSITY:	ca. 1.048 g/cm3
ACID / ALKALINITY (MEQ/G):	Unknown
pH:	Not applicable
VOLATILE ORGANIC CONTENT (VOL):	2.2 %(m)
SOLUBILITY IN WATER (20 C):	Insoluble
SOLUBILITY IN ORGANIC SOLVENT (STATE	PARTIAL IN TOLUENE

SOLVENT):
VOC EXCL. H2O & EXEMPTS (G/L): 27

10. STABILITY AND REACTIVITY

STABILITY
Stable

HAZARDOUS POLYMERIZATION
Will not occur.

HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS
Methanol; Carbon dioxide (CO2); Carbon monoxide; Ammonia; Silicon dioxide.; This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150'C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive.

INCOMPATIBILITY (MATERIALS TO AVOID)
None known.

CONDITIONS TO AVOID
Vapor and/or liquid react with water to form ammonia.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL
Remarks: Unknown

ACUTE DERMAL
Remarks: Unknown

ACUTE INHALATION
Remarks: Unknown

OTHER
None.

SENSITIZATION
No data available

SKIN IRRITATION
No data available

EYE IRRITATION
No data available

MUTAGENICITY
Unknown

OTHER EFFECTS OF OVEREXPOSURE
Methanol released during curing., Ammonia released during curing.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

No data available

DISTRIBUTION
No data available
CHEMICAL FATE
No data available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD
Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

Further Information: This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15. REGULATORY INFORMATION

Inventories

TSCA list	y (Positive listing)
Canada DSL Inventory	y (Positive listing)
Korea Existing Chemicals Inventory (KECI)	y (Positive listing)
China Inventory of Existing Chemical Substances	y (Positive listing)
Australia Inventory of Chemical Substances (AICS)	y (Positive listing)
Philippines Inventory of	y (Positive listing)

Chemicals and Chemical Substances (PICCS)	
EU list of existing chemical substances	y (Positive listing)
Canada NDSL Inventory	n (Negative listing)

For inventories that are marked as quantity restricted or special cases, please contact Momentive.

US Regulatory Information

SARA (311,312) HAZARD CLASS

Acute Health Hazard; Chronic Health Hazard

SARA (313) CHEMICALS

Canadian Regulatory Information

WHMIS HAZARD CLASS

D2B TOXIC MATERIALS

Other

SCHDLE B/HTSUS: 3214.10.00.10 Mastic based on rubber

ECCN: EAR99

CALIFORNIA PROPOSITION 65

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

OTHER

C = ceiling limit NEGL = negligible EST = estimated NF = none found NA = not applicable UNKN = unknown NE = none established REC = recommended ND = none determined V = recommended by vendor SKN = skin TS = trade secret R = recommended MST = mist NT = not tested STEL = short term exposure limit ppm = parts per million ppb = parts per billion By-product= reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2)., These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

Material Safety Data Sheet

This MSDS is prepared in accordance with OSHA 29 CFR 1910.1200

WHMIS (Pictograms)	WHMIS (Classification)	HCS
	**WHMIS Class B-5: Flammable aerosol. WHMIS CLASS D-2: Material causing other toxic effects.**	HCS CLASS: Irritating substance. HCS CLASS: Flammable aerosol.

Section 1. Chemical Product and Company Identification

Product Name/ Trade name	**Spray Adhesive**
Synonym	Spray Adhesive
Chemical Family	Not available.
Chemical Formula	Not applicable.
Manufacturer/ Supplier	Betco Corporation 1001 Brown Avenue Toledo, Ohio 43607 (419) 241-2156
TSCA	**TSCA Inventory: All components listed or are exempt from listing.**
DSL/ NDSL	**All components listed unless noted elsewhere on this MSDS**

Code	041
CAS #	Mixture.
Validation Date	**6/24/2006**
Print Date	6/24/2006
In Case of Emergency	Chemtrec (800) 424-9300

