Safety Data Sheet

Issue Date: 21-May-2013 **Revision Date:** 02-Jun-2021 **Version** 2

1. IDENTIFICATION

Product identifier
Product Name PC CONCRETE EPOXY, PART A

Other means of identification
SDS # 130521-37B

Recommended use of the chemical and restrictions on use
Recommended Use Adhesives.

Details of the supplier of the safety data sheet
Supplier Address
Protective Coatings Co.
221 S Third St.
Allentown, PA 18102 USA

Emergency telephone number
Company Phone Number 610-432-3543 / 800-220-2103
Emergency Telephone INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Physical state Solid **Odor** Slight

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1

Signal Word
Danger

Hazard statements
Causes skin irritation
Causes serious eye damage
May cause an allergic skin reaction
May cause cancer
May damage fertility or the unborn child
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
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Wear protective gloves
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/physician
IF ON SKIN: Wash with plenty of water and soap
Take off contaminated clothing and wash 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

Other hazards
Toxic to aquatic life with long lasting effects

Unknown Acute Toxicity
Note: Acute Toxicity classifications / calculations are approximates, due to proprietary ingredient percentages

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Diglycidyl Ether of Bisphenol A	25085-99-8	30-60
Silica, Quartz	14808-60-7	>25-<50
Silica, cristobalite	14464-46-1	>10-<25
Titanium(IV) Oxide	13463-67-7	<5
Ethylene glycol	107-21-1	<5

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

* Unlisted ingredients are not considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). (Titanium Dioxide and Quartz Silica Sand (Crystalline Silica)) Inhalation of particulates unlikely due to product's physical state.

4. FIRST AID MEASURES

Description of first aid measures

General Advice Provide this SDS to medical personnel for treatment. After first aid, get appropriate in-plant, paramedic, or community medical support.

Eye Contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.

Skin Contact Wash with soap and water. Remove and wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Ingestion Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Remove stomach contents by medical personnel only. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed

Symptoms Causes skin irritation and serious eye damage. Direct contact may cause temporary redness and discomfort. May cause respiratory irritation. Ingestion may cause nausea, vomiting, dizziness, and headache, May cause an allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Skin and eye conditions may be aggravated by long term exposure.
Medical Conditions Aggravated by Long-Term Exposure: skin disorders and allergies and eye conditions.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Carbon dioxide (CO2), Dry chemical, Alcohol foam.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
May generate toxic or irritating combustion products. May generate carbon monoxide gas.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO2), Metal oxides. Halogenated compounds.

Protective equipment and precautions for firefighters
Keep containers cool with water spray. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Do not release runoff from fire control methods to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Wear protective gloves/protective clothing and eye/face protection. Remove any contaminated clothing and wash thoroughly before reuse.

For Emergency Responders Follow applicable OSHA regulations (29 CFR 1910.120).

Environmental precautions

Environmental precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. For large spills, dike far ahead of liquid spill for later disposal.

Methods for Clean-Up Collect and place in suitable, properly labeled container for recovery or disposal. Dispose of contents/container to an approved waste disposal plant. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Obtain special instructions before use. Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Do not remove labels from empty containers. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Silica, Quartz 14808-60-7	TWA: 0.025 mg/m^3 respirable particulate matter	TWA: 50 µg/m^3 (vacated) TWA: 0.1 mg/m^3 respirable dust : (250)/(%SiO2 + 5) mppcf TWA respirable fraction : (10)/(%SiO2 + 2) mg/m^3 TWA respirable fraction	IDLH: 50 mg/m^3 respirable dust TWA: 0.05 mg/m^3 respirable dust
Silica, cristobalite 14464-46-1	TWA: 0.025 mg/m^3 respirable particulate matter	TWA: 50 µg/m^3 (vacated) TWA: 0.05 mg/m^3 respirable dust : (1/2)(250)/(%SiO2 + 5) mppcf TWA respirable fraction : (1/2)(10)/(%SiO2 + 2) mg/m^3 TWA respirable fraction	IDLH: 25 mg/m^3 respirable dust TWA: 0.05 mg/m^3 respirable dust
Ethylene glycol 107-21-1	STEL: 50 ppm vapor fraction STEL: 10 mg/m^3 inhalable particulate matter, aerosol only TWA: 25 ppm vapor fraction	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m^3	-
Titanium(IV) Oxide 13463-67-7	TWA: 10 mg/m^3	TWA: 15 mg/m^3 total dust (vacated) TWA: 10 mg/m^3 total dust	IDLH: 5000 mg/m^3 TWA: 2.4 mg/m^3 CIB 63 fine TWA: 0.3 mg/m^3 CIB 63 ultrafine, including engineered nanoscale

