

Red Head® C6+, Part A

Product Code(s): C6P-15; C6P-30

SDS Preparation Date (mm/dd/yyyy): 04/21/2017

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SAFETY DATA SHEET**SECTION 1. IDENTIFICATION****Product identifier used on the label**: **Red Head® C6+, Part A****Product Code(s)** : C6P-15; C6P-30**Recommended use of the chemical and restrictions on use**: Resin component of a two part epoxy adhesive. For use in a wide range of threaded bar or rebar applications.
No restrictions on use known.**Chemical family** : Mixture of: Epoxy resin; Inorganic filler; Polymer**Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:****ITW Commercial Construction North America**700 High Grove Road
Glendale Heights, IL, USA
60139**Information Telephone #** : (630) 825-7900**24 Hr. Emergency Tel #** : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).**SECTION 2. HAZARDS IDENTIFICATION****Classification of the chemical**

Pasty liquid. Light grey. Slight epoxy odor.

Most important hazards:

Causes severe skin burns and eye damage. May cause an allergic skin reaction. Contains material that may cause adverse reproductive effects. Contains a substance which may damage genetic material. Corrosive to the respiratory tract. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. Toxic to aquatic life with long lasting effects. Avoid release to the environment. See Section 12 for more environmental information.

This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification:

Skin corrosion/irritation - Category 1C

Eye damage/irritation - Category 1

Skin sensitization - Category 1

Germ cell mutagenicity - Category 2

Reproductive toxicity - Category 1B

Hazards Not Otherwise Classified (HNOC) / Health Hazards Not Otherwise Classified - Category 1

Label elements*Hazard pictogram(s)**Signal Word***DANGER!***Hazard statement(s)*

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May damage fertility or the unborn child.

Corrosive to the respiratory tract.

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Precautionary statement(s)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust or mist. Wash exposed skin thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/clothing and eye/face protection.

Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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.

Store locked up.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Toxic fumes may be released during a fire. Contact with water will generate considerable heat. Excessive heating above 50°C / 122°F may degrade the resin component. May polymerize when heated or on contact with incompatible materials. Ingestion can cause irritation and corrosive action in the mouth, stomach and digestive tract. Prolonged overexposure may cause slight liver effects, such as increased organ weights.

Environmental precautions:

Toxic to aquatic life with long lasting effects. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Avoid release to the environment. See Section 12 for more environmental information.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Synonyms</u>	<u>CAS #</u>	<u>Concentration</u>
Crystalline silica, quartz	Quartz silica Crystallized silicon dioxide	14808-60-7	50.0 - 65.0
Reaction product of Epichlorohydrin and Bisphenol A	Homopolymers of Diglycidyl ether of bisphenol A (DGEBCPA) Diglycidyl ether of bisphenol A-based epoxy resin	25085-99-8	15.0 - 25.0
Bisphenol F / epichlorohydrin based resin	Phenol, polymer with formaldehyde, glycidyl ether	28064-14-4	7.0 - 13.0
Trimethylolpropane-epichlorohydrin copolymer	1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane	30499-70-8	7.0 - 13.0
Ceramic materials and wares, chemicals	Calcined clay	66402-68-4	5.0 - 10.0
titanium dioxide	Anatase Titanic acid anhydride	13463-67-7	0.5 - 1.5

The exact concentrations of the above listed chemicals are being withheld as a trade secret as allowed by 29CFR1910.1200.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion

: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. Never give anything by mouth to an unconscious person.

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- Inhalation* : IF INHALED: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. Immediately call a POISON CENTER or doctor/physician.
- Skin contact* : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Flush with large amounts of water for 15 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.
- Eye contact* : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Flush eyes with water for at least 20 minutes. Protect unharmed eye. Immediately call a POISON CENTER or doctor/physician.