Protective Clothing

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits	LC_{50}/LD_{50}
Petroleum Distillates	64742-49-0	30 - 40	Not available.	Not available.
Cyclohexane	110-82-7	20 - 30	Not available.	Not available.
Liquified Petroleum Gas	68476-85-7	10 - 40	TWA: 1000 ppm **OSHA (United States).** TWA: 1000 ppm	Not available.
Acetone	67-64-1	10 - 20	TWA: 750 ppm **OSHA (United States).** TWA: 1000 ppm STEL: 1000 ppm	Not available.
Dimethyl Ether	115-10-6	1 - 10	TWA: 1000 ppm **OSHA (United States).** TWA: 1000 ppm	Not available.

Section 3. Hazards Identification

Potential Acute Health Effects	This product may irritate eyes upon contact. Harmful if swallowed. HARMFUL IF INHALED.
Potential Chronic Health Effects	Severe over-exposure can produce lung damage, choking, unconsciousness or death.
Carcinogenic Effects	Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Section 4. First Aid Measures

Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek IMMEDIATE medical attention.
Skin Contact	Wash contaminated skin with soap and water.
Inhalation	HARMFUL IF INHALED. Evacuate the victim to a safe area as soon as possible. Seek IMMEDIATE medical attention.
Ingestion	Can be fatal if inhaled or ingested. DO NOT induce vomiting. Seek IMMEDIATE medical attention.

Section 5. Fire Fighting Measures

Products of Combustion	Not available.
Fire Fighting Media and Instructions	Use dry chemical or CO2.
Special Remarks on Fire Hazards	May explode when heated.
Special Remarks on Explosion Hazards	No additional remark.

Section 6. Accidental Release Measures

Small Spill and Leak	Absorb with an inert material and place in an appropriate waste disposal container.
Large Spill and Leak	Absorb with an inert material and put the spilled material in an appropriate waste disposal.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Section 7. Handling and Storage

Precautions	Avoid contact with skin and eyes. After handling, always wash hands thoroughly with soap and water.
Incompatibility	of metals oxidizing agents
Storage	Flammable materials should be stored in a separate safety storage cabinet or room. Keep out of the reach of children. Not for use or storage in or around the home.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use only in well-ventilated areas Good general ventilation should be sufficient to control airborne levels.
Personal Protection	
Eyes	Safety glasses.
Body	No special protective clothing is required.
Respiratory	A respirator is not needed under normal and intended conditions of product use. Wear appropriate respirator when ventilation is inadequate.
Hands	Gloves (impervious).
Protective Clothing (Pictograms)	
Exposure Limits	See Section 2 For Applicable Exposure Limits

Section 9. Physical and Chemical Properties

Physical State and Appearance	Spray Adhesive
Molecular Weight	Not applicable.
pH	Not applicable.
Boiling/Condensation Point	N/A
Melting/Freezing Point	Not available.
Critical Temperature	Not available.
Instability Temperature	Not available.
Specific Gravity	0.7 (Water = 1)
Vapor Pressure	6.1 kPa (46 mm Hg) (at 20°C)
Vapor Density	Not available.
Volatility	100% (w/w).
VOC	
Evaporation Rate	Not available.
Dispersion Properties	not available
Solubility	Insoluble
The Product is:	FLAMMABLE.
Auto-ignition Temperature	Not available.
Flash Points	Not available.
Flammable Limits	Not available.
Fire Hazards in Presence of Various Substances	Highly flammable.
Explosion Hazards in Presence of Various Substances	Explosive in presence of shocks. Containers may explode when heated

Odor	Characteristic.
Taste	Not available.
Color	Clear

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Incompatibility with Various Substances	of metals oxidizing agents
Hazardous Decomposition Products	not available

Section 11. Toxicological Information

Routes of Entry	Eye Contact Ingestion. INHALATION Skin contact.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Acute Effects on Humans	
Eyes	This product is a severe eye irritant.
Skin	Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Inhalation	Harmful if inhaled.
Ingestion	Aspiration hazard if swallowed- can enter lungs and cause damage. May be fatal if swallowed.
Chronic Effects on Humans	Severe over-exposure can produce lung damage, choking, unconsciousness or death.
Special Remarks on Toxicity to Animals	No additional remark.
Special Remarks on Chronic Effects on Humans	No additional remark.

