



**Precautionary Statements - Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray  
 In case of inadequate ventilation wear respiratory protection  
 Contaminated work clothing must not be allowed out of the workplace  
 Wear protective gloves

**Precautionary Statements - Response**

IF ON SKIN: Wash with plenty of soap and water  
 Wash contaminated clothing before reuse  
 If skin irritation or rash occurs: Get medical advice/attention  
 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Please also refer to subsequent sections of this SDS for additional information regarding the components of this product.

Chemical Name	CAS No.	Weight-%
Barium Sulfate	7727-43-7	5-10
Chromium (Cr2O3)	1308-38-9	<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**

<b>General Advice</b>	If exposed or concerned: Get medical advice/attention.
<b>Eye Contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops or persists.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
<b>Inhalation</b>	Remove exposed individual(s) to fresh air for 20 minutes. Consult a physician / poison center if individual's condition declines or if symptoms persist.
<b>Ingestion</b>	Rinse mouth. Do NOT induce vomiting. If symptoms persist, call a physician. Get medical attention if symptoms occur.

**Most important symptoms and effects**

<b>Symptoms</b>	May cause eye irritation. Ingestion may cause irritation, nausea, vomiting. May be harmful if swallowed. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Alcohol resistant foam.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Non-flammable solution.

**Hazardous Combustion Products** Toxic gases may be formed by fire.

**Explosion Data****Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Remove all sources of ignition. Wear protective clothing as described in Section 8 of this safety data sheet.

**Environmental precautions**

**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** Contain and collect with an inert absorbent and place into an appropriate container for disposal. For waste disposal, see section 13 of the SDS.

**7. HANDLING AND STORAGE****Precautions for safe handling**

**Advice on Safe Handling** Do not handle until all safety precautions have been read and understood. Use personal protection recommended in Section 8. Wash thoroughly after handling. Use only in well-ventilated areas. Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. In case of inadequate ventilation wear respiratory protection. Contaminated work clothing must 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 locked up.

**Incompatible Materials** Strong oxidizing agents. Aluminum. Phosphorus.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Barium Sulfate 7727-43-7	TWA: 5 mg/m <sup>3</sup> inhalable particulate matter, particulate matter containing no asbestos and <1% crystalline silica	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction	TWA: 10 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable dust
Chromium (Cr <sub>2</sub> O <sub>3</sub> ) 1308-38-9	TWA: 0.5 mg/m <sup>3</sup> Cr	TWA: 0.5 mg/m <sup>3</sup> Cr (vacated) TWA: 0.5 mg/m <sup>3</sup> Cr	IDLH: 25 mg/m <sup>3</sup> Cr(III) TWA: 0.5 mg/m <sup>3</sup> Cr
Calcium Oxide 1305-78-8	TWA: 2 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> (vacated) TWA: 5 mg/m <sup>3</sup> not in effect as a result of reconsideration	IDLH: 25 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>
Barium 7440-39-3	TWA: 0.5 mg/m <sup>3</sup>	(vacated) TWA: 0.5 mg/m <sup>3</sup>	-
Vinyl chloride 75-01-4	TWA: 1 ppm	TWA: 1 ppm STEL: 5 ppm see 29 CFR 1910.1017	-
Zinc oxide 1314-13-2	STEL: 10 mg/m <sup>3</sup> respirable particulate matter TWA: 2 mg/m <sup>3</sup> respirable particulate matter	TWA: 5 mg/m <sup>3</sup> fume TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 5 mg/m <sup>3</sup> fume (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) STEL: 10 mg/m <sup>3</sup> fume	IDLH: 500 mg/m <sup>3</sup> Ceiling: 15 mg/m <sup>3</sup> dust TWA: 5 mg/m <sup>3</sup> dust and fume STEL: 10 mg/m <sup>3</sup> fume
Crystalline silica 14808-60-7	TWA: 0.025 mg/m <sup>3</sup> respirable particulate matter	TWA: 50 µg/m <sup>3</sup> TWA: 50 µg/m <sup>3</sup> excludes construction work, agricultural operations, and exposures that result from the processing of sorptive clays (vacated) TWA: 0.1 mg/m <sup>3</sup> respirable dust : (250)/(%SiO <sub>2</sub> + 5) mppcf TWA respirable fraction : (10)/(%SiO <sub>2</sub> + 2) mg/m <sup>3</sup> TWA respirable fraction	IDLH: 50 mg/m <sup>3</sup> respirable dust TWA: 0.05 mg/m <sup>3</sup> respirable dust
Phenol 108-95-2	TWA: 5 ppm S*	TWA: 5 ppm TWA: 19 mg/m <sup>3</sup> (vacated) TWA: 5 ppm (vacated) TWA: 19 mg/m <sup>3</sup> (vacated) S* S*	IDLH: 250 ppm Ceiling: 15.6 ppm 15 min Ceiling: 60 mg/m <sup>3</sup> 15 min TWA: 5 ppm TWA: 19 mg/m <sup>3</sup>
Diethylene Glycol Monobutyl Ether 112-34-5	TWA: 10 ppm inhalable fraction and vapor	-	-

**Appropriate engineering controls**

**Engineering Controls**

Good general ventilation should be used. Maintain eye wash fountain and quick-drench facilities in work area.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection**

Safety glasses with side shields or chemical goggles. Refer to 29 CFR 1910.133 for eye and face protection regulations.