Most important symptoms and effects, both acute and delayed

- : Causes severe skin burns and eye damage. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Symptoms may include severe pain, blurred vision, redness and corrosive damage.
- Corrosive to the respiratory tract. May produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing, choking, pain, or shortness of breath.
- May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema.
- Suspected of causing genetic defects.
- May damage fertility or the unborn child. Symptoms may include longer gestation, and failure to achieve pregnancy.
- May cause severe irritation and corrosive damage in the mouth, throat and stomach.
- Symptoms may include severe abdominal pain, vomiting, burns and bleeding.
- Prolonged overexposure may cause slight liver effects, such as increased organ weights.

Indication of any immediate medical attention and special treatment needed

- : Immediate medical attention is required. Causes burns.
- Provide general supportive measures and treat symptomatically.
- 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.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Carbon dioxide (CO₂); Dry chemical; Alcohol resistant foam

Unsuitable extinguishing media

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

Special hazards arising from the substance or mixture

- : Not considered flammable. However, may burn if exposed to extreme heat and flame. Contact with water will generate considerable heat. May polymerize when heated or on contact with incompatible materials. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Toxic fumes may be released during a fire.

Flammability classification (OSHA 29 CFR 1910.106)

- : Not classified as flammable.

Hazardous combustion products

- : Carbon oxides; Phenols; Aldehydes; Acids; Other unidentified organic compounds

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

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

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Special fire-fighting procedures

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil. Avoid release to the environment. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

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

Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): None known.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Persons with recurrent skin eczema or sensitization problems should be excluded from working with this product. Once a person is sensitized, no further exposure to the material that caused the sensitization should be permitted.
Use with adequate ventilation. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe dust or mist. Avoid contact with skin, eyes and clothing. Processing (such as welding, grinding, and machining) may result in the formation of fumes, dust, and/or particulate. Avoid and control operations which create high vapor or dust concentrations. Keep away from extreme heat and direct flame. Keep away from incompatibles. Protect from moisture. Keep container tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue (liquid and/or vapor) and can be dangerous. Contaminated work clothing must not be allowed out of the workplace.

Conditions for safe storage

- : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Do not store near any incompatible materials (see Section 10).

Incompatible materials

- : Strong oxidizing agents; Acids; Bases; Amines

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SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Crystalline silica, quartz	0.025 mg/m ³ (respirable)	N/Av	0.1 mg/m ³ (respirable) (final rule limit)	N/Av
Reaction product of Epichlorohydrin and Bisphenol A	N/Av	N/Av	N/Av	N/Av
Bisphenol F / epichlorohydrin based resin	N/Av	N/Av	N/Av	N/Av
Trimethylolpropane-epichlorohydrin copolymer	N/Av	N/Av	N/Av	N/Av
Ceramic materials and wares, chemicals	N/Av	N/Av	N/Av	N/Av
titanium dioxide	10 mg/m ³	N/Av	15 mg/m ³ (total dust)	N/Av

Exposure controls

Ventilation and engineering measures

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

Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134). Advice should be sought from respiratory protection specialists.

Skin protection

- : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear a chemically resistant apron and long sleeves when dispensing, to prevent skin contact.

Eye / face protection

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

Other protective equipment

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

General hygiene considerations

- : Do not breathe dust or mist. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Contaminated work clothing must not be allowed out of the workplace.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Pasty liquid. Light grey

Odor : Slight epoxy odor.

Odor threshold : N/Av

pH : N/Av

Melting/Freezing point : N/Av

Initial boiling point and boiling range

: > 200°C (392°F)

Flash point : > 100°C (212°F)

Flashpoint (Method) : N/Av

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Evaporation rate (BuAe = 1) : N/Av
Flammability (solid, gas) : Not applicable.
Lower flammable limit (% by vol.)
: N/Av
Upper flammable limit (% by vol.)
: N/Av
Oxidizing properties : None known.
Explosive properties : Not explosive
Vapor pressure : N/Av
Vapor density : N/Av
Relative density : 1.6
Solubility in water : N/Av
Other solubility(ies) : N/Av
Partition coefficient: n-octanol/water
: N/Av
Auto-ignition temperature : N/Av
Decomposition temperature : N/Av
Viscosity : N/Av
Volatiles (% by weight) : N/Av
Volatile organic Compounds (VOC's)
: N/Av
Absolute pressure of container
: N/Av
Flame projection length : N/Av
Other physical/chemical comments
: No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive. Contact with water will generate considerable heat.
Chemical stability : Stable under normal conditions. Excessive heating above 50°C / 122°F may degrade the resin component.
Possibility of hazardous reactions
: May polymerize when heated or on contact with incompatible materials.
Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials : Strong oxidizing agents; Acids; Bases; Amines
Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