Section 12. Ecological Information

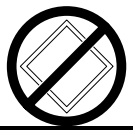
Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	as toxic as the original product.
Special Remarks on the Products of Biodegradation	No additional remark.

Section 13. Disposal Considerations

Waste Information	Do not flush to sewer. Dispose of in accordance with all applicable Federal, state, and local laws.
Waste Stream	Hazardous Waste (Ignitability)

Section 14. Transport Information

DOT (U.S.A) (Pictograms)



TDG Classification Not available.

PIN UN, Proper Shipping Name, PG Classified ORM-D When Shipped By Ground
This product is a Flammable Aerosol when Shipped By Air.

Maritime Transportation Not available.

Special Provisions for Transport	Not available.

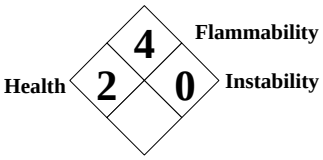
Section 15. Other Regulatory Information and Pictograms

WHMIS (Classification)	WHMIS Class B-5: Flammable aerosol. WHMIS CLASS D-2: Material causing other toxic effects.	
Regulatory Lists	No products were found.	
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).	
Other Classifications	**HCS (U.S.A.)**	HCS CLASS: Irritating substance. HCS CLASS: Flammable aerosol.
	USA Regulatory Lists	SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Liquified Petroleum Gas: Fire hazard
	DSD (EEC)	This product is not classified according to the EU regulations.
	International Regulations Lists	No products were found.

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

Health	2
Flammability	4
Physical Hazard	0

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



The Hazard Ranking systems presented on this MSDS provide only a quick reference for hazard information. The ENTIRE MSDS must be consulted to determine any specific hazards, First Aid measures, and PPE associated with this product.

Section 16. Other Information

Validated by CRushton on 6/24/2006.

Verified by CRushton.

Printed 6/24/2006.

Information Contact **Betco Corporation**
1001 Brown Avenue
Toledo, Ohio 43607

Notice to Reade

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.

Continued on Next Page

SAFETY DATA SHEET

Revision Date 11-Apr-2016
Version 1

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name Z*SPAR Splash Zone A-788 - 2-Part Epoxy Compound - Part A
Product code 8478800

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use 2-Part Epoxy Copmpound
Restrictions on use No information available

1.3 Details of the supplier of the safety data sheet

Supplier

Kop-Coat, Inc. / Pettit Marine Paint
Marine Group
36 Pine Street
Rockaway, NJ 07866
1-800-221-4466

1.4 Emergency telephone number

Emergency telephone number

Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 1

2.2 Label elements

Signal Word

Danger

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May cause cancer
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product

Precautionary Statements - Response
If exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of water and soap
Take off contaminated clothing and wash it before reuse
If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

2.3. Other Hazards Hazards not otherwise classified (HNOC)
Not Applicable

2.4 Other information
Not Applicable

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance
This product is a mixture. Health hazard information is based on its components.
Mixture

Chemical Name	CAS-No	Weight %
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	25068-38-6	40 - 50
Crystalline silica (quartz)	14808-60-7	20 - 30

Talc	14807-96-6	10 - 20
MAGNESITE	546-93-0	10 - 20

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first-aid measures

General advice Show this safety data sheet to the doctor in attendance. When symptoms persist or in all cases of doubt seek medical advice.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician or poison control center immediately.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a poison control center or doctor for treatment advice.

Inhalation Move victim to fresh air. Call a physician or poison control center immediately. Apply artificial respiration if victim is not breathing.

