

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Ethylene Glycol
CAS number	107-21-1
Synonyms	Monoethylene glycol; 1,2-Ethanediol; MEG

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals.
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1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC


SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute Oral Toxicity	Category 4
Specific Target Organ Toxicity (single exposure) Target Organ(s) - Central nervous system (CNS)	Category 3
Specific Target Organ Toxicity (repeated exposure) Target Organ(s) - Kidney, Liver	Category 2

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Warning
Hazard statements	Harmful if swallowed. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	Prevention: Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Response: Get medical attention/advice if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Disposal: Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

WARNING: Reproductive Harm - <https://www.p65warnings.ca.gov/>

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Ethylene glycol	Monoethylene glycol; 1,2-Ethenediol	107-21-1	>95%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
In case of eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
If swallowed	Do NOT induce vomiting. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Difficulty in breathing.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water spray, Carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products: Carbon monoxide (CO). Carbon dioxide (CO₂).

5.3 Special 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.

5.4 Further information

Flash Point 116 °C / 240.8 °F

Autoignition Temperature 413 °C / 775.4 °F

Explosion limits

Upper 15.3 vol%

Lower 3.2 vol%

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	1	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

6.2 Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not breathe mist/vapors/spray. Avoid contact with skin, eyes, or clothing.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep away from heat, sparks, and flame.

Incompatibilities

Strong oxidizing agents. Strong acids. Strong bases. Aldehydes.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Ethylene glycol	(Vacated) Ceiling	50 ppm 125 mg/m ³

US. ACGIH Threshold Limit Values

Component	Type	Value
Ethylene glycol	TWA	25 ppm
	STEL	50 ppm
	STEL	10 mg/m ³

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles, as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN 166.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure

Should not be released into the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Viscous
Odor	Odorless
Odor Threshold	No information available
pH	5.5-7.5 50% aq. sol
Melting Point/Range	-13 °C / 8.6 °F
Boiling Point/Range	>196 - 198 °C / 384.8 - 388.4 °F @ 760 mmHg
Evaporation Rate	No information available
Flammability (solid)	Not applicable
Flammability or explosive limit	
Upper	15.3 vol%
Lower	3.2 vol%
Vapor Pressure	0.12 mmHg @ 20 °C
Vapor Density	2.14 (Air = 1.0)
Density	1.113
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	413 °C / 775.4 °F
Decomposition Temp	>500°C
Viscosity	21 cP (20°C)
Molecular Formula	C ₂ H ₆ O ₂
Molecular Weight	62.07 g/mol
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

Hygroscopic.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Incompatible products. Excess heat. Exposure to moist air or water.

10.5 Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases, Aldehydes.

10.6 Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylene glycol	7712 mg/kg (Rat)	9530 µL/kg (Rabbit) 10600 mg/kg (Rat) > 3500 mg/kg (Mice)	> 2.5 mg/L (Rat) 6 h

Skin corrosion/irritation

May cause skin irritation.

Serious eye damage/eye irritation

May cause eye irritation.

Respiratory or skin sensitization

May cause respiratory tract irritation.

Germ cell mutagenicity

No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Ethylene glycol	107-21-1	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

Central nervous system (CNS).

Specific target organ toxicity - repeated exposure

Kidney, Liver.

Reproductive toxicity

No information available.

Chronic effects

No information available.

11.2 Additional Information

The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information.

SECTION 12: Ecological information

12.1 Toxicity

Do not empty into drains.

Product		Species	Test Results
Ethylene glycol	EC50	Pseudokirchneriella subcapitata	6500 - 13000 mg/L, 96h
	LC50	Lepomis macrochirus	27540 mg/L, 96h static
	LC50	Oncorhynchus mykiss	14 - 18 mL/L, 96h static 40761 mg/L, 96h static 41000 mg/L, 96h
	LC50	Pimephales promelas	40000 - 60000 mg/L, 96h static
	LC50	Poecilia reticulata	16000 mg/L, 96h static
	EC50	Daphnia magna	46300 mg/L, 48h

12.2 Persistence and degradability

Persistence is unlikely.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility (log Pow: -1.93).

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)	Not regulated.
IMDG	Not regulated.
IATA	Not regulated.

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)
Listed, Ethylene glycol (CAS #107-21-1), RQ: 5000 lb.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous
See Section 2 for more information.

SARA 313 (TRI reporting)
Listed, Ethylene glycol (CAS #107-21-1).

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Listed, Ethylene glycol (CAS #107-21-1).

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act
Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed, Ethylene glycol (CAS #107-21-1).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Ethylene glycol (CAS #107-21-1).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Ethylene glycol (CAS #107-21-1).

California Proposition 65

Listed, Ethylene glycol (CAS #107-21-1).

SECTION 16: Other information

Issue date: 02/02/2010

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SECTION 17: Disclaimer

The information provided on this Safety Data Sheet 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.