Safety Data Sheet

Issue Date: 21-May-2013 **Revision Date:** 13-Mar-2014 **Version** 1

1. IDENTIFICATION

Product Identifier
Product Name PC CONCRETE EPOXY, PART A

Other means of identification
SDS # 130521-37

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 (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance White paste **Physical State** Paste **Odor** Mild

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Signal Word
Warning

Hazard Statements
Causes skin irritation
Causes serious eye irritation

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash it before reuse
If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Polymer of epichlorohydrin and bisphenol A	25085-99-8	40-50
Trimethylolethane triglycidyl ether	68460-21-9	7-15
Titanium Dioxide	13463-67-7	1-5
Silica, Quartz	14808-60-7	1-5
Ethylene glycol	107-21-1	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.

4. FIRST-AID MEASURES

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. If eye irritation persists: Get medical advice/attention.

Skin Contact Wash with soap and water. Remove and wash contaminated clothing before reuse. Get medical attention if irritation occurs.

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

Symptoms Causes eye irritation. Direct contact may cause temporary redness and discomfort. Causes skin irritation. May cause respiratory irritation. Ingestion may cause nausea, vomiting, dizziness, and headache, Coma.

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
Ignition will give rise to a Class B fire. May generate toxic or irritating combustion products. May generate carbon monoxide gas.

Hazardous Combustion Products Carbon monoxide. Carbon dioxide (CO2),

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. NFPA Class IIIB.

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 See Section 12 for additional 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 Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid breathing vapors or mists. Do not eat, drink or smoke when using this product. Wash face, hands, and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store contents under <90F (32C) . NFPA Class IIIB storage.

Incompatible Materials Strong acids, peroxides, and other oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethylene glycol 107-21-1	Ceiling: 100 mg/m^3 aerosol only	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m^3	-
Titanium Dioxide 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
Silica, Quartz 14808-60-7	TWA: 0.025 mg/m^3 respirable fraction	(vacated) TWA: 0.1 mg/m^3 respirable dust : (30)/(%SiO2 + 2) mg/m^3 TWA total 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

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.

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.

Respiratory Protection Ensure adequate ventilation, especially in confined areas. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator.

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	Paste		
Appearance	White paste	**Odor**	Mild
Color	White	**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	148.88 °C / > 300 °F	CC (closed cup)
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	

Upper Flammability Limits	Not available
Lower Flammability Limit	Not available
Vapor Pressure	Not determined
Vapor Density	Not determined
Specific Gravity	1.4 @ 4 °C
Water Solubility	Insoluble in water
Solubility in other solvents	Alcohols
Partition Coefficient	Not determined
Auto-ignition Temperature	Not determined
Decomposition Temperature	Not determined
Kinematic Viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive Properties	Not determined
Oxidizing Properties	Not determined
VOC Content	11.7 lbs./ gallon

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 acids, peroxides, and other 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 irritation.

Skin Contact Causes skin irritation.

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
Polymer of epichlorohydrin and bisphenol A 25085-99-8	>2000 mg/kg (rat)	>2000 mg/kg (rabbit)	-

Ethylene glycol 107-21-1	= 4000 mg/kg (Rat)	= 9530 µL/kg (Rabbit)	-
Titanium Dioxide 13463-67-7	> 10000 mg/kg (Rat)	-	-
Silica, Quartz 14808-60-7	= 500 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

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

Carcinogenicity 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
Titanium Dioxide 13463-67-7		Group 2B		X
Silica, Quartz 14808-60-7	A2	Group 1	Known	X

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

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethylene glycol 107-21-1	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	41000: 96 h Oncorhynchus mykiss mg/L LC50 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static	EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min	46300: 48 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility
Not determined

Chemical Name	Partition Coefficient

Ethylene glycol 107-21-1	-1.93

Other Adverse Effects
Not determined

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 Not regulated

IMDG Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Listed

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*

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 311/312 Hazard Categories

Chronic Health Hazard Yes

SARA 313

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

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Titanium Dioxide - 13463-67-7	Carcinogen
Silica, Quartz - 14808-60-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ethylene glycol 107-21-1	X	X	X
Titanium Dioxide 13463-67-7	X	X	X
Silica, Quartz 14808-60-7	X	X	X

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	2	1	0	Not determined
HMIS	**Health Hazards**	**Flammability**	**Physical Hazards**	**Personal Protection**
	2	1	0	B- Safety Glasses, Gloves

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Revision Note: New format

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:** 13-Mar-2014 **Version** 1

1. IDENTIFICATION

Product Identifier
Product Name PC CONCRETE EPOXY, PART B

Other means of identification
SDS # 130521-38

UN/ID No UN1760

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 (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Black paste **Physical State** Paste **Odor** Slight amine

Classification

Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Reproductive toxicity	Category 2

Hazards Not Otherwise Classified (HNOC)
May be harmful if swallowed

Signal Word
Danger

Hazard Statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Suspected of damaging fertility or the unborn child

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 should not be allowed out of the workplace
Wear protective gloves

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-%
Liquid polyamide resin	68082-29-1	15-30
1-(2-Aminoethyl) piperazine	140-31-8	5-10
Nonyl phenol	84852-15-3	3-7
2,4,6-tri(dimethylaminomethyl)phenol	90-72-2	3-7
Silica, Quartz	14808-60-7	1-5
Ethylene glycol	107-21-1	0.1-1.0

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.

