

SAFETY DATA SHEET

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

1.1 Product identifiers

Product name Ethyl Ether
CAS number 60-29-7
Synonyms Diethyl Ether, Ether

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

Identified uses Laboratory Chemicals

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)

Flammable liquid (Category 1)
Acute toxicity, inhalation (Category 4)
Specific Target Organ Toxicity - Single Exposure (Category 3)
Target System: Central Nervous System, Respiratory System
Specific Target Organ Toxicity - Repeated Exposure (Category 1)
Target Organ: Liver

Aspiration toxicity (Category 1)

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

- H224 Extremely flammable liquid and vapour.
- H302 Harmful if swallowed
- H336 May cause drowsiness or dizziness
- EUH019 May form explosive peroxides
- EUH066 Repeated exposure may cause skin dryness or cracking.

Precaution statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P261 Avoid breathing mist/vapours/spray
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P280 Use only outdoors or in a well-ventilated area.
- P301 + P330 + P312 Wear protective gloves/protective clothing/eye protection/face protection.
- P303 + P340 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell.
- P312 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370 + P378 In case of fire: Use dry chemical, alcohol foam, carbon dioxide to extinguish.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 + P235 Store locked up. Keep cool.
- P501 Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

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

May form explosive peroxides. Repeated exposure may cause skin dryness or cracking.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Ethyl Ether	Diethyl Ether	60-29-7	>96.5%
Ethyl Alcohol	Ethanol	64-17-5	<3.5%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur. Do not use mouth-to-mouth method if victim ingested or inhaled 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.
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 off immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
If swallowed	If swallowed, DO NOT induce vomiting. If vomiting occurs have person lean forward. Call a physician or poison control center immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

No information available

4.3 Indication of any immediate medical attention and special treatment needed

No information available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Carbon dioxide, dry chemical, dry sand, alcohol foam

Unsuitable extinguishing media No information available

5.2 Specific hazards arising from the substance or mixture

Extremely flammable. Risk of ignition. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. May ignite by heat, sparks, flame or static electricity. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Reacts vigorously with oxidizing materials. May form explosive peroxides when brought in contact with nitric acid.

5.3 Special protective equipment and precautions for firefighters

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

5.4 Further information

No information available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

6.2 Environmental precautions

Avoid runoff into storm sewers and ditches which lead to waterways.

6.3 Methods and materials for containment and cleaning up

Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

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

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion.

Hygiene measures

Wash thoroughly after handling. Remove and wash clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources. Store at temperature not exceeding 30C (86F). Do NOT open container unless contents are at room temperature (72F), or below for at least 24 hours.

Incompatibilities

Strong oxidizing agents. Strong acids.

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
Ethyl Ether	TWA	400 ppm

US. ACGIH Threshold Limit Values

Component	Type	Value
Ethyl Ether	TWA	400 ppm
Ethyl Ether	STEL	500 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Ethyl Ether	TWA	400 ppm

8.2 Exposure controls

Appropriate engineering controls

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Use adequate ventilation to keep airborne concentrations low.

Personal protective equipment

Eye/face protection

Personnel should wear safety glasses, goggles, or faceshield

Skin protection

Personnel should wear lab coat or apron, appropriate protective gloves.

Body Protection

Personnel should wear protective clothing to prevent skin exposure.

Respiratory protection

None should be needed in normal laboratory handling at room temperatures. If misty conditions occur, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Ether-like odor
Odor Threshold	No information available
pH	No information available

Melting Point/Range	-116 °C / -176.8 °F
Boiling Point/Range	34.6 °C / 94.3 °F
Evaporation Rate	37.5
Flammability (solid)	Not applicable
Flammability or explosive limit	
Upper	36.0 vol %
Lower	1.9 vol %
Vapor Pressure	587 mbar @ 20 °C
Vapor Density	2.55
Density	0.714
Solubility	Slightly soluble in water
Partition coefficient; n-octanol/water	No information available
Autoignition Temp	160 °C / 320 °F
Decomposition Temp	No information available
Viscosity	0.2448 cP at 20 °C
Molecular Formula	C4 H10 O
Molecular Weight	74.12
Flash Point	-45 °C / -49 °F
Oxidizing properties	No information available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Reactive hazard

10.2 Chemical stability

May form explosive peroxides. Air sensitive. Light sensitive. Hygroscopic.

10.3 Possibility of hazardous reactions

May form explosive peroxides.

10.4 Conditions to avoid

Incompatible products. Heat, flames, and sparks. Exposure to air. Exposure to light. Exposure to moisture. Keep away from open flames, hot surfaces, and sources of ignition.

10.5 Incompatible materials

Strong oxidizing agents, Strong acids.

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl Ether	1215 mg/kg (Rat)	20 ml/kg (Rabbit)	32000 ppm/4h (Rat)

Skin corrosion/irritation

No information available

Serious eye damage/eye irritation

No information available

Respiratory or skin sensitization

No information available

Germ cell mutagenicity

No information available

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Ethyl Ether	60-29-7	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects. Central Nervous System and Respiratory System.

Specific target organ toxicity - repeated exposure

Liver

Reproductive toxicity

No information available

Chronic effects

The substance is irritating to the eyes and respiratory tract. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis. The substance may cause effects on the central nervous system. This may result in narcosis. Exercise appropriate procedures to minimize potential hazards.

11.2 Additional Information

Inhalation of high vapor concentrations may cause symptoms like headaches, dizziness, tiredness, nausea and vomiting.

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Ethyl Alcohol	LC50	Freshwater Fish (Poecilia reticulata)	2134 mg/L - 14d
	EC50	Water Flea (D. magna)	165 mg/L - 24h
	LC50	Golden Orfe (L. idus)	2134 mg/L - 14d
	EC50	Green Algae (D. subspicatus)	165 mg/L - 24h

12.2 Persistence and degradability

No information available

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

No information available

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)

UN number: UN1155
 Proper shipping name: Diethyl Ether Reportable
 Hazard Class 3
 Packaging Group I
 Quantity (RQ): 100 lbs reportable

IMDG

UN number: UN1155
 Proper shipping name: DIETHYL ETHER
 Hazard Class 3
 Packaging Group I
 Environmental hazards None

IATA

UN number: UN1155
Proper shipping name: Diethyl Ether
Hazard Class 3
Packaging Group I
Environmental hazards None

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: Ethyl Ether (CAS 60-29-7)

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)

Not regulated.

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Listed

Safe Drinking Water Act

Not regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not regulated

Food and Drug Administration (FDA)

Not regulated

US state regulations

US. Massachusetts RTK - Substance List

Listed

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

Listed

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

Listed

California Proposition 65

Not listed

SECTION 16: Other information

Issue Date: 04/19/2019

Revision 1: 06/28/2023

Revision 2: 06/21/2023

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.