Epoxy Putty Stick - Under Water Cure
J-B Weld Company, LLC

Version No: **2.6**
Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

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S.GHS.USA.EN

SECTION 1 Identification

Product Identifier

Product name	Epoxy Putty Stick - Under Water Cure
Synonyms	8277, 8277H (WaterWeld)
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Use according to manufacturer's directions.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	**J-B Weld Company, LLC**
Address	400 CMH Road Sulphur Springs, TX 75482 United States
Telephone	903-885-7696
Fax	903-885-5911
Website	www.jbweld.com
Email	info@jbweld.com

Emergency phone number

Association / Organisation	**InfoTrac**
Emergency telephone numbers	Transportation Emergencies (24 hour): 1-800-535-5053
Other emergency telephone numbers	Not Available

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Classification	Eye Irritation Category 2A, Skin Corrosion/Irritation Category 2, Skin Sensitizer Category 1B

Label elements

Hazard pictogram(s)	
Signal word	**Warning**

Hazard statement(s)

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Hazard(s) not otherwise classified

Not Applicable

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P280	Wear protective gloves/protective clothing/eye protection/face protection.

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P261	Avoid breathing mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P321	Specific treatment (see advice on this label).
P362	Take off contaminated clothing and wash before reuse.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
25068-38-6*	<20	bisphenol A diglycidyl ether polymer
3101-60-8*	<1	4-tert-butylphenyl glycidyl ether
14808-60-7*	<1	Quartz
65997-17-3	<30	glass, oxide
37244-96-5	<50	nepheline syenite
72244-98-5	<10	trimercaptan ether, propoxylated
68479-04-9*	<1	N-(3-tridecyloxypropyl)-1,3-propanediamine, branched
26950-63-0*	<1	triethylenetetramine, propoxylated
112-24-3*	<1	triethylenetetramine
7727-43-7	<10	barium sulfate
13463-67-7	<10	titanium dioxide

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

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▸ Wash out immediately with fresh running water. ▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▸ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▸ Immediately remove all contaminated clothing, including footwear. ▸ Flush skin and hair with running water (and soap if available). ▸ Seek medical attention in event of irritation.
Inhalation	▸ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▸ Other measures are usually unnecessary.
Ingestion	▸ Immediately give a glass of water. ▸ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

▸ There is no restriction on the type of extinguisher which may be used.

Continued...

- Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting	- Alert Fire Brigade and tell them location and nature of hazard. - Wear breathing apparatus plus protective gloves in the event of a fire.
Fire/Explosion Hazard	- Non combustible. - Not considered a significant fire risk, however containers may burn. Decomposition may produce toxic fumes of: sulfur oxides (SOx) May emit poisonous fumes. May emit corrosive fumes.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	- Clean up all spills immediately. - Avoid contact with skin and eyes.
Major Spills	Minor hazard. - Clear area of personnel.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling	- Avoid all personal contact, including inhalation. - Wear protective clothing when risk of exposure occurs.
Other information	- Store in original containers. - Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	- Polyethylene or polypropylene container. - Packing as recommended by manufacturer.
Storage incompatibility	Barium sulfate (barytes) - reacts violently with dimethyl sulfoxide, sodium acetylide, finely divided carbon, aluminium, magnesium, zirconium, and possibly other active metals, especially at elevated temperatures - is incompatible with potassium, phosphorus (ignites when primed with nitrate-calcium silicide) For frits: - Avoid storage with hydrogen fluoride/ hydrofluoric acid, oxygen difluoride, manganese trifluoride, fluorine and other fluorine containing compounds, manganese trioxide, chlorates, chlorine trifluoride, chlorine trioxide, strong alkalis, metal oxides, concentrated orthophosphoric acid or vinyl acetate. None known