4. FIRST-AID MEASURES

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. 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. Call a poison center or doctor/physician if you feel unwell.

Most important symptoms and effects

Symptoms May cause respiratory irritation. May cause skin and eye irritation. Ingestion may cause severe burns to mouth, throat or stomach.

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). Aldehydes. Nitrogen oxides (NOx).

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. NFPA Class IIIB.

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 See Section 12 for additional 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. 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 should 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 acids, peroxides, and other 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 fraction	(vacated) TWA: 0.1 mg/m^3 respirable dust : (30)/(%SiO2 + 2) mg/m^3 TWA total 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
Ethylene glycol 107-21-1	Ceiling: 100 mg/m^3 aerosol only	(vacated) Ceiling: 50 ppm (vacated) Ceiling: 125 mg/m^3	-

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 if product is sanded or ground.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear protective eyeglasses or chemical safety goggles.

Skin and Body Protection Wear protective gloves and protective clothing.

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 amine
Color	Black	**Odor Threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH	Not determined	
Melting Point/Freezing Point	Non disponible	
Boiling Point/Boiling Range	Not determined	
Flash Point	> 93 °C / > 200 °F	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	

Upper Flammability Limits	Not determined
Lower Flammability Limit	Not determined
Vapor Pressure	Not determined
Vapor Density	Not determined
Specific Gravity	1.05 H2O=1, at 4 °C
Water Solubility	Insoluble in water
Solubility in other solvents	alcohols
Partition Coefficient	Not determined
Auto-ignition Temperature	Not determined
Decomposition Temperature	Not determined
Kinematic Viscosity	Not determined
Dynamic Viscosity	Not determined
Explosive Properties	Not determined
Oxidizing Properties	Not determined
Density	8.4 lbs./ gallon

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 acids, peroxides, and other 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.

Inhalation May cause irritation if inhaled.

Ingestion May be harmful if swallowed. 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 mg/kg (Rat)	= 880 mg/kg (Rabbit)	-
Nonyl phenol 84852-15-3	= 580 mg/kg (Rat)	= 2031 mg/kg (Rabbit)	-

2,4,6-tri(dimethylaminomethyl)phenol 90-72-2	= 1000 mg/kg (Rat)	= 1280 mg/kg (Rat)	-
Silica, Quartz 14808-60-7	= 500 mg/kg (Rat)	-	-
Ethylene glycol 107-21-1	= 4000 mg/kg (Rat)	= 9530 µL/kg (Rabbit)	-

Information on physical, chemical and toxicological effects

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 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

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.

Numerical measures of toxicity
Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	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	EC50 > 10000 mg/L 17 h	32: 48 h Daphnia magna mg/L EC50
Nonyl phenol 84852-15-3	0.36 - 0.48: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 0.16 - 0.72: 72 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

Ethylene glycol 107-21-1	6500 - 13000: 96 h Pseudokirchneriella subcapitata mg/L EC50	41000: 96 h Oncorhynchus mykiss mg/L LC50 14 - 18: 96 h Oncorhynchus mykiss mL/L LC50 static 27540: 96 h Lepomis macrochirus mg/L LC50 static 40761: 96 h Oncorhynchus mykiss mg/L LC50 static 40000 - 60000: 96 h Pimephales promelas mg/L LC50 static 16000: 96 h Poecilia reticulata mg/L LC50 static	EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min	46300: 48 h Daphnia magna mg/L EC50

Persistence/Degradability
Not determined.

Bioaccumulation
Not determined.

Mobility

Chemical Name	Partition Coefficient
1-(2-Aminoethyl) piperazine 140-31-8	-1.48
Ethylene glycol 107-21-1	-1.93

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.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Nonyl phenol 84852-15-3		Included in waste stream: K060		
2,4,6-tri(dimethylaminomethyl)phenol 90-72-2		Included in waste stream: K060		

14. TRANSPORT INFORMATION

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

DOT Consumer commodity (If shipped in NON BULK packaging by ground transport)
UN/ID No UN1760
Proper Shipping Name Corrosive Liquids, n.o.s (aminoethylpiperazine, nonylphenol)
Hazard Class 8
Packing Group III

IATA

UN/ID No	UN1760
Proper Shipping Name	Corrosive Liquids, n.o.s (aminoethylpiperazine, nonylphenol)
Hazard Class	8
Packing Group	III

IMDG

UN/ID No	UN1760
Proper Shipping Name	Corrosive Liquids, n.o.s (aminoethylpiperazine, nonylphenol)
Hazard Class	8
Packing Group	III
Marine Pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

15. REGULATORY INFORMATION

International Inventories

Not determined

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*

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 311/312 Hazard Categories

Chronic Health Hazard	Yes

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Ethylene glycol - 107-21-1	107-21-1	0.1-1.0	1.0

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

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
1-(2-Aminoethyl) piperazine 140-31-8	X	X	X
Silica, Quartz 14808-60-7	X	X	X
Ethylene glycol 107-21-1	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

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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