**Skin and Body Protection**

Wear protective gloves and protective clothing. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

**Respiratory Protection** In case of insufficient ventilation, wear suitable respiratory equipment. Refer to 29 CFR 1910.134 for respiratory protection requirements.

**General Hygiene Considerations** Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. If needed, take first aid action shown on section 4 of this SDS. Launder contaminated clothing before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid		
<b>Appearance</b>	Green liquid	<b>Odor</b>	Slight
<b>Color</b>	Green	<b>Odor Threshold</b>	Not determined

### Property

**Note: These physical properties are estimated values for this product and not specifications**

<u>Property</u>	<u>Remarks</u>	<u>Method</u>
<b>pH</b>	Not determined	
<b>Melting Point/Freezing Point</b>	-48 °C / -54.4 °F	
<b>Boiling Point/Boiling Range</b>	Not available	
<b>Flash Point</b>	240 °C / 464 °F	
<b>Evaporation Rate</b>	Not available	
<b>Flammability (Solid, Gas)</b>	n/a-liquid	
<b>Flammability Limits in Air</b>		
<b>Upper Flammability Limits</b>	Not determined	
<b>Lower Flammability Limit</b>	Not determined	
<b>Vapor Pressure</b>	Not determined	
<b>Vapor Density</b>	Not available	
<b>Relative Density</b>	1.25	
<b>Water Solubility</b>	Not determined	
<b>Solubility in other solvents</b>	Not determined	
<b>Partition Coefficient</b>	Not determined	
<b>Auto-ignition Temperature</b>	375 °C / 707 °F	
<b>Decomposition Temperature</b>	Not determined	
<b>Kinematic Viscosity</b>	Not determined	
<b>Dynamic Viscosity</b>	Not determined	
<b>Explosive Properties</b>	Not determined	
<b>Oxidizing Properties</b>	Not determined	

### Other Information

<b>VOC Content (%)</b>	0.08%
<b>Density</b>	10.42 lbs/gal

## 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.

### Conditions to Avoid

Incompatible Materials.

**Incompatible Materials**

Strong oxidizing agents. Aluminum. Phosphorus.

**Hazardous Decomposition Products**

Carbon oxides.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Product Information**

<b>Eye Contact</b>	May cause temporary irritation on eye contact.
<b>Skin Contact</b>	May cause an allergic skin reaction. Prolonged contact may cause redness and irritation.
<b>Inhalation</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>Ingestion</b>	May be harmful if swallowed.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg ( Rat )	-	-
Chromium (Cr2O3) 1308-38-9	> 5000 mg/kg ( Rat )	-	-
Calcium Oxide 1305-78-8	= 500 mg/kg ( Rat )	-	-
Barium 7440-39-3	= 132 mg/kg ( Rat )	-	-
Vinyl chloride 75-01-4	= 500 mg/kg ( Rat )	-	= 18 pph ( Rat ) 15 min
Phenol 108-95-2	= 340 mg/kg ( Rat ) = 317 mg/kg ( Rat )	= 630 mg/kg ( Rabbit )	= 316 mg/m <sup>3</sup> ( Rat ) 4 h
Diethylene Glycol Monobutyl Ether 112-34-5	= 5660 mg/kg ( Rat )	= 2700 mg/kg ( Rabbit )	-
Zinc oxide 1314-13-2	> 5000 mg/kg ( Rat )	-	-
Crystalline silica 14808-60-7	= 500 mg/kg ( Rat )	-	-
Propylene Glycol 57-55-6	= 20 g/kg ( Rat )	= 20800 mg/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. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested. Silica (quartz) is a possible carcinogen when it appears as a respirable dust.

Chemical Name	ACGIH	IARC	NTP	OSHA
Chromium (Cr2O3) 1308-38-9		Group 3		
Vinyl chloride	A1	Group 1	Known	X

75-01-4		Group 3		
Phenol 108-95-2		Group 3		
Crystalline silica 14808-60-7	A2	Group 1	Known	X

**Legend**

**ACGIH (American Conference of Governmental Industrial Hygienists)**

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

Group 3 IARC components are "not classifiable as human carcinogens"