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELs)	Quartz	Cristobalite, Quartz, Tridymite, Tripoli	0.05 mg/m3	Not Available	Not Available	Ca See Appendix A
US OSHA Permissible Exposure Levels (PELs) - Table Z3	Quartz	Silica: Crystalline Quartz	10 / (% SiO2 + 2) mg/m3 / 250 / (%SiO2 + 5) mppcf	Not Available	Not Available	(Name ((Respirable) ((f) This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or is otherwise not in effect.))); (TWA mppcf (((b) The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
						applicable.))); (TWA mg/m3 (((e) Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics: Aerodynamic diameter (unit density sphere), Percent passing selector 2, 90 | 2.5, 75 | 3.5, 50 | 5.0, 25 | 10, 0. The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m3 in the table for coal dust is 4.5 mg/m3K.)))
US OSHA Permissible Exposure Levels (PELs) - Table Z1	Quartz	Silica, crystalline, respirable dust: Quartz	Not Available	Not Available	Not Available	see 1910.1053; (7) See Table Z-3 for the exposure limit for any operations or sectors where the exposure limit in § 1910.1053 is stayed or is otherwise not in effect.
US ACGIH Threshold Limit Values (TLV)	Quartz	Silica, crystalline -α-quartz and cristobalite (Respirable particulate matter)	0.025 mg/m3	Not Available	Not Available	Pulm fibrosis; lung cancer
US NIOSH Recommended Exposure Limits (RELs)	barium sulfate	Artificial barite, Barite, Barium salt of sulfuric acid, Barytes (natural)	10 (total), 5 (resp) mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Levels (PELs) - Table Z1	barium sulfate	Barium sulfate: Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Levels (PELs) - Table Z1	barium sulfate	Barium sulfate: Total dust	15 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	barium sulfate	Barium sulfate (Inhalable particulate matter)	5 mg/m3	Not Available	Not Available	Pneumoconiosis
US NIOSH Recommended Exposure Limits (RELs)	titanium dioxide	Rutile, Titanium oxide, Titanium peroxide	Not Available	Not Available	Not Available	Ca See Appendix A
US OSHA Permissible Exposure Levels (PELs) - Table Z1	titanium dioxide	Titanium dioxide: Total dust	15 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	titanium dioxide	Titanium dioxide	10 mg/m3	Not Available	Not Available	LRT irr

Emergency Limits

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
bisphenol A diglycidyl ether polymer	Epoxy resin includes EPON 1001, 1007, 820, ERL-2795	90 mg/m3	990 mg/m3	5,900 mg/m3
Quartz	Silica, crystalline-quartz; (Silicon dioxide)	0.075 mg/m3	33 mg/m3	200 mg/m3
glass, oxide	Fibrous glass; (Fiber glass; Glass frit; Synthetic vitreous fibers)	15 mg/m3	170 mg/m3	990 mg/m3
triethylenetetramine	Triethylenetetramine	3 ppm	14 ppm	83 ppm
barium sulfate	Barium sulfate	15 mg/m3	170 mg/m3	990 mg/m3
titanium dioxide	Titanium oxide; (Titanium dioxide)	30 mg/m3	330 mg/m3	2,000 mg/m3

Ingredient	Original IDLH	Revised IDLH
bisphenol A diglycidyl ether polymer	Not Available	Not Available
4-tert-butylphenyl glycidyl ether	Not Available	Not Available
Quartz	25 mg/m3 / 50 mg/m3	Not Available
glass, oxide	Not Available	Not Available
nepheline syenite	Not Available	Not Available
trimercaptan ether, propoxylated	Not Available	Not Available
N-(3-tridecyloxypropyl)-1,3-propanediamine, branched	Not Available	Not Available
triethylenetetramine, propoxylated	Not Available	Not Available
triethylenetetramine	Not Available	Not Available
barium sulfate	Not Available	Not Available
titanium dioxide	5,000 mg/m3	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit

Continued...

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
bisphenol A diglycidyl ether polymer	E	≤ 0.1 ppm
4-tert-butylphenyl glycidyl ether	E	≤ 0.1 ppm
trimercaptan ether, propoxylated	D	> 0.1 to ≤ 1 ppm
triethylenetetramine, propoxylated	E	≤ 0.1 ppm
triethylenetetramine	E	≤ 0.1 ppm
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
Personal protection	
Eye and face protection	‣ Safety glasses with side shields. ‣ Chemical goggles.
Skin protection	See Hand protection below
Hands/feet protection	‣ Wear chemical protective gloves, e.g. PVC. ‣ Wear safety footwear or safety gumboots, e.g. Rubber **NOTE:** ‣ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
Body protection	See Other protection below
Other protection	‣ Overalls. ‣ P.V.C apron.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	White Putty

