

Safety Data Sheet(SDS)

Revision Date : 01-06-2026

1. Identification

- 1) Product identifier : HIGH_PURITY_ETHYL_METHYL_CARBONATE
- 2) Relevant identified uses of the substance or mixture and uses advised against
 - Relevant identified uses
 - 1.Raw materials and intermediates, Solvent and extraction agents, Electrolytes for batteries
 - Restrictions on use
 - Use for recommended use only
 - Do not use it for weapons manufacturing and related purposes.
- 3) Supplier information
 - Seller
 - Company name : Lotte Daesan Petrochem Corporation
 - Address : 82 Dokgot 1-ro, Daesan-eup, Seosan-si, Chungcheongnam-do
 - Telephone number : +82-41-689-5114
 - Emergency phone number : (Control Room) +82-41-689-5119
 - Fax number : +82-41-689-5985

2. Hazards identification

- 1) Hazard classification
 - Flammable liquids Category 2
 - Hazardous to the aquatic environment, long-term (chronic) Chronic 4

- 2) Allocation label elements

Hazard pictograms



Signal word

- DANGER

Hazard statements

H225 Highly flammable liquid and vapour

H413 May cause long lasting harmful effects to aquatic life

Precautionary statements

- Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use only explosion-proof electrical, ventilating, lighting and equipment.

P242 Use nonsparking tools.

P243 Take action to prevent static discharges.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

- Response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P370+P378 In case of fire: Use alcohol-resistant foam, carbon dioxide or dry sand to extinguish.

- Storage

P403+P235 Store in a wellventilated place. Keep cool.

- Disposal

P501 Discard the contents/containers in accordance with the laws and laws related to waste.

3) Other hazards:

According to experience and information provided, this product does not affect harmful effects when using and handling it as a regulation.

3. Composition/Information on ingredients

Chemical name	Common name	CAS No.	Content(wt%)
Ethyl methyl carbonate	Carbonate, methyl ethyl, Ethyl methyl carbonate, Carbonic acid, ethyl methyl ester	623-53-0	100

4. First-aid measures

1) Following eye contact

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Seek immediate medical assistance.

2) Following skin contact

For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat.

In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.

In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.

Remove and isolate contaminated clothing and shoes.

Seek immediate medical assistance.

Wash skin with soap and water.

3) Following inhalation

Administer oxygen if breathing is difficult.

Give artificial respiration if victim is not breathing.

Keep victim warm and quiet.

Move to fresh air.

4) Following ingestion

Seek immediate medical assistance.

5) Delayed and immediate effects and also chronic effects from short and long term exposure

No data available

6) Advice to physician

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. Fire-Fighting measures

1) Suitable (and unsuitable) extinguishing media

◦ Suitable extinguishing media

CO₂.

For mixtures containing alcohol or polar solvent: Alcohol-resistant foam.

Dry chemical.

Regular foam.

Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

Water spray.

Use dry sand or earth to smother fire.

- Unsuitable extinguishing media

Direct water.

High-pressure water.

2) Special hazards arising from the substance or mixture

- Pyrolytic product

No data available

- Risk of fire and explosion

Can form explosive mixtures at temperatures at or above the flashpoint.

Containers may explode when heated.

HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.

Runoff may create fire or explosion hazard.

Some may burn but none ignite readily.

Vapor explosion hazard indoors, outdoors or in sewers.

Vapors may form explosive mixtures with air.

Vapors may travel to source of ignition and flash back.

When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.

- Other

May cause toxic effects if inhaled.

3) Special protective equipment for firefighters

Move containers from fire area if you can do it without risk.

Rescuers should put on appropriate protective gear.

Substance may be transported hot.

Cautions ; Most of liquids are lighter than water.

Dike fire-control water for later disposal; do not scatter the material.

Evacuate area and fight fire from a safe distance.

Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.

Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.

Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).

6. Accident release measures

1) Personal precautions, protective equipment and emergency procedures

A vapor suppressing foam may be used to reduce vapors.

All equipment used when handling the product must be grounded.

Clean up spills immediately, observing precautions in Protective Equipment section.

Do not touch or walk through spilled material.

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Please note that materials and conditions to be avoided.

Prevent dust cloud.

Stop leak if you can do it without risk.

The very fine particles can cause a fire or explosion, eliminate all ignition sources.

2) Environmental precautions

Keep out of waterways.

Prevent entry into waterways, sewers, basements or confined areas.