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

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Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

- : Corrosive to the respiratory tract. May produce irritation, burning, or destruction of tissues in the respiratory tract, characterized by coughing, choking, pain, or shortness of breath.

Sign and symptoms ingestion

- : May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include severe abdominal pain, vomiting, burns and bleeding.

Sign and symptoms skin

- : Causes severe skin burns. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring.

Sign and symptoms eyes

- : Causes serious eye damage. Symptoms may include severe pain, blurred vision, redness and corrosive damage.

Potential Chronic Health Effects

- : Prolonged overexposure may cause slight liver effects, such as increased organ weights. Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity

- : This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification:
Germ cell mutagenicity - Category 2. Suspected of causing genetic defects.
Contains: Trimethylolpropane-epichlorohydrin copolymer.
Trimethylolpropane-epichlorohydrin copolymer was positive and negative in In Vitro Mammalian Chromosome Aberration Tests; positive in the In Vitro Mammalian Cell Forward Gene Mutation test; and was positive for mutagenic responses in the Bacterial Reverse Mutation test.

Carcinogenicity

- : Not classifiable as a human carcinogen.
Contains: Crystalline silica, quartz; titanium dioxide.
Crystalline silica is classified as carcinogenic by IARC (Group 1), the ACGIH (Category A2) and the NTP (Group 1 - Known human carcinogen). However, Crystalline silica is listed as causing cancer only when it's particles are airborne and of a respirable size. Airborne respirable particles are not expected for this product, based on the intended use and form of the product as a whole.
Titanium dioxide is classified as possibly carcinogenic by IARC (Group 2B). However, the Titanium dioxide used in this product is in a non-respirable form and under normal conditions of use, Titanium dioxide cannot become airborne. The carcinogenic effects of Titanium dioxide are therefore not applicable to this product.

Reproductive effects

- : This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification:
Reproductive toxicity - Category 1B. May damage fertility or the unborn child.
Contains: Trimethylolpropane-epichlorohydrin copolymer. Symptoms may include longer gestation, and failure to achieve pregnancy.

Senitization to material

- : This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012). Classification:
Skin sensitization - Category 1. May cause an allergic skin reaction. May cause severe skin sensitization with allergic contact dermatitis symptoms such as swelling, rash and eczema. No data available to indicate product or components may be respiratory sensitizers.

Specific target organ effects

- : According to the classification criteria of U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012), this product is not expected to cause target organ toxicity through single or repeated exposures.

Medical conditions aggravated by overexposure

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

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Toxicological data : No data is available on the product itself. The calculated ATE values for this mixture are:
 ATE oral = 13,259 mg/kg
 ATE dermal = 22,758 mg/kg