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information If product is sanded, appropriate respirator should be worn to avoid breathing dust. Pre-

existing respiratory disorders may be aggravated by exposure. If sanded, this material may generate silica / titanium dust. Inhaled silica / titanium has been classified by IARC as a human carcinogen (see section 11).

Appropriate engineering controls

Engineering Controls Provide general or local exhaust ventilation systems if possible. Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Chemical safety goggles/faceshield. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Wear chemically protective gloves to prevent skin contact. Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Refer to 29 CFR 1910.138 for appropriate skin and body protection. Reference Wiley's "Quick Selection Guide to Chemical Protective Clothing".

Respiratory Protection Use NIOSH/MSHA approved respiratory protection equipment when airborne exposure limits are exceeded. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid		
Appearance	Not determined	**Odor**	Slight
Color	White	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	> / = 2.0 - < / = 12.0	
Melting point / freezing point	Not determined	
Boiling point / boiling range	Not determined	
Flash point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Flammability Limit in Air		
Upper flammability or explosive limits	Not available	
Lower flammability or explosive limits	Not available	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Relative Density	1.4	@ 60°F (ASTM D 1298)
Water Solubility	Insoluble in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	Not determined	
Decomposition temperature	Not determined	
Kinematic viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Keep out of reach of children.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Thermal oxidative decomposition can produce CO, CO2 in a fire.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes serious eye damage.

Skin Contact Causes skin irritation. May cause an allergic skin reaction.

Inhalation May cause irritation of respiratory tract.

Ingestion May cause nausea, vomiting, stomach ache, and diarrhea.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ethylene glycol 107-21-1	= 4700 mg/kg (Rat)	= 10600 mg/kg (Rat)	-
Titanium(IV) Oxide 13463-67-7	> 10000 mg/kg (Rat)	-	-

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause an allergic skin reaction.

Carcinogenicity May cause cancer. Silica (quartz) is a possible carcinogen when it appears as a respirable dust. Titanium dioxide is a possible carcinogen when it appears as a respirable dust.

Chemical name	ACGIH	IARC	NTP	OSHA
Silica, Quartz 14808-60-7	A2	Group 1	Known	X
Silica, cristobalite	A2	Group 1	Known	X

14464-46-1				
Titanium(IV) Oxide 13463-67-7		Group 2B		X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity May damage fertility or the unborn child.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity Note: Acute Toxicity classifications / calculations are approximates, due to proprietary ingredient percentages.

Oral LD50 9,524.30 mg/kg

ATEmix (inhalation-dust/mist) 30.00 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
aliphatic triglycidyl ether 30499-70-8		75: 96 h Cyprinus carpio mg/L LC50 static	
Ethylene glycol 107-21-1	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 41000: 96 h Oncorhynchus mykiss mg/L LC50	46300: 48 h Daphnia magna mg/L EC50

Persistence/Degradability

Not determined.

Bioaccumulation

There is no data for this product.