Ingestion Gently wipe or rinse the inside of the mouth with water. Call a physician or poison control center immediately. If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician There is no specific antidote for effects from overexposure to this material. Treat symptomatically.

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, fog, Carbon dioxide (CO_2), foam or dry chemical. Water may be used to cool and prevent the rupture of containers that are exposed to the heat from a fire.

Unsuitable Extinguishing Media None known based on information supplied.

5.2 Special hazards arising from the substance or mixture

Special Hazard
Thermal decomposition can lead to release of irritating gases and vapors

Hazardous Combustion Products Possible formation of carbon oxides, nitrogen oxides, and hazardous organic compounds.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

5.3 Advice for firefighters

Evacuate personnel to safe areas. Thoroughly decontaminate all protective equipment after use. Use water spray to cool fire-exposed containers. Move non-burning material, as feasible, to a safe location as soon as possible. As in any fire, wear self-contained breathing apparatus and full protective gear.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation, especially in confined areas. Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill. Stop leak if you can do it without risk. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8. Avoid exceeding of the given occupational exposure limits (see section 8).

6.2 Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Clean contaminated surface thoroughly. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Use according to package label instructions. Empty containers may retain product residue or vapor. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling.

Hygiene measures Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers. Keep away from food, drink and animal feedingstuffs. Keep from freezing.

Materials to Avoid No materials to be especially mentioned.

8. Exposure controls/personal protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWAEV
Crystalline silica (quartz) 14808-60-7	TWA: 0.025 mg/m³ respirable fraction	: (30)/(%SiO2 + 2) mg/m³ TWA total dust : (250)/(%SiO2 + 5) mppcf TWA respirable fraction : (10)/(%SiO2 + 2) mg/m³ TWA respirable fraction	TWA: 0.025 mg/m³	TWA: 0.025 mg/m³	TWA: 0.1 mg/m³	TWA: 0.10 mg/m³
Talc 14807-96-6	TWA: 2 mg/m³ particulate matter containing no asbestos and <1%	TWA: 20 mppcf if 1% Quartz or more, use Quartz limit	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 3 mg/m³	TWA: 2 mg/m³

	crystalline silica, respirable fraction					
MAGNESITE 546-93-0	-	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ TWA: 3 mg/m³		TWA: 10 mg/m³	TWA: 10 mg/m³

8.2 Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

8.3 Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and body protection Remove and wash contaminated clothing before re-use. Wear protective gloves/ protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene measures See section 7 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Paste
Color	Yellow
Odor	Odorless
Odor Threshold	No information available

Property	**Values**	**Remarks • Methods**
pH		Not Applicable
Melting/freezing point		No information available
Boiling point/boiling range		No information available
Flash Point	> 204 °C / > 399 °F	Not Applicable
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity		No information available
Water solubility		No information available
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic	> 22 mm2/s	
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidizing Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content	0 g/L
Density	14.48 lb/gal

10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

No information available.

10.5 Incompatible Materials

No materials to be especially mentioned.

10.6 Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors.

11. Toxicological information

11.1 Acute toxicity

Numerical measures of toxicity: Product Information

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 26,087.00 mg/kg

Numerical measures of toxicity: Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) 25068-38-6	11400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-

11.2 Information on toxicological effects

Skin corrosion/irritation
Product Information
• May cause irritation
Component Information
• No information available

Serious eye damage/eye irritation
Product Information
• Dust contact with the eyes can lead to mechanical irritation
Component Information
• No information available

Respiratory or skin sensitization
Product Information
• No information available
Component Information
• No information available

Germ cell mutagenicity
Product Information
• No information available
Component Information
• No information available

Carcinogenicity
Product Information
• The table below indicates whether each agency has listed any ingredient as a carcinogen
Component Information
• Contains a known or suspected carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Crystalline silica (quartz) 14808-60-7	A2	Group 1	Known	

Reproductive toxicity
Product Information
• No information available
Component Information
• No information available

STOT - single exposure
Inhalation of dust may irritate nose, throat and/or lungs.