**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**

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

ATEmix (oral) 5,005.00 mg/kg

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

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

**Component Information**

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Calcium Oxide 1305-78-8		1070: 96 h Cyprinus carpio mg/L LC50 static	
Vinyl chloride 75-01-4	943: 48 h Chilomonas paramecium mg/L EC50	210: 96 h Brachydanio rerio mg/L LC50	
Phenol 108-95-2	46.42: 96 h Pseudokirchneriella subcapitata mg/L EC50 187 - 279: 72 h Desmodesmus subspicatus mg/L EC50 static 0.0188 - 0.1044: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	31: 96 h Poecilia reticulata mg/L LC50 semi-static 33.9 - 43.3: 96 h Oryzias latipes mg/L LC50 flow-through 32: 96 h Pimephales promelas mg/L LC50 4.23 - 7.49: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 0.00175: 96 h Cyprinus carpio mg/L LC50 semi-static 11.9 - 25.3: 96 h Lepomis macrochirus mg/L LC50 flow-through 34.09 - 47.64: 96 h Poecilia reticulata mg/L LC50 static 7.5 - 14: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5: 96 h Lepomis macrochirus mg/L LC50 static 20.5 - 25.6: 96 h Pimephales promelas mg/L LC50 static 11.9 - 50.5: 96 h Pimephales promelas mg/L LC50 flow-through 5.0 - 12.0: 96 h Oncorhynchus mykiss mg/L LC50 5.449 - 6.789: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 27.8: 96 h Brachydanio rerio mg/L LC50 23.4 - 36.6: 96 h Oryzias latipes mg/L LC50 static 11.5: 96 h Lepomis macrochirus mg/L LC50 semi-static	4.24 - 10.7: 48 h Daphnia magna mg/L EC50 Static 10.2 - 15.5: 48 h Daphnia magna mg/L EC50
Diethylene Glycol Monobutyl Ether 112-34-5	100: 96 h Desmodesmus subspicatus mg/L EC50	1300: 96 h Lepomis macrochirus mg/L LC50 static	100: 48 h Daphnia magna mg/L EC50 2850: 24 h Daphnia magna mg/L EC50
Propylene Glycol 57-55-6	19000: 96 h Pseudokirchneriella subcapitata mg/L EC50	710: 96 h Pimephales promelas mg/L LC50 51600: 96 h Oncorhynchus mykiss mg/L LC50 static 51400: 96 h Pimephales	1000: 48 h Daphnia magna mg/L EC50 Static 10000: 24 h Daphnia magna mg/L EC50

		promelas mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static	
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**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Chemical Name	Partition Coefficient
Vinyl chloride 75-01-4	1.58
Phenol 108-95-2	1.5

**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.

**US EPA Waste Number**

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Barium 7440-39-3		Included in waste stream: F039	100.0 mg/L regulatory level	
Vinyl chloride 75-01-4	U043	Included in waste streams: F024, F025, F039, K019, K020, K028, K029	0.2 mg/L regulatory level	U043
Phenol 108-95-2	U188	Included in waste streams: F039, K001, K022, K087 Included in waste stream: K060		U188

**California Hazardous Waste Status**

Chemical Name	California Hazardous Waste Status
Chromium (Cr2O3) 1308-38-9	Toxic Corrosive Ignitable
Calcium Oxide 1305-78-8	Corrosive
Barium 7440-39-3	Toxic Ignitable
Phenol 108-95-2	Toxic Corrosive
Zinc oxide 1314-13-2	Toxic



## 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

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Water	X	X	X		X	Present	X	X
Barium Sulfate	X	X	X	Present	X	Present	X	X
Chromium (Cr2O3)	X	X	X	Present	X	Present	X	X
Calcium Oxide	X	X	X	Present	X	Present	X	X
Barium	X	X	X		X	Present	X	X
Vinyl chloride	X	X	X	Present	X	Present	X	X
Phenol	X	X	X	Present	X	Present	X	X
Diethylene Glycol Monobutyl Ether	X	X	X	Present	X	Present	X	X
Zinc oxide	X	X	X	Present	X	Present	X	X
Crystalline silica	X	X	X	Present	X	Present	X	X
Propylene Glycol	X	X	X	Present	X	Present	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)
Barium 7440-39-3	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ
Vinyl chloride 75-01-4	1 lb		RQ 1 lb final RQ RQ 0.454 kg final RQ
Phenol 108-95-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 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 %
Barium Sulfate - 7727-43-7	7727-43-7	5-10	1.0

**CWA (Clean Water Act)**

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Chromium (Cr2O3)		X		
Vinyl chloride		X	X	
Phenol	1000 lb	X	X	X
Zinc oxide		X		

**US State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Crystalline silica - 14808-60-7	Carcinogen
Vinyl chloride - 75-01-4	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Barium Sulfate 7727-43-7	X	X	X
Calcium Oxide 1305-78-8	X	X	X
Barium 7440-39-3	X	X	X
Phenol 108-95-2	X	X	X
Diethylene Glycol Monobutyl Ether 112-34-5	X		X
Zinc oxide 1314-13-2	X	X	X
Crystalline silica 14808-60-7	X	X	X
Propylene Glycol 57-55-6	X		X

<b>16. OTHER INFORMATION</b>
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<b><u>NFPA</u></b>	<b>Health Hazards</b>	<b>Flammability</b>	<b>Instability</b>	<b>Special Hazards</b>
	2	0	0	Not determined
<b><u>HMIS</u></b>	<b>Health Hazards</b>	<b>Flammability</b>	<b>Physical hazards</b>	<b>Personal Protection</b>
	2*	0	0	X
<b><i>Chronic Hazard Star Legend</i></b>		<b><i>* = Chronic Health Hazard</i></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**