3) Methods and materials for containment and cleaning up

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.

Absorb the liquid and scrub the area with detergent and water.

Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

Dike and collect water used to fight fire.

Large Spill: Dike far ahead of liquid spill for later disposal.

Small Spill: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Use clean non-sparking tools to collect absorbed material.

With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

7. Handling and storage

1) Precautions for safe handling

All equipment used when handling the product must be grounded.

Caution: Heat.

CAUTION: High temperature.

DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION;.

Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

Handling refer to engineering control/personal protection section.

Measure atmospheric oxygen concentration and ventilate the area during the operation since low-closed area can cause oxygen deficiency.

Please note that materials and conditions to be avoided.

2) Conditions for safe storage (including any incompatibilities)

Please note that materials and conditions to be avoided.

Store in a dry place. Store in a closed container.

8. Exposure controls & personal protection

1) Chemical exposure limits, Biological exposure standard

- Contains no substances with occupational exposure limit values.

2) Appropriate engineering controls

Ensure adequate ventilation and exhaust ventilation at the workplace.

3) Personal protective equipment

- o Respiratory protection

If you have a direct contact or exposed to the material, wear the appropriate form of respiratory protection certified.

- Eye protection

If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

- Hand protection

Wear chemical safety gloves.

- Skin protection

Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

9. Physical and chemical information

Property name	Values	Source
Appearance		
Physical state	liquid	KOSHA
Color	colourless	Visual
Odor	characteristic	
Odor threshold	No data available	
pH	No data available	
Melting point/freezing point	-56 °C	OECD Test Guideline 102
Initial boiling point and boiling range(°C)	107°C	OECD Test Guideline 103
Flash point(°C)	22°C	ASTM D3828
Evaporation rate	No data available	
Flammability(solid, gas)	No data available	
Upper/lower flammability or explosive limits	No data available	
Vapour pressure	2500Pa(20°C), 3300Pa(25°C)	OECD Test Guideline 104
Solubility(ies)	3.91 g/L (20°C)	OECD Test Guideline 105
Vapour density	No data available	
Relative density	No data available	
n-octanol/water partition coefficient	104.105 log Kow	KOSHA

Auto ignition temperature	443 °C	ECHA
Decomposition temperature	No data available	
Viscosity(mm ² /s, 40°C)	0.688 mm ² /s (20°C, kinematic viscosity)	ASTM D445
Molecular weight(mass)	104.1 g/mol	KOSHA
Density	1.007 g/cm ³ (25°C)	KS M 0004
Specific gravity	1.010 (25°C)	Calculated Value

10. Stability and hazardous reactivity

1) Chemical stability and Possibility of hazardous reactions

Can form explosive mixtures at temperatures at or above the flashpoint.

Containers may explode when heated.

Fire may produce irritating and/or toxic gases.

Fire may produce irritating, corrosive and/or toxic gases.

HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.

Runoff may create fire or explosion hazard.

Some may burn but none ignite readily.

Vapor explosion hazard indoors, outdoors or in sewers.

Vapors may form explosive mixtures with air.

When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.

2) Conditions to avoid

Heat, contamination.

Ignition source(heat, spark, flame, etc.).

3) Incompatible materials

Combustible material

4) Hazardous decomposition products

Irritating, corrosive and/or toxic gas.

11. Toxicological information

1) Information on the likely routes of exposure

- No data available

2) Delayed and immediate effects and also chronic effects from short and long term exposure

- Acute toxicity
 - Acute toxicity(Oral)
 - No data available
 - Acute toxicity(Dermal)
 - No data available
 - Acute toxicity(Inhalation:Gases)
 - No data available
 - Acute toxicity(Inhalation:Vapours)
 - Rat LC50>17.6 mg/L / 4 hr (ECHA)
 - Acute toxicity(Inhalation:Dust/mist)
 - No data available
- Skin corrosion/irritation
 - No data available
- Serious eye damage/eye irritation
 - No data available
- Respiratory sensitization
 - No data available
- Skin sensitization
 - No data available
- Carcinogenicity
 - No data available
- Germ cell mutagenicity
 - No data available
- Reproductive toxicity
 - No data available
- Specific target organ toxicity single exposure

- No data available
- Specific target organ toxicity repeated exposure
 - No data available
- Aspiration hazard
 - No data available

12. Ecological information

1) Ecotoxicity

- Hazardous to the aquatic environment, short-term (acute)
No data available
- Hazardous to the aquatic environment, long-term (chronic)
No data available
- Fish
No data available
- Crustaceans
No data available
- Aquatic algae
No data available

2) Persistence and degradability

- Degradability
No data available
- Biodegradation
No data available

3) Bioaccumulative potential

- n-octanol water partition coefficient
104.105 log Kow
- Bioconcentration factor(BCF)
50.8 (estimate)

4) Mobility in soil

No data available

5) Other adverse effects

No data available

13. Disposal considerations

1) Disposal methods

Empty containers should be taken to an approved waste handling site for recycling or disposal.