STOT - repeated exposure

• No information available

Other adverse effects
Product Information
• No information available
Component Information
• No information available

Aspiration hazard
Product Information
• No information available
Component Information
• No information available

12. Ecological information

12.1 Toxicity

Ecotoxicity No information available

20.26 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Talc 14807-96-6	-	LC50: 96 h Brachydanio rerio 100 g/L semi-static	-

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Discharge into the environment must be avoided

12.4 Mobility in soil

No information available.

12.5 Other adverse effects

Discharge into the environment must be avoided

13. Disposal Considerations

13.1 Waste treatment methods

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. Transport Information

DOT	Not regulated
MEX	no data available
IMDG	Not regulated
IATA	Not regulated

15. Regulatory information

15.1 International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	Complies
ENCS	-
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	-
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2 U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

15.3 Pesticide Information

Not applicable

15.4 U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Crystalline silica (quartz) - 14808-60-7	Carcinogen

16. Other information

NFPA	**Health Hazard** 1	**Flammability** 1	**Instability** 1	**Physical and chemical hazards** -
HMIS	**Health Hazard** 1*	**Flammability** 1	**Physical Hazard** 1	**Personal protection** X

Legend:
ACGIH (American Conference of Governmental Industrial Hygienists)
Ceiling (C)
DOT (Department of Transportation)
EPA (Environmental Protection Agency)
IARC (International Agency for Research on Cancer)
International Air Transport Association (IATA)
International Maritime Dangerous Goods (IMDG)
NIOSH (National Institute for Occupational Safety and Health)
NTP (National Toxicology Program)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
Reportable Quantity (RQ)
Skin designation (S*)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
TWA (time-weighted average)

Revision Date 11-Apr-2016
Revision Note
No information available

Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

Revision Date 11-Apr-2016
Version 1

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name Z*SPAR Splash Zone A-788 - 2-Part Epoxy Compound - Part B
Product code 8478900

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use 2-Part Epoxy Copmpound
Restrictions on use No information available

1.3 Details of the supplier of the safety data sheet

Supplier

Kop-Coat, Inc. / Pettit Marine Paint
Marine Group
36 Pine Street
Rockaway, NJ 07866
1-800-221-4466

1.4 Emergency telephone number

Emergency telephone number

Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1A
Carcinogenicity	Category 1A
Specific target organ toxicity (repeated exposure)	Category 1

2.2 Label elements

Signal Word

Danger

Hazard Statements
Causes skin irritation
Causes serious eye damage
May cause an allergic skin reaction
May cause cancer
Causes damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing should not be allowed out of the workplace
Do not breathe dust/fume/gas/mist/vapors/spray
Do not eat, drink or smoke when using this product

Precautionary Statements - Response
If exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor
IF ON SKIN: Wash with plenty of water and soap
Take off contaminated clothing and wash it before reuse
If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

2.3. Other Hazards Hazards not otherwise classified (HNOC)
Not Applicable

2.4 Other information
Not Applicable

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance
Mixture

Chemical Name	CAS-No	Weight %
Polymer of c-18 unsat'd fatty acid dimers	68082-29-1	20 - 30
Crystalline silica (quartz)	14808-60-7	20 - 30
Talc	14807-96-6	20 - 30
MAGNESITE	546-93-0	10 - 20
TRIETHYLENETETRAMINE	112-24-3	1 - 5

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL	90-72-2	1 - 5
Carbon black	1333-86-4	< 1

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first-aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Call a physician or poison control center immediately.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse.

Inhalation Move victim to fresh air. If not breathing, give artificial respiration. Keep victim warm and quiet. Call a physician or poison control center immediately.

