



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. EE 110
Effective Date February 23, 1999

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	ETHYLENE GLYCOL	 <p>CHEMTREC 800-424-9300 Day 716-226-6177</p> <p>NFPA HAZARD RATING</p> <table border="1"> <tr> <td>LEAST</td> <td>SLIGHT</td> <td>MODERATE</td> <td>HIGH</td> <td>EXTREME</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table> <p>HMIS *</p> <table border="1"> <tr> <td>Health</td> <td>2</td> </tr> <tr> <td>Fire</td> <td>1</td> </tr> <tr> <td>Reactivity</td> <td>1</td> </tr> </table>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4	Health	2	Fire	1	Reactivity	1
LEAST	SLIGHT		MODERATE	HIGH	EXTREME													
0	1		2	3	4													
Health	2																	
Fire	1																	
Reactivity	1																	
Chemical Synonyms	1,2-Ethanediol, Glycol																	
Formula	HOCH ₂ CH ₂ OH																	
Unit Size	up to 4 Lt.																	
C.A.S. No.	107-21-1																	

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Ethylene Glycol	100%	See Section V.

WARNING! HARMFUL OR FATAL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

SECTION III PHYSICAL DATA

Melting Point (°F)	-13°C (9°F)	Specific Gravity (H ₂ O = 1)	1.1154 (20/4°C)
Boiling Point (°F)	197.5°C (388°F)	Percent Volatile by Volume (%)	100%
Vapor Pressure (mm Hg)	0.08 mm @ 20°C	Evaporation Rate (Butyl Acetate = 1)	0.01
Vapor Density (Air=1)	2.14		
Solubility in Water	Completely.		
Appearance & Odor	Clear, colorless, slightly viscous, hygroscopic liquid; mild odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	232°F (111.1°C) TCC	Flammable Limits in Air % by Volume	Lower 3.2%	Upper 15.3%
Extinguisher Media	Water spray; carbon dioxide; dry chemical.			

SPECIAL FIREFIGHTING PROCEDURES

Wear a NIOSH/MSHA-approved, self-contained breathing apparatus and full protective clothing. Use water spray to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures and to dilute spills to non-combustible mixtures.

Ignition Temperature: 748°F (398°C).

UNUSUAL FIRE AND EXPLOSION HAZARDS

Although ethylene glycol has a high flash point, vapor concentrations that exceed 3.2% by volume can form flammable mixtures in air. When mixed in air, glycol becomes a moderate fire and explosion hazard. Class III B combustible liquid.

D.O.T. **NON-REGULATED.**

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

EE 110

Threshold Limited Value

TWA: Vapor-CEIL: 50 ppm; 125 mg/m³. (ACGIH, 1992-93).

Effects of Overexposure

TARGET ORGANS AFFECTED: Central nervous system, kidneys, liver.
INHALATION: Prolonged exposure to high concentrations of the heated vapor or mist can cause narcosis and may result in systemic toxic effect. **INGESTION:** Can be harmful or fatal if swallowed. Repeated ingestion can cause liver and kidney damage. **EYES:** May cause irritation. **SKIN:** Prolonged contact may result in toxic amounts penetrating the intact skin.

Emergency and First Aid Procedures

INHALATION AS MIST: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
INGESTION: If swallowed, if conscious, give one or two glasses of water to drink. Induce vomiting and call physician immediately. Never give anything by mouth to an unconscious person. **SKIN:** Flush thoroughly with water, then wash with mild soap and water. **EYES:** Flush thoroughly with water for 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.

SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid	Excessive temperature and heat, open flame or sparks.
	Stable	X		

Incompatibility (Materials to Avoid)	May react strongly with oxidizing materials (chlorates, nitric acid, nitrates, permanganates, etc.), acids, bases.
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Hazardous Decomposition Products	Thermal decomposition products; carbon monoxide and/or carbon dioxide.
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Hazardous Polymerization	Conditions to Avoid
May Occur	Will Not Occur
	X
	Not applicable.

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled

Wearing suitable protective clothing, absorb spilled material in an inert dry material. Place in a suitable container for disposal. Wash spill area well with soap and water.

Waste Disposal Method

Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Dispose of in an approved incinerator or contract with a licensed waste disposal service.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) None should be needed in normal laboratory handling at room temperature. In misty conditions, wear a NIOSH/MSHA-approved, self-contained breathing apparatus or work in adequate ventilation hood.

Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

Protective Gloves	Rubber.	Eye Protection	Chemical safety glasses.
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Other Protective Equipment	Smock, apron, eye wash station, goggles, proper gloves.
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SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool, dry, well-ventilated area away from oxidizing materials and fire hazards. Wash thoroughly after handling.
Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals.

Do not take internally. Do not breathe vapors or fumes. Avoid contact with eyes. Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision No. 4	Date 2/23/99	Approved Michael Raszeja	Chemical Safety Coordinator MR
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