Mobility

Chemical name	Partition coefficient
Ethylene glycol 107-21-1	-1.93

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Contact your supplier or a licensed contractor for detailed recommendations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT Not regulated

IATA

UN number UN3077
Proper Shipping Name Environmentally hazardous substance, solid, n.o.s (Oxirane,[(2-methylphenoxy)methyl]-)
Transport hazard class(es) 9
Packing Group III

IMDG

UN number UN3077
Proper Shipping Name Environmentally hazardous substance, solid, n.o.s (Oxirane,[(2-methylphenoxy)methyl]-)
Transport hazard class(es) 9
Packing Group III
Marine Pollutant Yes

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Diglycidyl Ether of Bisphenol A	X	ACTIVE	X			X	X	X	X
Silica, Quartz	X	ACTIVE	X	X	X	X	X	X	X
Silica, cristobalite	X	ACTIVE	X	X	X	X	X	X	X
aliphatic triglycidyl ether	X	ACTIVE	X		X	X	X	X	X
Ethylene glycol	X	ACTIVE	X	X	X	X	X	X	X
Titanium(IV) Oxide	X	ACTIVE	X	X	X	X	X	X	X

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

CERCLA

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Ethylene glycol 107-21-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

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	CAS No	Weight-%	SARA 313 - Threshold Values %
Ethylene glycol - 107-21-1	107-21-1	<5	1.0

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)

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Silica, Quartz - 14808-60-7	Carcinogen
Silica, cristobalite - 14464-46-1	Carcinogen
Ethylene glycol - 107-21-1	Developmental
Titanium(IV) Oxide - 13463-67-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Silica, Quartz 14808-60-7	X	X	X
Silica, cristobalite 14464-46-1	X	X	X
Ethylene glycol 107-21-1	X	X	X
Titanium(IV) Oxide 13463-67-7	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	3	1	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical hazards**	**Personal Protection**
	3*	1	0	B- Safety Glasses, Gloves

Chronic Hazard Star Legend ** = Chronic Health Hazard*

Issue Date: 21-May-2013
Revision Date: 02-Jun-2021

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Safety Data Sheet

Issue Date: 21-May-2013 **Revision Date:** 02-Jun-2021 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name PC CONCRETE EPOXY, PART B

Other means of identification
SDS # 130521-38B

UN/ID No UN3267

Recommended use of the chemical and restrictions on use
Recommended Use Adhesives.

Details of the supplier of the safety data sheet
Supplier Address
Protective Coatings Co.
221 S Third St.
Allentown, PA 18102 USA

Emergency telephone number
Company Phone Number 610-432-3543 / 800-220-2103
Emergency Telephone INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Black paste **Physical state** Paste **Odor** Slight

Classification

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1B
Specific target organ toxicity (repeated exposure)	Category 1

Signal Word
Danger

Hazard statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
May cause cancer
May damage fertility or the unborn child
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
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Wear protective gloves
Do not eat, drink or smoke when using this product

Precautionary Statements - Response
Immediately call a poison center or doctor/physician
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 ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a poison center or doctor/physician
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Other hazards
Very toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Silica, Quartz	14808-60-7	>25-<50
Silica, cristobalite	14464-46-1	>10-<25
Nonyl phenol	84852-15-3	>10-<25
1-(2-Aminoethyl) piperazine	140-31-8	>10-<25
2,4,6-tri(dimethylaminomethyl)phenol	90-72-2	<7
Polyoxypropylenediamine	9046-10-0	1-6
Proprietary ingredients 1, 2, & 3	Proprietary	>0.3-<5
Benzyl alcohol	100-51-6	<5
BIS(DIMETHYLAMINOMETHYL)PHENOL	71074-89-0	>1-<3
N-(2-Aminoethyl)ethanolamine	111-41-1	>0.3-<1

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

* Unlisted ingredients are not considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). (Quartz Silica Sand (Crystalline Silica)) Inhalation of particulates unlikely due to product's physical state.

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Skin Contact Wash with soap and water. Remove and wash contaminated clothing before reuse. Call a poison center or doctor/physician if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed

Symptoms Causes severe skin burns and eye damage. Ingestion may cause severe burns to mouth, throat or stomach. May cause an allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Skin and eye conditions may be aggravated by long term exposure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Dry chemical, CO2 or water spray.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
Not determined.

Hazardous combustion products Carbon monoxide. Carbon dioxide (CO2). Nitrogen oxides (NOx). Metal oxides.

