Safety Data Sheet(SDS)

Revision date : 01-06-2026

1. Identification

1) Product identifier : PL_PROPYLENE

2) Relevant identified uses of the substance or mixture and uses advised against

○ Relevant identified uses

1.Raw materials and intermediates

○ 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 gases Category 1
- Gases under pressure Liquefied gas
- Specific target organ toxicity single exposure Category 3(Narcotic effects)

2) Allocation label elements

Hazard pictograms

Signal word

- DANGER

Hazard statements

H220 Extremely flammable gas

H280 Contains gas under pressure; may explode if heated
H336 May cause drowsiness or dizziness

Precautionary statements

- Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a wellventilated area.

- Response

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Discomfort call a POISON CENTER / toxins center / physician if you feel unwell.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 In case of leakage, eliminate all ignition sources.

- Storage

P403 Store in a wellventilated place.
P403+P233 Store in a wellventilated place. Keep container tightly closed.
P405 Store locked up.
P410+P403 Protect from sunlight. Store in a wellventilated place.

- 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%)
Propylene	propene	115-07-1	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
- Clothing frozen to the skin should be thawed before being removed.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat.

- For minor skin contact, avoid spreading material on unaffected skin.
- 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 liquefied gas, thaw frosted parts with lukewarm water.
- 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.

3) Following inhalation
- Administer oxygen if breathing is difficult.
- Give artificial respiration if victim is not breathing.
- If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Keep victim warm and quiet.
- Move to fresh air.
- Seek immediate medical assistance.

4) Following ingestion
- Seek immediate medical assistance.

5) Delayed and immediate effects and also chronic effects from short and long term exposure
- May cause drowsiness or dizziness

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.
- Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
- Dry chemical.
- Use dry sand or earth to smother fire.
- Water spray.

○ Unsuitable extinguishing media
- Direct water.

2) Special hazards arising from the substance or mixture

○ Pyrolytic product
- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

○ Risk of fire and explosion
- Will form explosive mixtures with air.
- Containers may explode when heated.
- Extremely flammable.
- May violently polymerize and result in fire and explosion.

- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Some may burn but none ignite readily.
- 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.
- Some of these materials, if spilled, may evaporate leaving a flammable residue.
- Will be easily ignited by heat, sparks or flames.

○ Other

- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or asphyxiation without warning.
- Some may be irritating if inhaled at high concentrations.

3) Special protective equipment for firefighters

- Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Move containers from fire area if you can do it without risk.
- Ruptured cylinders may rocket.
- Substance may be transported in a molten form.
- Use extinguishing agent suitable for type of surrounding fire.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Damaged cylinders should be handled only by specialists.
- Dike fire-control water for later disposal; do not scatter the material.
- DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.
- 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: Do not direct water at source of leak or safety devices; icing may occur.
- 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.

6. Accident release measures

1) Personal precautions, protective equipment and emergency procedures

- Isolate area until gas has dispersed.
- Please note that materials and conditions to be avoided.
- Some of these materials, if spilled, may evaporate leaving a flammable residue.
- Stop leak if you can do it without risk.
- The very fine particles can cause a fire or explosion, eliminate all ignition sources.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Ventilate the contaminated area.
- When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.
- All equipment used when handling the product must be grounded.
- Allow substance to evaporate.
- Clean up spills immediately, observing precautions in Protective Equipment section.

- Cover with plastic sheet to prevent spreading.
- Do not direct water at source of leak.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- If possible, turn leaking containers so that gas escapes rather than liquid.

2) Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.
- Prevent spreading of vapors through sewers, ventilation systems and 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.
- Dike and collect water used to fight fire.

7. Handling and storage

1) Precautions for safe handling

- Use only in a well-ventilated area.
- All equipment used when handling the product must be grounded.
- Avoid breathing vapors from heated material.
- Do not enter storage area unless adequately ventilated.
- 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.
- Loosen closure cautiously before opening.
- Please note that materials and conditions to be avoided.
- Use care in handling/storage.

2) Conditions for safe storage (including any incompatibilities)

- Containers can build up pressure if exposed to heat (fire).
- Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.
- Store in a closed container.

8. Exposure controls & personal protection

1) Chemical exposure limits, Biological exposure standard

Components	ACGIH regulations	Biological limit values
Propylene	500 ppm TWA	No data available

2) Appropriate engineering controls

- Ensure adequate ventilation and exhaust ventilation at the workplace.