Ingestion Gently wipe or rinse the inside of the mouth with water. Never give fluids if the victim is unconscious or having convulsions. Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms See Section 2.2, Label Elements and/or Section 11, Toxicological effects.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician There is no specific antidote for effects from overexposure to this material. Treat symptomatically.

5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, fog, Carbon dioxide (CO_2), foam or dry chemical. Water may be used to cool and prevent the rupture of containers that are exposed to the heat from a fire.

Unsuitable Extinguishing Media None known based on information supplied.

5.2 Special hazards arising from the substance or mixture

Special Hazard
Thermal decomposition can lead to release of irritating gases and vapors

Hazardous Combustion Products Possible formation of carbon oxides, nitrogen oxides, and hazardous organic compounds.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Evacuate personnel to safe areas. Move containers from fire area if you can do it without risk. Corrosive hazard. Wear protective gloves/clothing and eye/face protection.

Thoroughly decontaminate all protective equipment after use. Use water spray to cool fire-exposed containers.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation, especially in confined areas. Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill. Keep people away from and upwind of spill/leak. Stop leak if you can do it without risk. Wear protective gloves/clothing and eye/face protection. Thoroughly decontaminate all protective equipment after use. .

6.2 Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment Dike to collect large liquid spills. Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up Clean contaminated surface thoroughly. Take up with sand, earth or other noncombustible absorbent material.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Use according to package label instructions. Empty containers may retain product residue or vapor.

Hygiene measures Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers. Keep away from food, drink and animal feedingstuffs. Keep from freezing.

Materials to Avoid No materials to be especially mentioned.

8. Exposure controls/personal protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWAEV
Crystalline silica (quartz) 14808-60-7	TWA: 0.025 mg/m³ respirable fraction	: (30)/(%SiO2 + 2) mg/m³ TWA total dust : (250)/(%SiO2 + 5) mppcf TWA respirable fraction : (10)/(%SiO2 + 2)	TWA: 0.025 mg/m³	TWA: 0.025 mg/m³	TWA: 0.1 mg/m³	TWA: 0.10 mg/m³

		mg/m³ TWA respirable fraction				
Talc 14807-96-6	TWA: 2 mg/m³ particulate matter containing no asbestos and <1% crystalline silica, respirable fraction	TWA: 20 mppcf if 1% Quartz or more, use Quartz limit	TWA: 2 mg/m³	TWA: 2 mg/m³	TWA: 3 mg/m³	TWA: 2 mg/m³
MAGNESITE 546-93-0	-	TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction	TWA: 10 mg/m³ TWA: 3 mg/m³		TWA: 10 mg/m³	TWA: 10 mg/m³
TRIETHYLENETETRAMINE 112-24-3	-	-				TWA: 0.5 ppm TWA: 3 mg/m³ Skin
Carbon black 1333-86-4	TWA: 3 mg/m³ inhalable fraction	TWA: 3.5 mg/m³	TWA: 3 mg/m³	TWA: 3.5 mg/m³	TWA: 3.5 mg/m³	TWA: 3 mg/m³

8.2 Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Apply technical measures to comply with the occupational exposure limits.

8.3 Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and body protection Wear impervious gloves and/or clothing if needed to prevent contact with the material. Neoprene gloves. Nitrile rubber. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Long sleeved clothing. Chemical resistant apron. Protective shoes or boots. Remove and wash contaminated clothing before re-use.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures See section 7 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Paste
Color	Black
Odor	Amine
Odor Threshold	No information available

Property	Values	Remarks • Methods
pH		Not Applicable
Melting/freezing point		No information available
Boiling point/boiling range		No information available
Flash Point	> 149 °C / > 300 °F	Not Applicable
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity		No information available
Water solubility		No information available
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic	> 22 mm2/s	
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidizing Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content	0 g/L
Density	13.76 lb/gal

10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

None known based on information supplied.

10.5 Incompatible Materials

No materials to be especially mentioned.