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. Do not release runoff from fire control methods to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Wear protective gloves/protective clothing and eye/face protection. Remove any contaminated clothing and wash thoroughly before reuse.

Environmental precautions

Environmental precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up Dispose of contents/container to an approved waste disposal plant.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. 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 appropriate personal protective equipment. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Use personal protection recommended in Section 8.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Silica, Quartz 14808-60-7	TWA: 0.025 mg/m^3 respirable particulate matter	TWA: 50 µg/m^3 (vacated) TWA: 0.1 mg/m^3 respirable dust : (250)/(%SiO2 + 5) mppcf TWA respirable fraction : (10)/(%SiO2 + 2) mg/m^3 TWA respirable fraction	IDLH: 50 mg/m^3 respirable dust TWA: 0.05 mg/m^3 respirable dust
Silica, cristobalite 14464-46-1	TWA: 0.025 mg/m^3 respirable particulate matter	TWA: 50 µg/m^3 (vacated) TWA: 0.05 mg/m^3 respirable dust : (1/2)(250)/(%SiO2 + 5) mppcf TWA respirable fraction : (1/2)(10)/(%SiO2 + 2) mg/m^3 TWA respirable fraction	IDLH: 25 mg/m^3 respirable dust TWA: 0.05 mg/m^3 respirable dust
N-(2-Aminoethyl)ethanolamine 111-41-1	-	(vacated) TWA: 0.1 mg/m^3 Formaldehyde	TWA: 0.1 mg/m^3 Formaldehyde

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information If product is sanded, appropriate respirator should be worn to avoid breathing dust. Pre-existing respiratory disorders may be aggravated by exposure. If sanded, this material may generate silica dust. Inhaled silica has been classified by IARC as a human carcinogen (see section 11).

Appropriate engineering controls

Engineering Controls Provide general or local exhaust ventilation if product is sanded or ground.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear protective eyeglasses or chemical safety goggles. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Wear protective gloves and protective clothing. Reference Wiley's "Quick Selection Guide to Chemical Protective Clothing". Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection Ensure adequate ventilation, especially in confined areas. If engineering controls do not maintain airborne concentrations below recommended exposure limits, a NIOSH/MSHA approved respirator must be worn.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. After use, wash hands and exposed skin with soap and water. Do not eat, drink or smoke while handling product. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Paste		
Appearance	Black paste	**Odor**	Slight
Color	Black	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	Not determined	
Melting point / freezing point	Not determined	
Boiling point / boiling range	Not determined	
Flash point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Flammability Limit in Air		
Upper flammability or explosive limits	Not determined	
Lower flammability or explosive limits	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Relative Density	Not determined	
Water Solubility	Insoluble in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	Not determined	
Decomposition temperature	Not determined	
Kinematic viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid
Keep out of reach of children.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes severe eye damage.

Skin Contact Causes severe skin burns. May cause an allergic skin reaction.

Inhalation May cause irritation if inhaled.

Ingestion Ingestion may cause irritation to mucous membranes.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1-(2-Aminoethyl) piperazine 140-31-8	= 2140 µL/kg (Rat)	= 866 mg/kg (Rabbit)	-
Nonyl phenol 84852-15-3	= 1300 mg/kg (Rat)	= 2000 mg/kg (Rabbit)	-
2,4,6-tri(dimethylaminomethyl)phenol 90-72-2	= 1200 mg/kg (Rat)	= 1280 mg/kg (Rat)	-
Polyoxypropylenediamine 9046-10-0	= 1100 mg/kg (Rat)	= 1555 mg/kg (Rabbit)	-
Benzyl alcohol 100-51-6	= 1230 mg/kg (Rat)	= 2 g/kg (Rabbit)	= 8.8 mg/L (Rat) 4 h
N-(2-Aminoethyl)ethanolamine 111-41-1	= 2000 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause an allergic skin reaction.

Carcinogenicity May cause cancer. Silica (quartz) is a possible carcinogen when it appears as a respirable dust.