Physical state	Non Slump Paste	**Relative density (Water = 1)**	Not Available
Odour	Not Available	**Partition coefficient n-octanol / water**	Not Available
Odour threshold	Not Available	**Auto-ignition temperature (°C)**	Not Available
pH (as supplied)	Not Available	**Decomposition temperature**	Not Available
Melting point / freezing point (°C)	Not Available	**Viscosity (cSt)**	Not Available
Initial boiling point and boiling range (°C)	Not Available	**Molecular weight (g/mol)**	Not Available
Flash point (°C)	Not Available	**Taste**	Not Available
Evaporation rate	Not Available	**Explosive properties**	Not Available
Flammability	Not Available	**Oxidising properties**	Not Available
Upper Explosive Limit (%)	Not Available	**Surface Tension (dyn/cm or mN/m)**	Not Available
Lower Explosive Limit (%)	Not Available	**Volatile Component (%vol)**	Not Available
Vapour pressure (kPa)	Not Available	**Gas group**	Not Available
Solubility in water	Immiscible	**pH as a solution (1%)**	Not Available
Vapour density (Air = 1)	Not Available	**VOC g/L**	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.

Continued...

Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Levels above 10 micrograms per cubic metre of suspended inorganic sulfates in the air may cause an excess risk of asthmatic attacks in susceptible people. Effects on lungs are significantly enhanced in the presence of respirable particles. Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.
Ingestion	Ingestion of soluble barium compounds may result in ulceration of the mucous membranes of the gastrointestinal tract, tightness in the muscles of the face and neck, gastroenteritis, vomiting, diarrhoea, muscular tremors and paralysis, anxiety, weakness, laboured breathing, cardiac irregularity due to contractions of smooth striated and cardiac muscles (often violent and painful), slow irregular pulse, hypertension, convulsions and respiratory failure. The material has **NOT** been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following. Overexposure to the breathable dust may cause coughing, wheezing, difficulty in breathing and impaired lung function. Chronic symptoms may include decreased vital lung capacity and chest infections.

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TOXICITY	IRRITATION
Not Available	Not Available

bisphenol A diglycidyl ether polymer

TOXICITY	IRRITATION
dermal (mouse) LD50: >1270 mg/kg[2]	Not Available
dermal (rat) LD50: >1200 mg/kg[2]	
Oral (mouse) LD50: >500 mg/kg[2]	
Oral (mouse) LD50: 15600 mg/kg[2]	
Oral (rat) LD50: >1000 mg/kg[2]	
Oral (rat) LD50: 11400 mg/kg[2]	
Oral (rat) LD50: 13600 mg/kg[2]	

4-tert-butylphenyl glycidyl ether

TOXICITY	IRRITATION
Oral (rat) LD50: 5600 mg/kg[2]	Not Available

Quartz

TOXICITY	IRRITATION
0.3 mg/kg[2]	Not Available
50 mg/kg[2]	
Oral (rat) LD50: =500 mg/kg[2]	

glass, oxide

TOXICITY	IRRITATION
Not Available	Not Available

Continued...

nepheline syenite	

TOXICITY	IRRITATION
Not Available	Not Available

trimercaptan ether, propoxylated	

TOXICITY	IRRITATION
Not Available	Not Available

N-(3-tridecyloxypropyl)-1,3-propanediamine, branched	

TOXICITY	IRRITATION
Oral (rat) LD50: 500 mg/kg[2]	Not Available

triethylenetetramine, propoxylated	

TOXICITY	IRRITATION
Not Available	Not Available

triethylenetetramine	

TOXICITY	IRRITATION
Dermal (rabbit) LD50: 805 mg/kg[2]	Not Available
Oral (mouse) LD50: =1600 mg/kg[2]	
Oral (rat) LD50: =2780 mg/kg[2]	
Oral (rat) LD50: =4300 mg/kg[2]	
Oral (rat) LD50: 2500 mg/kg[2]	

barium sulfate	

TOXICITY	IRRITATION
=15000 mg/kg[2]	Not Available
Oral (mouse) LD50: >3000 mg/kg[2]	

titanium dioxide	

TOXICITY	IRRITATION
0.0032 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
0.04 mg/kg[2]	Skin (human): 0.3 mg /3D (int)-mild *
60000 mg/kg[2]	Skin: no adverse effect observed (not irritating)[1]
Oral (mouse) LD50: >10000 mg/kg[2]	
Oral (rat) LD50: >2000 mg/kg[1]	

Legend:	*1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

GLASS, OXIDE	A similar spherical glass powder was nontoxic to rats at 5,000 mg/kg. All animals survived, gained weight and appeared active and healthy. There are no known reports of subchronic toxicity of nonfibrous glass. There are no known reports of carcinogenicity of nonfibrous glass When tested for primary irritation potential, a similar material caused minimal irritation to eyes and was non-irritating to skin. Dust in excess of recommended exposure limits may result in irritation to the respiratory tract
TRIMERCAPTAN ETHER, PROPOXYLATED	Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers.
TITANIUM DIOXIDE	* IUCLID Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation. Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. **WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
Epoxy Putty Stick - Under Water Cure & TRIMERCAPTAN ETHER, PROPOXYLATED	The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.
GLASS, OXIDE & NEPHELINE SYENITE & TRIMERCAPTAN ETHER, PROPOXYLATED & BARIUM SULFATE & TITANIUM DIOXIDE	No significant acute toxicological data identified in literature search.

Acute Toxicity	✗	**Carcinogenicity**	✗
Skin Irritation/Corrosion	✓	**Reproductivity**	✗

Continued...

Serious Eye Damage/Irritation	✔	**STOT - Single Exposure**	✘
Respiratory or Skin sensitisation	✔	**STOT - Repeated Exposure**	✘
Mutagenicity	✘	**Aspiration Hazard**	✘

Legend: ✘ *– Data either not available or does not fill the criteria for classification*
✔ *– Data available to make classification*

SECTION 12 Ecological information

Toxicity

Epoxy Putty Stick - Under Water Cure

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

bisphenol A diglycidyl ether polymer

Endpoint	Test Duration (hr)	Species	Value	Source
EC50	48	Crustacea	ca.2mg/L	2

4-tert-butylphenyl glycidyl ether

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	ca.7.5mg/L	2
EC50	48	Crustacea	ca.67.9mg/L	2
EC50	72	Algae or other aquatic plants	ca.9mg/L	2

Quartz

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

glass, oxide

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	>1-mg/L	2
EC50	48	Crustacea	0.476mg/L	2
EC50	96	Algae or other aquatic plants	0.002-0.655mg/L	2
NOEC	240	Algae or other aquatic plants	0.001-mg/L	2

nepheline syenite

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

trimercaptan ether, propoxylated

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

N-(3-tridecyloxypropyl)-1,3-propanediamine, branched

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	0.52mg/L	2

triethylenetetramine, propoxylated

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

triethylenetetramine

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	180mg/L	1
EC50	48	Crustacea	31.1mg/L	1
EC50	72	Algae or other aquatic plants	2.5mg/L	1
NOEC	72	Algae or other aquatic plants	<2.5mg/L	1

barium sulfate

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	>3.5mg/L	2
EC50	48	Crustacea	0.032-mg/L	2
EC50	72	Algae or other aquatic plants	>1.15mg/L	2
NOEC	2016	Algae or other aquatic plants	0.004-mg/L	2

titanium dioxide

Endpoint	Test Duration (hr)	Species	Value	Source
LC50	96	Fish	>1-mg/L	2

Continued...

	EC50	48	Crustacea	>1-mg/L	2
	EC50	72	Algae or other aquatic plants	>10-mg/L	2
	NOEC	504	Crustacea	<0.1mg/L	2

Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

For Barium and its Compounds:
Environmental Fate: Barium is a highly reactive metal occurring naturally only in a combined state, primarily as inorganic complexes. Conditions such as pH, oxidation-reduction potential, cation exchange capacity, and the presence of sulfate, carbonate, and the presence of metal oxides will affect the partitioning of barium and its compounds in the environment.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
4-tert-butylphenyl glycidyl ether	HIGH	HIGH
triethylenetetramine	LOW	LOW
titanium dioxide	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
4-tert-butylphenyl glycidyl ether	LOW (LogKOW = 3.5231)
triethylenetetramine	LOW (LogKOW = -2.6464)
titanium dioxide	LOW (LogKOW = 2.229)

Mobility in soil

Ingredient	Mobility
4-tert-butylphenyl glycidyl ether	LOW (KOC = 293.2)
triethylenetetramine	LOW (KOC = 309.9)
titanium dioxide	LOW (KOC = 23.74)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal	▸ Containers may still present a chemical hazard/ danger when empty. ▸ Return to supplier for reuse/ recycling if possible. ▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains. ▸ It may be necessary to collect all wash water for treatment before disposal. ▸ Recycle wherever possible or consult manufacturer for recycling options. ▸ Consult State Land Waste Management Authority for disposal.

SECTION 14 Transport information

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 Regulatory information

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

bisphenol A diglycidyl ether polymer is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
US Clean Air Act - Hazardous Air Pollutants
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

4-tert-butylphenyl glycidyl ether is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

Quartz is found on the following regulatory lists

Continued...

