Safety Data Sheet

Ethylene Glycol

CAROLINA®
www.carolina.com

Section 1 Product Description

Product Name:	Ethylene Glycol
Recommended Use:	Science education applications
Synonyms:	1.2-Ethandiol; Ethylene Alcohol; Glycol Alcohol
Distributor:	Carolina Biological Supply Company 2700 York Road, Burlington, NC 27215 1-800-227-1150
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec:	800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING

Harmful if swallowed.

GHS Classification:
Acute Toxicity - Oral Category 4

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Ethylene Glycol 100%	107-21-1	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation:	In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact:	After contact with skin, wash immediately with plenty of water.
Ingestion:	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Section 5 Firefighting Procedures

Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do Not direct a stream of water into the hot burning liquid.
Fire Fighting Methods and Protection:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards:	In use, may form flammable/explosive vapor-air mixture. Contact with water liberates extremely flammable gases.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away. Avoid breathing dust/fume/gas/mist/vapors/spray.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container Avoid runoff into storm sewers and ditches that lead to waterways.

Section 7 Handling and Storage

Handling: Wash thoroughly after handling. Do no eat, drink or smoke when using this product. Keep container tightly closed in a cool, well-ventilated place. Keep away from sources of ignition - No smoking. Keep away from ... (incompatible materials to be indicated by the manufacturer). Do not breathe gas/fumes/vapor/spray. Avoid contact with skin and eyes. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Harmful if swallowed. Retained residue may make empty containers hazardous

Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Section 8 Protection Information

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
No data available	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use. Respiratory protection not normally needed since volatility and toxicity are low. If vapors, mists or aerosols are generated, wear a NIOSH approved respirator.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Where use can result in skin contact, practice good personal hygiene. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly.

Gloves: Nitrile

Section 9 Physical Data

Formula: CH2OHCH2OH
Molecular Weight: 62.07
Appearance: Colorless Liquid
Odor: No data available
Odor Threshold: No data available
pH: No data available
Melting Point: No data available -12 C
Boiling Point: 196 - 198 C
Flash Point: 111 C
Flammable Limits in Air: LEL: 3.2% 0.1 hPa at 20 °C
Vapor Pressure: 0.1 hPa at 20 °C
Evaporation Rate (BuAc=1): < 1
Vapor Density (Air=1): 2.14
Specific Gravity: 1.113 at 20 °C
Solubility in Water: Soluble
Log Pow (calculated): -1.93
Autoignition Temperature: 398 C
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: 100%

Section 10 Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Acetaldehydes, Aluminum alloys, Caustics (bases), Strong acids, Strong oxidizing agents
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry Inhalation and ingestion.
Symptoms (Acute): N/A
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Ethylene Glycol 100%	107-21-1	Oral LD50 Rat = 4700 mg/kg	Dermal LD50 Rabbit = 10626 C	Not determined

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
No data available	107-21-1	Not listed	Not listed	Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: Mutation data cited., Reproductive data cited., Not listed as a carcinogen by IARC, NTP or OSHA.

Section 12 Ecological Data

Overview: Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife. Keep out of waterways.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Ethylene Glycol 100%	107-21-1	96 HR LC50 ONCORHYNCHUS MYKISS 41000 MG/L 96 HR LC50 LEPOMIS MACROCHIRUS 27540 MG/L [STATIC] 96 HR LC50 ONCORHYNCHUS MYKISS 40761 MG/L [STATIC] 96 HR LC50 POECILIA RETICULATA 16000 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 46300 MG/L 96 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA 6500 - 13000 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name:

Air - IATA Proper Shipping Name:

UN number: 3082 Class: 9 Packing group: III Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol) Reportable Quantity (RQ): 5000 lbs Marine pollutant: No Poison Inhalation Hazard: No

Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Ethylene Glycol 100%	107-21-1	Ethylene glycol	No	5000 lb final RQ; 2270 kg final RQ	No	No

California Prop 65: No California Proposition 65 ingredients

Section 16 Additional Information

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Service Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency for Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
IDLH	Immediately dangerous to life and health