



Duraguard Ethylene Glycol

MATERIAL SAFETY DATA SHEET

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Section 1: Product & Company Identification

Product name: Ethylene Glycol
Synonyms: Ethylene Glycol; 1,2-Ethanediol; Ethylene Alcohol
CAS No: 107-21-1
Molecular weight: 62.07

Distributor: Paulson Oil Company
950 Wabash Ave
Chesterton, IN 46304

Emergency Telephone Number: 800-424-9300 CHEMTREC

Section 2: Composition / Information on Ingredients

Ingredient	CAS Number	Approx. %	Exposure Limits
Ethylene Glycol	107-21-1	95-98	50 ppm PEL

Section 3: Hazards Identification

Emergency Overview

Health Hazard: Harmful or potentially fatal if swallowed. Harmful if inhaled or absorbed through skin. May cause allergic skin reaction. May cause irritation to skin, eyes, and respiratory tract. Potentially affects central nervous system.

Fire & Explosion: Does not readily ignite. Flammability and Reactivity Rating is: 1 Slight

Potential Health Effects

Eyes: Splashes may cause irritation, pain, and eye damage.

Skin: Minor skin irritation and penetration may occur.

Inhalation: Vapor inhalation is generally not a problem unless heated or misted. Exposure to vapors over an extended time period has caused throat irritation and headache. May cause nausea, vomiting, dizziness and drowsiness. Pulmonary edema and central nervous system depression may also develop. When heated or misted, has produced rapid, involuntary eye movement and coma.

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Ingestion: Initial symptoms in massive dosage parallel alcohol intoxication, progressing to CNS depression, vomiting, headache, rapid respiratory and heart rate, lowered blood pressure, stupor, collapse and unconsciousness with convulsions. Death from respiratory arrest or cardiovascular collapse may follow. Lethal dose in humans: 100 ml (3-4 ounces).

Chronic Exposure: Repeated small exposures by any route can cause severe kidney problems. Brain damage may also occur. Skin allergy can develop. May damage the developing fetus.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders, eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of this substance.

Section 4: First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention.

Skin: Remove contaminated clothing and shoes. Then wash with soap and water for at least 15 minutes. Clean contaminated clothing and shoes before reuse. Get medical attention if irritation develops or persists.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Ingestion: If swallowed, call a physician immediately. ONLY induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Note to Physician: Give sodium bicarbonate intravenously to treat acidosis. Urinalysis may show low specific gravity, proteinuria, pyuria, cylindruria, hematuria, calcium oxide, and hippuric acid crystals. Ethanol can be used in antidotal treatment but monitor blood glucose when administering ethanol because it can cause hypoglycemia. Consider infusion of a diuretic such as mannitol to help prevent or control brain edema and hemodialysis to remove ethylene glycol from circulation.

Section 5: Fire Fighting Measures

Flash Point: 247 - 250 F° T.O.C.

Auto ignition: approx. 748 F°

Flammability: Flammable limits in air % by volume

Lower: 3.2%

Upper: 15.3%

Fire & Explosion: Slight to moderate fire hazard when exposed to heat or flame. Above flash point, vapor – air mixtures are explosive within flammable limits noted above. Containers may explode when involved in a fire.

Extinguishing Media: Foam, dry chemical or carbon dioxide (CO₂). Water or foam may cause frothing. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

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Fire Fighting Instructions: In the event of a fire, cool exposed equipment with water spray until well after fire is out. Do not scatter spilled material with high-pressure water streams. Dike fire-control water for later disposal. Self-contained breathing apparatus (SCBA) and firefighter's full protective clothing should be worn. Toxic gases and vapors may be released in a fire.