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1 : Carcinogenic to humans
US - California Proposition 65 - Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US ACGIH Threshold Limit Values (TLV)
US AIHA Workplace Environmental Exposure Levels (WEELs)
US DOE Temporary Emergency Exposure Limits (TEELs)
US National Toxicology Program (NTP) 14th Report Part A Known to be Human Carcinogens
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US OSHA Permissible Exposure Levels (PELs) - Table Z3
US OSHA Permissible Exposure Limits - Annotated Table Z-1
US OSHA Permissible Exposure Limits - Annotated Table Z-3
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

glass, oxide is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

nepheline syenite is found on the following regulatory lists

Not Applicable

trimercaptan ether, propoxylated is found on the following regulatory lists

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

N-(3-tridecyloxypropyl)-1,3-propanediamine, branched is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

triethylenetetramine, propoxylated is found on the following regulatory lists

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

triethylenetetramine is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US Toxicology Excellence for Risk Assessment (TERA) Workplace Environmental Exposure Levels (WEEL)
US TSCA Chemical Substance Inventory - Interim List of Active Substances

barium sulfate is found on the following regulatory lists

US ACGIH Threshold Limit Values (TLV)
US AIHA Workplace Environmental Exposure Levels (WEELs)
US DOE Temporary Emergency Exposure Limits (TEELs)
US EPA Integrated Risk Information System (IRIS)
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US OSHA Permissible Exposure Limits - Annotated Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

titanium dioxide is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B : Possibly carcinogenic to humans
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
US - California Proposition 65 - Carcinogens
US - California Safe Drinking Water and Toxic Enforcement Act of 1986 - Proposition 65 List
US ACGIH Threshold Limit Values (TLV)
US AIHA Workplace Environmental Exposure Levels (WEELs)
US DOE Temporary Emergency Exposure Limits (TEELs)
US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Levels (PELs) - Table Z1
US OSHA Permissible Exposure Limits - Annotated Table Z-1
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No

Continued...

Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

State Regulations

US. California Proposition 65

The chemicals present in this formula are not in a form that would require a warning.

US - California Proposition 65 - Carcinogens: Listed substance

Silica, crystalline (airborne particles of respirable size), Titanium dioxide (airborne, unbound particles of respirable size) Listed

National Inventory Status

National Inventory	Status
Australia - AIIC	No (nepheline syenite)
Australia - Non-Industrial Use	No (bisphenol A diglycidyl ether polymer; 4-tert-butylphenyl glycidyl ether; Quartz; glass, oxide; nepheline syenite; trimercaptan ether, propoxylated; N-(3-tridecyloxypropyl)-1,3-propanediamine, branched; triethylenetetramine, propoxylated; triethylenetetramine; barium sulfate; titanium dioxide)
Canada - DSL	Yes
Canada - NDSL	No (bisphenol A diglycidyl ether polymer; 4-tert-butylphenyl glycidyl ether; Quartz; glass, oxide; nepheline syenite; trimercaptan ether, propoxylated; N-(3-tridecyloxypropyl)-1,3-propanediamine, branched; triethylenetetramine, propoxylated; triethylenetetramine; barium sulfate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (nepheline syenite; trimercaptan ether, propoxylated)
Japan - ENCS	No (glass, oxide; nepheline syenite; trimercaptan ether, propoxylated; N-(3-tridecyloxypropyl)-1,3-propanediamine, branched; triethylenetetramine, propoxylated)
Korea - KECI	No (nepheline syenite)
New Zealand - NZIoC	Yes
Philippines - PICCS	No (nepheline syenite; triethylenetetramine, propoxylated)
USA - TSCA	No (nepheline syenite)
Taiwan - TCSI	Yes
Mexico - INSQ	No (bisphenol A diglycidyl ether polymer; 4-tert-butylphenyl glycidyl ether; trimercaptan ether, propoxylated; N-(3-tridecyloxypropyl)-1,3-propanediamine, branched; triethylenetetramine, propoxylated)
Vietnam - NCI	No (N-(3-tridecyloxypropyl)-1,3-propanediamine, branched)
Russia - ARIPS	No (4-tert-butylphenyl glycidyl ether; nepheline syenite; trimercaptan ether, propoxylated; N-(3-tridecyloxypropyl)-1,3-propanediamine, branched; triethylenetetramine, propoxylated)
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 Other information

Revision Date	10/06/2020
Initial Date	09/24/2020

SDS Version Summary

Version	Issue Date	Sections Updated
1.6.1.1.1	10/05/2020	Ingredients

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

end of SDS