**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**MSDS Name:** Ethylene Glycol  
**CAS#** 107-21-1  
**Chemical Name** | Ethylene glycol  
**%** | 100  
**EINECS#** | 203-237-1

**SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS**

**Hazard Symbols: XN**  
**Risk Phrases:** 22

**SECTION 3 - HAZARDOUS IDENTIFICATION**

**OVERVIEW EXPOSURE**

- **Appearance:** Clear, colorless liquid.
- **Odor:** May cause respiratory tract irritation. Hydroscopic. This substance has caused adverse reproductive and fatal effects in animals and kidney damage. May cause central nervous system effects. May cause eye and skin irritation. May cause cardiac disturbances, headache, or anemia.

**Target Organs:** Kidneys, heart, central nervous system.

**Potential Health Effects**

- **Eye:** May cause moderate eye irritation. May cause skin irritation. Low hazard for usual industrial handling.
- **Inhalation:** May cause respiratory tract irritation. May cause nausea and vomiting. May cause headache and possible cardiac failure. May cause kidney damage.

**Skins:** May cause skin irritation. May cause skin irritation. Low hazard for usual industrial handling.

- **Ingestion:** May cause nausea and vomiting. Toxicity follows 1-stage poisoning. (1) involves central nervous system function abnormities including possible renal abnormalities.
- **Inhalation:** May cause respiratory tract irritation. May cause nausea and vomiting. May cause headache, irregular eye movements, and possible coma.

**Chronic:** May cause kidney injury.

**SECTION 4 - FIRST AID MEASURES**

- **Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. DO NOT allow victim to rub or keep eyes closed.
- **Skin:** Wash skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Never give anything by mouth to an unconscious person. Get medical aid immediately.
- **Inhalation:** Remove contaminated exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If medical aid is called for, give the proper hand-to-mouth resuscitation.
- **Notes to Physician:** Ethanol may inhibit methanol metabolism.

**SECTION 5 - FIRE FIGHTING MEASURES**

**General Information:**

- **Spills:** Absorb spill with inert material (e.g., vermiculite, sand, or earth), then place in suitable containers. Avoid all sources of ignition. Use water spray to cool, dry, well-ventilated area away from incompatible substances.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Water or foam may cause frothing. Use agent most appropriate to extinguish fire.

**Autoignition Temperature:** 410 deg C (770.00 deg F)

**Flash Point:** 111 deg C (311.80 deg F)

**Explosion Limits:** lower: 3.20 vol.%  
upper: 15.30 vol.%

**NFPA Rating:** Health: 1; Flammability: 1; Instability: 0

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g., vermiculite, sand, or earth), then place in suitable containers. Avoid all sources of ignition. Use water spray to cool, dry, well-ventilated area away from incompatible substances.

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

**Storage:** Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances.

**SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Personal Protective Equipment**

- **Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations.
- **Skin:** Wear appropriate protective gloves to prevent skin exposure.
- **Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a N99 or European Standard EN 149 approved respirator when necessary.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

- **Physical State:** Liquid  
- **Color:** Clear, colorless  
- **Odor:** Odorless  
- **Density:** Not available  
- **Vapor Pressure:** 0.05 mm Hg @ 20 C  
- **Vapor Density:** 1.0 (air=1)  
- **Boiling Point:** 195 deg C @ 760.00 mm Hg  
- **Decomposition Temperature:** Not applicable  
- **Solubility in Water:** Soluble in water  
- **Specific Gravity/Density:** 1.1200 g/cm³  
- **Molecular Formula:** C₂H₆O₂  
- **Molecular Weight:** 62.06

**SECTION 10 - STABILITY AND REACTIVITY**

- **Stability:** Stable  
- **Reactivity:** Stable  
- **Hazardous Decomposition Products:** Not applicable
Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Incompatibilities with other Materials: Chlorosulfonic acid, dimethyl terephthalate, cleen, phosphorus pentoxide, silvered-copper wire, sodium hydroxide, sulfuric acid, titanium dioxide. Causes ignition at room temperature with chromium trioxide, potassium permanganate, and sodium peroxide. Causes ignition in contact with mercury, mercuric chloride, silver nitrate, chlorides, and uranyl nitrate.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

**RTCS#**
CAS# 107-21-1: EW755000

LD50/LC50:
CAS# 107-21-1: Draize test, rabbit, eye: 500 mg/24H Mil; Draize test, rabbit, eye: 100 mg/24H Mil; Ocular, rat: LD50 = 4700 mg/kg; Skin: rabbit: LD50 = 9530 ul/kg.

Carcinogenicity:
Ethylene glycol: ACGIH: N - Not Classifiable as a Human Carcinogen (aerosol).

Epidemiology:
No data available.

Teratogenicity:
No data available.

Reproductive Effects:
No data available.

Neurotoxicity:
No data available.

Mutagenicity:
No data available.

Other studies:
Other studies, please refer to RTCS EW755000 for additional information.

**SECTION 12 - ECOLOGICAL INFORMATION**

**Ecotoxicity:**
Fish: Rainbow trout: LC50 = 41000 mg/l; 96 Hr.; Unspecified; Bluegill/Sunfish: LC50 = 27500-41000 mg/l; 96 Hr.; Unspecified; Daphnia: LC50 = 3000-40000 mg/l; 96 Hr.; Unspecified; Phyllophaga: LC50 = 750mg/l; 30 minutes; Microtox test: LC50 = 3750mg/l; 1/24Hr.

**SECTION 13 - DISPOSAL CONSIDERATIONS**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

OSHA: No listed.

RCRA U-Series: None listed.

**SECTION 14 - TRANSPORT INFORMATION**

US DOT: No information available

Canadian TDQ: No information available.

**SECTION 15 - REGULATORY INFORMATION**

US FEDERAL

TSCA
CAS# 107-21-1 is listed on the TSCA inventory. Chemical test rules.

Health & Safety Reporting List: None of the chemicals are under a Chemical Test Rule. None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule: None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs:
CAS# 107-21-1: 5000 lb Final Qty; 2770 kg final Qty.

SARA Section 302 Extremely Hazardous Substances:
None of the chemicals in this product have a RQ.

SARA Codes
CAS# 107-21-1: acute, chronic.

SARA 302:
This material contains Ethylene glycol (CAS# 107-21-1, 99%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Clean Air Act:
CAS# 107-21-1 is listed as a hazardous air pollutant (HAP).

Clean Water Act:
This material does not contain any Class I or II designated pollutants.

OSHA:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**SECTION 16 - ADDITIONAL INFORMATION**

MSDS Creation Date: 5/12/1999
Revision Date: 8/20/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall we be liable for any claims, losses, or damages of any third party or for any particular cause of action, incidental or otherwise, arising out of the use of the Information.

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