2) Precautions (including disposal of contaminated container or package)

Dispose of in accordance with local regulations.

Send to a licensed waste management company.

14. Transport information

1) UN No. : 3272

2) Proper shipping name : ESTERS, N.O.S.

3) Hazard class : 3

4) Packing group : II

5) Marine pollutant : Not applicable

6) Special precautions for user related to transport or transportation measures :

Emergency measures in case of fire : F-E

Emergency measures in the effluent : S-D

- ADR

· Tunnel restriction code : D/E

- IMDG

· Marine pollutant : Not applicable

- Air transport(IATA)

· UN No. : 3272

· Proper shipping name : ESTERS, N.O.S.

· Class or division : 3

· Packing group : II

- Maritime transport in bulk according to IMO instruments :

IBC02

15. Regulatory information

Australia Industrial Chemicals Notification and Assessment Act

- Not applicable

China Inventory of Existing Chemical Substances (IECSC)

• Inventory - China - Inventory of Existing Chemical Substances (IECSC)

- Ethyl methyl carbonate : Present [33873]

92/32/EEC

- Inventory - European Union - European List of Notified Chemical Substances (ELINCS)
- Ethyl methyl carbonate : EC No. 433-480-9

European Union Official Journal of the European Communities 15 June 1990 - Annex Based on Article 13 of Directive 67/548/EEC Amended by Directive 79/831/EEC

- Not applicable

Japan - ISHL Enforcement Order Notifiable Substances

Japan - ISHL Ordinance Notifiable Substances

Japan - ISHL Enforcement Order Hazardous Substances Whose Names Are to be Indicated on the Label

Japan - ISHL Ordinance Hazardous Substances Whose Names Are to be Indicated on the Label

Japan Law Concerning the Examination and Regulations of Manufacture, etc. of Chemical Substances

- Inventory - Japan - Existing and New Chemical Substances (ENCS)
- Ethyl methyl carbonate : (2)-3698

New Zealand Environmental Protection Authority, Inventory of Chemicals

- Not applicable

Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

Taiwan Chemical Substance Inventory

- Inventory - Taiwan - Taiwan Chemical Substance Inventory (TCSI)
- Ethyl methyl carbonate : Present

U.S. Toxic Substances Control Act

- Inventory - United States - Section 8(b) Inventory (TSCA)
- Ethyl methyl carbonate : Present (ACTIVE)

Vietnam National Chemicals Inventory (NCI)

- Not applicable

16. Other information

1) Reference

NCIS, KOSHA, Montreal Protocol, ECHA, OECD SIDS, EU IUCLID, HSDB(PubChem), NITE, NTP, ACGIH, IARC, NIOSH, ChemIDplus, EPA, EPI Suite, INCHEM

2) Issue date : 11-01-2024

3) Revision date

○ Revised date count : 3-1

○ Last revised date : 01-06-2026

4) Other

ACGIH : American Conference of Governmental Industrial Hygienists

ADR : Agreement Concerning the International Carriage of Dangerous Goods by Road

ATE : The Acute Toxicity Estimate

ECHA : European Chemicals Agency

EPA : United States Environmental Protection Agency

EPI Suite : The Estimation Programs Interface for Windows

EU IUCLID : International Uniform Chemical Information Database

HSDB : Hazardous Substances Data Bank

IARC : International Agency for Research on Cancer

IATA : International Air Transport Association

IMDG : International Maritime Dangerous Goods Codes

INCHEM : Internationally Peer Reviewed Chemical Safety Information

M-Factor : The Multiplication Factor

NIOSH : National Institute of Occupational Safety and Health

NITE : National Institute of Technology and Evaluation(JAPAN)

NTP : National Toxicology Program

SCL : Specific Concentration Limit

OECD SIDS : Organization for Economic Co-operation and Development Screening Information Dataset

GHS/EN