10.6 Hazardous Decomposition Products

Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

11. Toxicological information

11.1 Acute toxicity

Numerical measures of toxicity: Product Information

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50 10,469.00 mg/kg
Dermal LD50 18,846.00 mg/kg

Numerical measures of toxicity: Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
TRIETHYLENETETRAMINE 112-24-3	2500 mg/kg (Rat)	= 550 mg/kg (Rabbit)	-
2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL 90-72-2	1000 mg/kg (Rat)	= 1280 mg/kg (Rat)	-

11.2 Information on toxicological effects

Skin corrosion/irritation
Product Information
• May cause irritation
Component Information
• No information available

Serious eye damage/eye irritation
Product Information
• Dust contact with the eyes can lead to mechanical irritation
Component Information
• No information available

Respiratory or skin sensitization
Product Information
• No information available
Component Information
• No information available

Germ cell mutagenicity
Product Information
• No information available
Component Information
• No information available

Carcinogenicity
Product Information
• The table below indicates whether each agency has listed any ingredient as a carcinogen
Component Information
• Contains a known or suspected carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Crystalline silica (quartz) 14808-60-7	A2	Group 1	Known	
Carbon black 1333-86-4	-	Group 2B	-	

Reproductive toxicity
Product Information
• No information available
Component Information
• No information available

STOT - single exposure
Inhalation of dust may irritate nose, throat and/or lungs.

STOT - repeated exposure
No information available

Other adverse effects
Product Information
• No information available
Component Information
• No information available

Aspiration hazard
Product Information
• No information available
Component Information
• No information available

12. Ecological information

12.1 Toxicity

Ecotoxicity No information available

57.04 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Talc 14807-96-6	-	LC50: 96 h Brachydanio rerio 100 g/L semi-static	-
TRIETHYLENETETRAMINE 112-24-3	EC50: 72 h Desmodesmus subspicatus 2.5 mg/L EC50: 72 h Pseudokirchneriella subcapitata 20 mg/L EC50: 96 h Pseudokirchneriella subcapitata 3.7 mg/L	LC50: 96 h Poecilia reticulata 570 mg/L semi-static LC50: 96 h Pimephales promelas 495 mg/L	EC50: 48 h Daphnia magna 31.1 mg/L

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Discharge into the environment must be avoided

Chemical Name	log Pow
TRIETHYLENETETRAMINE 112-24-3	-1.4

12.4 Mobility in soil

No information available.

12.5 Other adverse effects

Discharge into the environment must be avoided

13. Disposal Considerations

13.1 Waste treatment methods

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. Transport Information

DOT	Not regulated
MEX	no data available
IMDG	Not regulated
IATA	Not regulated

15. Regulatory information

15.1 International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	Complies
ENCS	-
IECSC	Complies
KECL	-
PICCS	Complies
AICS	-
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL - Canadian Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

15.2 U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

15.3 Pesticide Information

Not applicable

15.4 U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Crystalline silica (quartz) - 14808-60-7	Carcinogen
Carbon black - 1333-86-4	Carcinogen

16. Other information

NFPA	**Health Hazard** 3	**Flammability** 1	**Instability** 1	**Physical and chemical hazards** -
HMIS	**Health Hazard** 3*	**Flammability** 1	**Physical Hazard** 1	**Personal protection** X

Legend:
ACGIH (American Conference of Governmental Industrial Hygienists)
Ceiling (C)
DOT (Department of Transportation)
EPA (Environmental Protection Agency)
IARC (International Agency for Research on Cancer)
International Air Transport Association (IATA)
International Maritime Dangerous Goods (IMDG)
NIOSH (National Institute for Occupational Safety and Health)
NTP (National Toxicology Program)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
Reportable Quantity (RQ)
Skin designation (S*)
STEL (Short Term Exposure Limit)
TLV® (Threshold Limit Value)
TWA (time-weighted average)

Revision Date 11-Apr-2016
Revision Note
No information available
Disclaimer
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet