

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Ethylene Glycol Monoethyl Ether
Chemical name	: 2-ethoxyethanol, ethylene glycol monoethyl ether
CAS-No.	: 110-80-5
Product code	: LC14160
Formula	: C ₄ H ₁₀ O ₂

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: For laboratory and manufacturing use only.
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1.3. Supplier

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300 or 011-703-527-3887
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flammable liquids	H226	Flammable liquid and vapour
Category 3		
Acute toxicity (oral)	H302	Harmful if swallowed
Category 4		
Acute toxicity (inhalation)	H331	Toxic if inhaled
Category 3		
Reproductive toxicity	H360	May damage fertility or the unborn child
Category 1B		

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS02

GHS06

GHS08

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H226 - Flammable liquid and vapour
H302 - Harmful if swallowed
H331 - Toxic if inhaled
H360 - May damage fertility or the unborn child

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating, lighting equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing vapors.
P264 - Wash exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.

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P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P311 - Call a POISON CENTER or doctor/physician.
P370+P378 - In case of fire: Use alcohol resistant foam, extinguishing powder to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations
If inhaled: Remove person to fresh air and keep comfortable for breathing

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
Ethylene Glycol Monoethyl Ether (Main constituent)	(CAS-No.) 110-80-5	100	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Repr. 1B, H360

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May damage fertility or the unborn child.

Symptoms/effects after inhalation : Central nervous system depression. Irritation of the respiratory tract.

Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Nausea. Vomiting. Diarrhoea. Central nervous system depression.

Chronic symptoms : Kidney disorders.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapor.

Explosion hazard : May form flammable/explosive vapor-air mixture.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.

6.1.1. For non-emergency personnel

Protective equipment : Safety glasses. Gloves. Protective clothing. Combined gas/dust mask with filter type A/P3.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/... equipment.
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources, Ignition sources, incompatible materials. Keep container tightly closed. Air sensitive. Light sensitive.
Incompatible products : Strong bases. Strong acids. Strong oxidizers. metals.
Incompatible materials : Sources of ignition. Direct sunlight. Heat sources. Air sensitive.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethylene Glycol Monoethyl Ether (110-80-5)		
ACGIH	ACGIH TWA (mg/m ³)	18 mg/m ³
ACGIH	ACGIH TWA (ppm)	5 ppm
OSHA	OSHA PEL (TWA) (mg/m ³)	740 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
IDLH	US IDLH (ppm)	500 ppm
NIOSH	NIOSH REL (TWA) (mg/m ³)	1.8 mg/m ³
NIOSH	NIOSH REL (TWA) (ppm)	0.5 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Safety glasses. Gloves. High gas/vapor concentration: gas mask with filter type A. Protective clothing.



Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Colorless
Odor	: aromatic
Odor threshold	: No data available
pH	: 7
Melting point	: -100 °C
Freezing point	: No data available
Boiling point	: 135 °C
Flash point	: 44 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Flammable liquid and vapor.
Vapor pressure	: 5 mbar 20°C
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: 0.93
Molecular mass	: 90.12 g/mol
Solubility	: No data available
Log Pow	: -0.1
Auto-ignition temperature	: 235 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: 2.08 mPa.s
Viscosity, dynamic	: No data available
Explosion limits	: 1.7 - 15.6 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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10.2. Chemical stability

Flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizers. metals.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Peroxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eye contact
Acute toxicity : Oral: Harmful if swallowed. Inhalation: Toxic if inhaled.

Ethylene Glycol Monoethyl Ether (110-80-5)	
LD50 oral rat	1746 mg/kg
LD50 dermal rabbit	3300 mg/kg
LC50 inhalation rat (mg/l)	15 mg/l/4h
ATE US (oral)	1746 mg/kg body weight
ATE US (dermal)	3300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	15 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

Skin corrosion/irritation : Not classified
pH: 7
Serious eye damage/irritation : Not classified
pH: 7
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : May damage fertility or the unborn child.
Specific target organ toxicity – single exposure : Not classified
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified
Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/effects after inhalation : Central nervous system depression. Irritation of the respiratory tract.
Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard. Nausea. Vomiting. Diarrhoea. Central nervous system depression.
Chronic symptoms : Kidney disorders.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

Ethylene Glycol Monoethyl Ether (110-80-5)	
Persistence and degradability	Not established.

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12.3. Bioaccumulative potential

Ethylene Glycol Monoethyl Ether (110-80-5)

Log Pow	-0.1
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1171 Ethylene glycol monoethyl ether, 3, III

UN-No.(DOT) : UN1171

Proper Shipping Name (DOT) : Ethylene glycol monoethyl ether

Transport hazard class(es) (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Packing group (DOT) : III - Minor Danger

Hazard labels (DOT) : 3 - Flammable liquid



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Other information : No supplementary information available.

Transport by sea

Transport document description (IMDG) : UN 1171 ETHYLENE GLYCOL MONOETHYL ETHER, 3, III (40°C c.c.)

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UN-No. (IMDG)	: 1171
Proper Shipping Name (IMDG)	: ETHYLENE GLYCOL MONOETHYL ETHER
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 L

Air transport

Transport document description (IATA)	: UN 1171 Ethylene glycol monoethyl ether, 3, III
UN-No. (IATA)	: 1171
Proper Shipping Name (IATA)	: Ethylene glycol monoethyl ether
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Ethylene Glycol Monoethyl Ether (110-80-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Acute toxicity (any route of exposure) Health hazard - Reproductive toxicity

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Ethylene Glycol Monoethyl Ether	CAS-No. 110-80-5	100%
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15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

Ethylene Glycol Monoethyl Ether (110-80-5)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Yes
No significant risk level (NSRL)	750

This product can expose you to Ethylene Glycol Monoethyl Ether, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Revision date	: 02/19/2018
Other information	: None.

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Full text of H-phrases: see section 16:

H226	Flammable liquid and vapour
H302	Harmful if swallowed
H331	Toxic if inhaled
H360	May damage fertility or the unborn child

NFPA health hazard

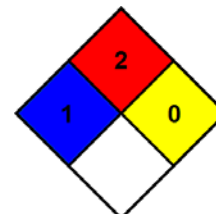
: 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

: 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health

: 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability

: 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal protection

: H

H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

SDS US LabChem

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