SAFETY DATA SHEET

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

1.1 Product identifiers

Product name:	Diethyelene Glycol Monoethyl Ether
CAS number:	111-90-0
Synonyms:	2(2-Ethoxyethoxy)ethanol

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

Identified Uses : Laboratory chemicals, Synthesis of substances.

1.3 Details of the supplier of the safety data sheet

Company : Lab Alley, LLC
22111 Highway 71 West, Suite 601
Spicewood, Texas 78669
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)

Flammable liquids (Category 2)
Skin irritation (Category 2),
Specific target organ toxicity - single exposure (Category 3), Central nervous system
Aspiration hazard (Category 1)
Short-term (acute) aquatic hazard (Category 1)
Long-term (chronic) aquatic hazard (Category 1)

2.2 GHS Label elements, including precautionary statements

Pictogram:

Signal Word: **Danger**

Hazard statement(s): Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects.

Precautionary statement(s): **Prevention** - Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. Keep container tightly closed. Ground/bound container and receiving equipment. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapors. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/ eye protection/ face protection. **Response** - IF SWALLOWED: Immediately call a POISON CENTER/ doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Collect spillage. Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

3.1 Components

Ingredient	CAS Number	Percent	Hazardous Chemical
Cyclohexane	110-82-7	100	Yes

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice: Show this safety data sheet to the doctor in attendance.

If inhaled: After inhalation: fresh air. Call in physician.

In case of eye contact: After eye contact: rinse out with plenty of water. Remove contact lenses.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of ingestion: Caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable (and unsuitable) extinguishing media

Foam Carbon dioxide (CO_2) Dry powder. For this substance/ mixture no limitations of extinguishing agents are given.

5.2 Specific hazards arising from the substance or mixture

Carbon oxides. Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapors possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

5.3 Special protective equipment and precautions for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system..

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see Section 13. Refer to section 8 of SDS for personal protection details.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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 and sources of ignition. May form explosive peroxides on prolonged storage. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. Flammables area.

SECTION 8. Exposure controls/personal protection

8.1 Occupational exposure limits

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	California PEL
Cyclohexane (110-82-7)	TWA: 100 ppm	TWA: 300 ppm TWA: 1050 mg/m³	TWA: 300 ppm TWA: 1050 mg/m³	PEL: 300 ppm PEL: 1050 mg/m³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health
PEL: Permissible exposure limits.

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.

Skin and body protection

Wear appropriate gloves to prevent skin exposure. Flame retardant anti-static protective clothing.

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

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid.
Appearance	Colorless.
Odor	Sweet.
Odor Thresh	0.05 ppm
pH	Not available.
Melting Point/Range	4 - 7 °C (39 - 45 °F) - lit
Boiling Point/Range	80.7 °C 177.3 °F - lit
Flash Point	-20 °C (-4 °F) - closed cup
Evaporation Rate	Not available.
Flammability (solid, gas)	Not available.
Flammability or explosive limit	
Upper	: 8.3% v/v
Lower	: 1.2% v/v
Vapor Pressure	124 hPa at 24 °C (75 °F)
Vapor Density	Not available.
Density	0.779 g/cm3 at 25 °C (77 °F) - lit
Solubility	52 g/l at 23.5 °C (74.3 °F) - partly soluble
Partition coefficient; n-octanol/water	log Pow: 3.44 at 25 °C (77 °F) - Bioaccumulation is not expected.
Autoignition Temp	260.0 °C (500.0 °F)
Decomposition Temp	Not available.
Viscosity	Not available.
Molecular Formula	C6H12
Molecular Weight	84.16
VOC Content(%)	Not available.
Oxidizing properties	Not available.

9.2 Other safety information

None.

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapors may form explosive mixture with air.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Risk of explosion with nitrogen dioxide. Risk of ignition or formation of inflammable gases or vapors with strong oxidizing agents.

10.4 Conditions to avoid

Ignition sources, excess heat, confined spaces.

10.5 Incompatible materials

Strong oxidizing agents, nitrogen dioxide.

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cyclohexane	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	19.04 mg/l (Rat) 4 h

Skin corrosion/irritation

Irritating to skin.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Cyclohexane (CAS No. 110-82-7)

IARC Monographs. Overall Evaluation of Carcinogenicity

Group 3

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed

ACGIH

A3

MEXICO

Not listed.

Reproductive toxicity

No information available.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

No information available.

Aspiration hazard

May be fatal if swallowed and enters airways. Aspiration may cause pulmonary edema and pneumonitis.

Chronic effects

Prolonged or repeated skin contact may cause defatting and dermatitis.

11.2 Additional information

Repeated dos toxicity - Subchronic toxicity. Central nervous system depression, Drowsiness, Irritability, Dizziness, Gastrointestinal disturbance, Lung irritation, chest pain, pulmonary edema. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12. Ecological information

12.1 Toxicity

Ecotoxicity:

Component	Freshwater Algae	Freshwater Fish	Bacteria	Water Flea
Cyclohexane	4.425 mg/L EC50 = 72 h	Pimephales promelas: LC50 4.53 mg/L 48h	IC50 29 mg/l = 15hr	0.9 mg/L EC50 = 48 h

12.2 Persistence and Degradability

Readily biodegradable.

12.3 Bioaccumulative Potential

No information available.

12.4 Mobility in Soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

Biological effects: Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities. Change in the flavor characteristics of fish protein. Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

13.1 Waste Disposal Methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

DOT

UN-No	UN1145
Proper Shipping Name	Cyclohexane
Hazard Class	3
Packing Group	II

TDG

UN-No	UN1145
Proper Shipping Name	Cyclohexane
Hazard Class	3
Packing Group	II

IATA

UN-No	UN1145
Proper Shipping Name	Cyclohexane
Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1145
Proper Shipping Name	Cyclohexane
Hazard Class	3
Packing Group	II

SECTION 15: Regulatory information

US Federal

TSCA

CAS# 110-82-7 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 110-82-7: Effective 12/19/85, Sunset 12/19/95

Chemical Test Rules

CAS# 110-82-7: 40 CFR 799.5000

Section 12b

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.

CERCLA Hazardous Substances and corresponding RQs

CAS# 110-82-7: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 110-82-7: immediate, delayed, fire.

Section 313

This material contains Cyclohexane (CAS# 110-82-7, >99%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 110-82-7 is listed as a Hazardous Substance 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.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 110-82-7 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN F N

Risk Phrases:

R 11 Highly flammable.
R 38 Irritating to skin.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 65 Harmful: may cause lung damage if swallowed.
R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 25 Avoid contact with eyes.
S 33 Take precautionary measures against static discharges.
S 9 Keep container in a well-ventilated place.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.
S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)

CAS# 110-82-7: 1

Canada - DSL/NDSL

CAS# 110-82-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 110-82-7 is listed on the Canadian Ingredient Disclosure List.

SECTION 16: Other information

Issue Date	06/04/1999
Revision Date	10/13/2023

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.