Chemical name	ACGIH	IARC	NTP	OSHA
Silica, Quartz 14808-60-7	A2	Group 1	Known	X
Silica, cristobalite 14464-46-1	A2	Group 1	Known	X

Legend
ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Reproductive toxicity Suspected of damaging fertility or the unborn child.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document Not determined.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
1-(2-Aminoethyl) piperazine 140-31-8	495: 72 h Pseudokirchneriella subcapitata mg/L EC50	1950 - 2460: 96 h Pimephales promelas mg/L LC50 flow-through 1000: 96 h Poecilia reticulata mg/L LC50 semi-static 100: 96 h Oncorhynchus mykiss mg/L LC50 semi-static	32: 48 h Daphnia magna mg/L EC50
Nonyl phenol 84852-15-3	0.16 - 0.72: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.36 - 0.48: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 1.3: 72 h Desmodesmus subspicatus mg/L EC50	0.135: 96 h Pimephales promelas mg/L LC50 flow-through 0.1351: 96 h Lepomis macrochirus mg/L LC50 flow-through	0.14: 48 h Daphnia magna mg/L EC50
Benzyl alcohol 100-51-6		10: 96 h Lepomis macrochirus mg/L LC50 static 460: 96 h Pimephales promelas mg/L LC50 static	23: 48 h water flea mg/L EC50
N-(2-Aminoethyl)ethanolamine 111-41-1	210: 72 h Desmodesmus subspicatus mg/L EC50	728: 96 h Pimephales promelas mg/L LC50	22: 48 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility

Chemical name	Partition coefficient
1-(2-Aminoethyl) piperazine 140-31-8	-1.48
Benzyl alcohol 100-51-6	1.1
N-(2-Aminoethyl)ethanolamine 111-41-1	-1.46

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

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

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

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No UN3267
Proper Shipping Name Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, Branched, 2-Piperazin-1-Ylethylamine)
Hazard class 8
Packing Group III

IATA

UN number UN3267
Proper Shipping Name Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, Branched, 2-Piperazin-1-Ylethylamine)
Transport hazard class(es) 8
Packing Group III

IMDG

UN number UN3267
Proper Shipping Name Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, Branched, 2-Piperazin-1-Ylethylamine)
Transport hazard class(es) 8
Packing Group III
Marine Pollutant Yes

15. REGULATORY INFORMATION

International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Silica, Quartz	X	ACTIVE	X	X	X	X	X	X	X
1-(2-Aminoethyl) piperazine	X	ACTIVE	X	X	X	X	X	X	X
Silica, cristobalite	X	ACTIVE	X	X	X	X	X	X	X
Nonyl phenol	X	ACTIVE	X	X	X	X	X	X	X
2,4,6-tri(dimethylaminomethyl)phenol	X	ACTIVE	X	X	X	X	X	X	X
Polyoxypropylenediamine	X	ACTIVE	X		X	X	X	X	X
Benzyl alcohol	X	ACTIVE	X	X	X	X	X	X	X
BIS(DIMETHYLAMINOMETHYL)PHENOL				X	X	X		X	
N-(2-Aminoethyl)ethanolamine	X	ACTIVE	X	X	X	X	X	X	X

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

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

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	CAS No	Weight-%	SARA 313 - Threshold Values %
Nonyl phenol - 84852-15-3	84852-15-3	>10-<25	1.0

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)

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical name	California Proposition 65
Silica, Quartz - 14808-60-7	Carcinogen
Silica, cristobalite - 14464-46-1	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Silica, Quartz 14808-60-7	X	X	X
1-(2-Aminoethyl) piperazine 140-31-8	X	X	X
Silica, cristobalite 14464-46-1	X	X	X
Benzyl alcohol 100-51-6		X	X
N-(2-Aminoethyl)ethanolamine 111-41-1	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	3	0	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical hazards**	**Personal Protection**
	3*	0	0	B

Chronic Hazard Star Legend ** = Chronic Health Hazard*

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Revision Note: New formula

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet