

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Quartz	14808-60-7	10-15
Titanium dioxide	13463-67-7	3-5
Chromium oxide greens	1308-38-9	2-4
Ethylene glycol	107-21-1	1-3
Ethylene glycol monophenyl ether	122-99-6	1-3

4. FIRST AID MEASURES

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact	Wash off with warm water and soap. If symptoms persist, call a physician.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable.			
Flash Point	Not determined.			
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.			
Explosion Data				
Sensitivity to Mechanical Impact	None			
Sensitivity to Static Discharge	None			
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.			
NFPA	Health Hazard 1	Flammability 0	Instability 0	Physical and Chemical Hazards -
HMIS	Health Hazard 1*	Flammability 0	Physical Hazard 0	Personal Protection X

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
Methods for Containment	Dike far ahead of liquid spill for later disposal.
Methods for Cleaning Up	Cover liquid spill with sand, earth or other noncombustible absorbent material. Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling	Wear personal protective equipment. Avoid contact with skin, eyes and clothing.
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Storage Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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
Chromium oxide greens 1308-38-9	TWA: 0.5 mg/m ³ Cr	TWA: 0.5 mg/m ³ Cr (vacated) TWA: 0.5 mg/m ³ Cr	IDLH: 25 mg/m ³ Cr(III) TWA: 0.5 mg/m ³ Cr
Quartz 14808-60-7	TWA: 0.025 mg/m ³ respirable fraction	TWA: 0.1 mg/m ³ (vacated)	IDLH: 50 mg/m ³ respirable dust TWA: 0.05 mg/m ³ respirable dust

OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. NIOSH IDLH: Immediately Dangerous to Life or Health.

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Engineering Measures Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment

Eye/Face Protection
Skin and Body Protection
Respiratory Protection

Tightly fitting safety goggles. Safety glasses with side-shields.

Protective gloves.

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Various.	Odor	Slight, Ammonia.
Odor Threshold	No information available.	Physical State	Liquid.
pH	7.0 - 9.0	Autoignition Temperature	No information available.
Flash Point	No information available.	Boiling Point/Boiling Range	100°C
Decomposition Temperature	No information available.	Explosion Limits	No information available.
Melting Point/Range	No information available.	Water Solubility	Partly soluble.
Flammability Limits in Air	No information available.	Evaporation Rate	No information available.
Specific Gravity	1.20	Vapor Density	No data available.
Solubility	No information available.		
Vapor Pressure	No data available.		
EPA VOC (g/l)	118		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible Products	None known based on information supplied.
Conditions to Avoid	None known based on information supplied.
Hazardous Decomposition Products	Carbon monoxide (CO). Carbon dioxide (CO ₂).
Hazardous Polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information No acute toxicity information is available for this product.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol monophenyl ether	= 1260 mg/kg (Rat)	= 5 mL/kg (Rabbit) = 14422 mg/kg (Rat)	
Ethylene glycol	4000 mg/kg (Rat)	9530 µL/kg (Rabbit)	-
Titanium dioxide	> 10000 mg/kg (Rat)		> 6820 mg/m ³
Iron oxide	> 10000 mg/kg (Rat)		
Quartz	500 mg/kg (Rat)		

Chronic Toxicity

Chronic Toxicity This product contains crystalline silica (quartz) in a non-respirable form. Inhalation of crystalline silica is unlikely to occur from exposure to this product. Crystalline silica (quartz) has been classified by the International Agency for Research on Cancer (IARC) as a known human carcinogen (Group 1). This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product. Titanium dioxide has been classified by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B) by inhalation.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Quartz	A2	Group 1	Known	X
Titanium dioxide		Group 2B		X
Chromium oxide greens		Group 3		

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

Group 3: Not Classifiable as to its Carcinogenicity to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Target Organ Effects Central nervous system (CNS). Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethylene glycol	EC50 96 h: 6500 - 13000 mg/L (Pseudokirchneriella subcapitata)	LC50 96 h: 14 - 18 mL/L static (Oncorhynchus mykiss) LC50 96 h: 40000 - 60000 mg/L static (Pimephales promelas) LC50 96 h: = 16000 mg/L static (Poecilia reticulata) LC50 96 h: = 27540 mg/L static (Lepomis macrochirus) LC50 96 h: = 40761 mg/L static (Oncorhynchus mykiss) LC50 96 h: = 41000 mg/L (Oncorhynchus mykiss)	EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min	EC50 48 h: = 46300 mg/L (Daphnia magna)
Ethylene glycol monophenyl ether	EC50 72 h: > 500 mg/L (Desmodesmus subspicatus)	LC50 96 h: 220-460 mg/L static (Leuciscus idus) LC50 96 h: 337-352 mg/L flow-through (Pimephales promelas) LC50 96 h: = 366 mg/L static (Pimephales promelas)	EC50 = 32.4 mg/L 5 min EC50 = 880 mg/L 17 h	EC50 48 h: > 500 mg/L (Daphnia magna)

Chemical Name	Log Pow
Ethylene glycol	-1.93
Ethylene glycol monophenyl ether	1.13

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated Packaging Do not re-use empty containers.

US EPA Waste Number D007

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Chromium oxide greens	Toxic Corrosive Ignitable

14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any 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	1.92	1.0
Chromium oxide greens	1308-38-9	2.1	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Chromium oxide greens		X		

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Ethylene glycol	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Quartz	14808-60-7	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Ethylene glycol monophenyl ether			X	X	
Ethylene glycol	X	X	X	X	X
Titanium dioxide	X	X	X	-	X
Chromium oxide greens		X			X
Quartz	X	X	X	-	X

International Regulations

Chemical Name	Carcinogen Status	Exposure Limits
Ethylene glycol		Mexico: Ceiling 100 mg/m ³
Titanium dioxide		Mexico: TWA= 10 mg/m ³ Mexico: STEL= 20 mg/m ³
Chromium oxide greens		Mexico: TWA 0.5 mg/m ³
Quartz		Mexico: TWA= 0.1 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D2A Very toxic materials

**Canadian National Pollutant Release Inventory (NPRI)**

Chemical Name	NPRI
Ethylene glycol	X

Legend

X - Listed

16. OTHER INFORMATION

Prepared By Product Stewardship
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Revision Note Initial Release.

General Disclaimer

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of Safety Data Sheet