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀ (4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Crystalline silica, quartz	N/Av	N/Av	N/Av
Reaction product of Epichlorohydrin and Bisphenol A	N/Av	11 400 mg/kg	> 23 500 mg/kg
Bisphenol F / epichlorohydrin based resin	N/Av	> 2000 mg/kg	> 2000 mg/kg
Trimethylolpropane-epichlorohydrin copolymer	N/Av	3398 mg/kg	> 3170 mg/kg (No mortality)
Ceramic materials and wares, chemicals	> 2.3 mg/L (aerosol) (No mortality)	> 2000 mg/kg (No mortality)	> 2500 mg/kg (No mortality)
titanium dioxide	> 6.82 mg/kg (dust) (No mortality)	> 25 000 mg/kg	> 10 000 mg/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Toxic to aquatic life with long lasting effects. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. The product contains the following substances which are hazardous for the environment: Reaction product: bisphenol-A-(epichlorohydrin); Bisphenol F / epichlorohydrin based resin; Trimethylolpropane-epichlorohydrin copolymer.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Crystalline silica, quartz	14808-60-7	N/Av	N/Av	None.
Reaction product of Epichlorohydrin and Bisphenol A	25085-99-8	3.6 mg/L (Rainbow trout) (Read-across)	N/Av	None.
Bisphenol F / epichlorohydrin based resin	28064-14-4	1.5 mg/L	N/Av	None.
Trimethylolpropane-epichlorohydrin in copolymer	30499-70-8	75 mg/L (common carp)	N/Av	None.
Ceramic materials and wares, chemicals	66402-68-4	50.6 mg/L (Rainbow trout) (Read-across)	4.7 mg/L/28-day (Fathead minnow) (Read-across)	None.
titanium dioxide	13463-67-7	> 100 mg/L (Japanese ricefish)	N/Av	None.

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Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Crystalline silica, quartz	14808-60-7	N/Av	N/Av	None.
Reaction product of Epichlorohydrin and Bisphenol A	25085-99-8	1.1 - 2.8mg/L Daphnia magna (Water flea) (Read-across)	0.3 mg/L	None.
Bisphenol F / epichlorohydrin based resin	28064-14-4	1.7 mg/L (Daphnia magna)	0.3 mg/L	None.
Trimethylolpropane-epichlorohydrin copolymer	30499-70-8	3.7 mg/L (Daphnia magna)	N/Av	None.
Ceramic materials and wares, chemicals	66402-68-4	49.1 mg/L (Daphnia magna) (Read-across)	1.89 mg/L/28-day (Read-across)	None.
titanium dioxide	13463-67-7	> 100 mg/L (Daphnia magna)	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Crystalline silica, quartz	14808-60-7	N/Av	N/Av	None.
Reaction product of Epichlorohydrin and Bisphenol A	25085-99-8	9.4 mg/L/72hr (Green algae)	2.8 mg/L/72hr (Read-across)	None.
Bisphenol F / epichlorohydrin based resin	28064-14-4	9.4 mg/L/72hr (Green algae)	N/Av	None.
Trimethylolpropane-epichlorohydrin copolymer	30499-70-8	9 mg/L/72hr (Green algae)	2.5 mg/L/72hr	None.
Ceramic materials and wares, chemicals	66402-68-4	184.57 mg/L/72hr (Green algae) (Read-across)	48 mg/L/72hr (Read-across)	None.
titanium dioxide	13463-67-7	> 100 mg/L/72hr (Green algae)	N/Av	None.

Persistence and degradability

- : The product itself has not been tested.
- Contains the following chemicals which are considered to be inherently biodegradable: Trimethylolpropane-epichlorohydrin copolymer
- Contains the following chemicals which are not readily biodegradable: Reaction product: bisphenol-A-(epichlorohydrin); Bisphenol F / epichlorohydrin based resin; Crystalline silica, quartz; Ceramic materials and wares, chemicals; titanium dioxide.

Bioaccumulation potential

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

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Crystalline silica, quartz (CAS 14808-60-7)	N/Av	N/Av
Reaction product of Epichlorohydrin and Bisphenol A (CAS 25085-99-8)	3 - 5	31 (QSAR)
Bisphenol F / epichlorohydrin based resin (CAS 28064-14-4)	3.242	31
Trimethylolpropane-epichlorohydrin copolymer (CAS 30499-70-8)	0.467 - 3.4	N/Av
Ceramic materials and wares, chemicals (CAS 66402-68-4)	N/Av	N/Av
titanium dioxide (CAS 13463-67-7)	N/Av	N/Av

Mobility in soil

- : The product itself has not been tested.