Section 6: Accidental Release Measures

Ventilate area. Stop the source of the leak. Contain the spill and clean up using sorbent materials. Dispose of in accordance with local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater, or soil. Contain and recover liquid when possible. Do not flush to sewer. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

Section 7: Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Separate from acids and oxidizing materials. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

Section 8: Exposure Control / Personal Protection Information

Airborne Exposure Limits: OSHA Permissible Exposure Limit (PEL): 50 ppm Ceiling.
ACGIH Threshold Limit Value (TLV): 50 ppm Ceiling (vapor).

Engineering Controls: Use only with adequate ventilation. Mechanical ventilation is recommended if handling at elevated temperatures or if it is handled in such a manner as to cause mist or vapors to form.

Personal Protection: Safety glasses with side shields or chemical goggles. Wear chemical resistant gloves. If potential for significant exposure to liquid exists, use full protective clothing and chemical boots.

Respiratory protection is normally not required except in emergencies or when the exposure limit is exceeded. Select the appropriate NIOSH-approved organic vapor air-purifying respirator, self-contained breathing apparatus, or air supplied respirators in situations where there may be potential for overexposure. Warning: Air-purifying respirators do not protect workers in oxygen deficient atmospheres.

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Section 9: Physical and Chemical Properties

Appearance:	
Odor:	Mild
Vapor Pressure:	N/A
Vapor Density:	N/A
Water Solubility:	Complete
Viscosity:	N/A
Physical State:	Liquid
Boiling Point:	387 F ^o
Melting Point:	N/A
Specific Gravity:	1.11 – 1.13

Section 10: Stability and Reactivity

Conditions to Avoid:	Stable under normal conditions of use and storage. Avoid Heat, flames, ignition sources, water (absorbs readily) and incompatibles.
Incompatibility:	May react with strong oxidizers. Reacts violently with chlorosulfonic acid, oleum, sulfuric acid, and perchloric acid. Causes ignition at room temperature with chromium trioxide, potassium permanganate and sodium peroxide. Also avoid contact with oxidizers such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition:	Carbon dioxide and carbon monoxide may form when heated to decomposition. May produce acrid smoke and irritating fumes.
Hazardous Polymerization:	Should not occur.

Section 11: Toxicological Information

Oral rat LD50:	4700 mg/kg; skin rabbit LD50: 9530 mg/kg;
Irritation – skin rabbit:	555 mg (open), mild; eye rabbit: 500 mg/24 H, mild.
Investigated as a tumorigen, mutagen, and reproductive effector.	
Reproductive Toxicity:	Has shown teratogenic effects in laboratory animals.
Ethylene Glycol:	Not a Known or Anticipated NTP Carcinogen. IARC Category: NONE.

Section 12: Ecological Information

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Environmental Fate: When released into the soil, this material is expected to readily biodegrade. It also has the potential to leach into the groundwater. When released into water this material is expected to readily biodegrade. In water, this material is expected to have a half-life between 1 and 10 days. This material is not expected to significantly bioaccumulate or evaporate.

Environmental Toxicity: The LC50/96 Hour values for fish are over 100 mg/l.

Section 13: Disposal Considerations

Special Instructions: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14: Transport Information

Regulated only in packages that contain 5000 lbs. or greater of ethylene glycol, and the DOT information must be accompanied with the "RQ" notation. Suggested shipping information for packages that contain more than 5000 lbs. of ethylene glycol is:

DOT Description: Environmentally Hazardous Substance, Liquid N.O.S.(ethylene glycol), 9, UN3082, PG III.

ICAO / IATA Description: Not Regulated

IMO Description: Not Regulated

Section 15: Regulatory Information

United States Regulations

OSHA:

TSCA Inventory Listing: No

SARA 302 Status: Ethylene Glycol: No RQ, or TPQ

SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No

SARA 313 Chemicals: Yes: Ethylene Glycol 107-21-1

Section 16: Other Information

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Hazard Ratings	NFPA
Health	1
Flammability	1
Reactivity	0

Revision Summary: new msds format

This MSDS was prepared by Paulson Oil Co. For general information about this product call:
(219)-926-8656

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