3) Personal protective equipment

○ 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	Gas	
Color	colourless	ICSC
Odor	hydrocarbon-like	
Odor threshold	0.0396 ppm	HSDB
pH	No data available	
Melting point/freezing point	-185 ℃	ICSC
Initial boiling point and boiling range(℃)	-48 ℃	ICSC
Flash point(℃)	-107 ℃	IUCLID
Evaporation rate	No data available	
Flammability(solid, gas)	No data available	
Upper/lower flammability or explosive limits	Upper 10.3 %(V) Lower 2.4 %(V)	ICSC
Vapour pressure	1,158 kPa (25 ℃)	ICSC
Solubility(ies)	0.2 g/l (25 °C)	IUCLID
Vapour density	1.5	ICSC
Relative density	No data available	
n-octanol/water partition coefficient	logPow : 1.77	ICSC
Auto ignition temperature	460 ℃	ICSC
Decomposition temperature	No data available	
Viscosity(㎟/s, 40℃)	0.00834 cP (16.7℃)	HSDB

Molecular weight(mass)	42.08 g/mol	
Specific gravity	0.5	

10. Stability and hazardous reactivity

1) Chemical stability and Possibility of hazardous reactions

- 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.
- Will be easily ignited by heat, sparks or flames.
- Will form explosive mixtures with air.
- Containers may explode when heated.
- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Extremely flammable.
- Fire may produce irritating, corrosive and/or toxic gases.
- May violently polymerize and result in fire and explosion.
- Some may be irritating if inhaled at high concentrations.
- Some may burn but none ignite readily.
- Vapors may cause dizziness or asphyxiation without warning.

2) Conditions to avoid

- Heat, contamination.
- Heat.
- Ignition source(heat, spark, flame, etc.).

3) Incompatible materials

- Combustibles, reducing material.

4) Hazardous decomposition products

- Corrosive/toxic fume.
- Irritating, corrosive and/or toxic gas.

11. Toxicological information

1) Information on the likely routes of exposure

○ Inhalation

- Can be absorbed in body by inhalation.

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)
  - No data available
- Acute toxicity(Inhalation:Dust/mist)
  - No data available

○ Skin corrosion/irritation

- It does not cause skin irritation in humans

○ Serious eye damage/eye irritation

- Mild response of the human eye ring reukim

○ Respiratory sensitization

- No data available

○ Skin sensitization

- No data available

○ Carcinogenicity

- 3 (IARC)
  A4 (ACGIH)

○ Germ cell mutagenicity

- Microbial reverse mutation test results negative

○ Reproductive toxicity

- No data available

○ Specific target organ toxicity single exposure

- That can affect the central nervous system. Exposure lowered consciousness

○ Specific target organ toxicity repeated exposure

- Propylene 10000ppm no side effects when exposed to repeated inhalation for 14 weeks.

○ 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
  65.7 (%) 35 day

3) Bioaccumulative potential

- n-octanol water partition coefficient
  1.77 log Kow
- Bioconcentration factor(BCF)
  13.18

4) Mobility in soil
   220

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 of package)
   - Dispose of in accordance with local regulations.
   - Send to a licensed waste management company.

14. Transport information

1) UN No. : 1077

2) Proper shipping name : PROPYLENE

3) Hazard class : 2.1

4) Packing group : Not applicable

5) Marine pollutant : No

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

Emergency measures in case of fire : F-D

Emergency measures in the effluent : S-U

- ADR

· Tunnel restriction code : B/D

- IMDG

· Marine pollutant : No

- Air transport(IATA)

· UN No. : 1077

· Proper shipping name : PROPYLENE

· Class or division : 2.1

· Packing group : Not applicable

15. Regulatory information

Australia Industrial Chemicals Notification and Assessment Act

- Inventory - Australia - Inventory of Industrial Chemicals (AIIC)

- Propylene : Present

China Inventory of Existing Chemical Substances (IECSC)

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

- Propylene : Present [03575]

92/32/EEC

- Not applicable

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

- Inventory - European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

- Propylene : 204-062-1

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)

- Propylene : (2)-13

New Zealand Environmental Protection Authority, Inventory of Chemicals

- Inventory - New Zealand - Inventory of Chemicals (NZIoC)

- Propylene : HSNO Approval: HSR001011

Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

Taiwan Chemical Substance Inventory

- Inventory - Taiwan - Taiwan Chemical Substance Inventory (TCSI)

- Propylene : Present

U.S. Toxic Substances Control Act

Vietnam National Chemicals Inventory (NCI)

- Inventory - Vietnam - National Chemicals Inventory (NCI) (DRAFT)

- Propylene : Present 02213

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 : 26-12-2022

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