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Other Adverse Environmental effects




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

SECTION 13. DISPOSAL CONSIDERATIONS

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

- Methods of Disposal** : Dispose in accordance with all applicable federal, state, territory and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN1760	CORROSIVE LIQUID, N.O.S. (Trimethylolpropane-epichlorohydrin copolymer)	8	III	
49CFR/DOT Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 Litres; in packages not exceeding 30 kg gross mass. Refer to 49 CFR Section 173.154.				
ICAO/IATA	UN1760	Corrosive liquid, n.o.s. (Trimethylolpropane-epichlorohydrin copolymer)	8	III	
ICAO/IATA Additional information	Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material.				
IMDG	UN1760	CORROSIVE LIQUID, N.O.S. (Trimethylolpropane-epichlorohydrin copolymer)	8	III	
IMDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. This product contains marine pollutants.				

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

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

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

- : Not applicable.

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SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Crystalline silica, quartz	14808-60-7	Yes	None.	None.	No	N/Ap
Reaction product of Epichlorohydrin and Bisphenol A	25085-99-8	Yes	None.	None.	No	N/Ap
Bisphenol F / epichlorohydrin based resin	28064-14-4	Yes	None.	None.	No	N/Ap
Trimethylolpropane-epichlorohydrin copolymer	30499-70-8	Yes	None.	None.	No	N/Ap
Ceramic materials and wares, chemicals	66402-68-4	Yes	None.	None.	No	N/Ap
titanium dioxide	13463-67-7	Yes	None.	None.	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Health hazards [Skin corrosion; Eye Damage; Skin sensitization; Germ cell mutagenicity; Reproductive toxicity; Hazards Not Otherwise Classified (HNOC) / Health Hazards Not Otherwise Classified]. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Crystalline silica, quartz	14808-60-7	Yes	Cancer (airborne particles of respirable size)	No	Yes	Yes	Yes	Yes	Yes
titanium dioxide	13463-67-7	Yes	Cancer (airborne, unbound particles of respirable size)	No	Yes	Yes	Yes	Yes	Yes
Reaction product of Epichlorohydrin and Bisphenol A	25085-99-8	No	N/Ap	No	No	No	No	No	No
Bisphenol F / epichlorohydrin based resin	28064-14-4	No	N/Ap	No	No	No	No	No	No
Trimethylolpropane-epichlorohydrin copolymer	30499-70-8	No	N/Ap	No	No	No	No	No	No
Ceramic materials and wares, chemicals	66402-68-4	No	N/Ap	No	No	No	No	No	No

Canadian Information:

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

Canadian National Pollutant Release Inventory (NPRI): This product does not contain any substances listed on the NPRI.

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

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International Information:

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

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECs</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>New Zealand IOC</u>
Crystalline silica, quartz	14808-60-7	238-878-4	Present	Present	(1)-548	KE-29983	Present	HSR003125
Reaction product of Epichlorohydrin and Bisphenol A	25085-99-8	Not listed	Present	Present	(7)-1279; (7)-1283	KE-24083	Present	HSR003553
Bisphenol F / epichlorohydrin based resin	28064-14-4	Polymer	Present	Present	(7)-1285	KE-28226	Present	May be used as a single component chemical under an appropriate group standard.
Trimethylolpropane-epichlorohydrin copolymer	30499-70-8	Polymer	Present	Present	(7)-343	KE-13842	Present	May be used as a single component chemical under an appropriate group standard.
Ceramic materials and wares, chemicals	66402-68-4	266-340-9	Present	Present	(1)-189	KE-05377	Present	May be used as a single component chemical under an appropriate group standard.
titanium dioxide	13463-67-7	236-675-5	Present	Present	(5)-5225; (1)-558	KE-33900	Present	May be used as a single component chemical under an appropriate group standard.

SAFETY DATA SHEET**SECTION 16. OTHER INFORMATION****Legend**

: ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
ATE: Acute Toxicity Estimate
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
EC50: Effective Concentration 50%
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IBC: Intermediate Bulk Container
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2017.
2. International Agency for Research on Cancer Monographs, searched 2017.
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2017 (Chempendium, HSDB and RTECS).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - March 2015 version.
6. California Proposition 65 List - January 27, 2017 version.
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2017.

Preparation Date (mm/dd/yyyy)

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SAFETY DATA SHEET**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

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