

	MSDS	ISSUE DATE	Feb-2022
	PROPYLENE	WWW.TPCO.IR IRAN/TABRIZ/TABRIZ PETROCHEMICAL COMPANY/P.O.BOX:51745-354/TEL:+984134282612 Page:1/4	

1. Chemical Product And Company Identification:

Substance: propylene

Synonyms: propene; methylethene; methyl ethylene; 1-propylene; 1-propene.

Chemical family: hydrocarbons, aliphatic

Manufacture's address: Iran-Tabriz petrochemical company

2. Composition, Information on Ingredients:

Component: propylene

CAS NO.: 115-07-1

Percentage: min 99.7%wt

3. Hazards Identification:

NFPA Ratings (Scale 0-4): Health=1 Fire=4 Reactivity=1

Emergency overview:

Color: colorless

Physical form: gas

Major health hazards: central nervous system depression, difficulty breathing physical hazards: flammable gas. May cause flash fire.

Potential health effects:

Inhalation:

Short term exposure: tearing, nausea, vomiting, and symptoms of drunkenness, suffocation, convulsions, and coma long term exposure: no information on significant adverse effects.

Skin contact:

Short term exposure: blisters frostbite.

Long term exposure: no information is available.

Eye contact:

Short term exposure: frostbite, blurred vision.

Long term exposure: no information is available.

Ingestion:

Short term exposure: frostbite

Long term exposure: no information is available

4. First Aid Measures:

Inhalation: if adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin contact: if frostbite or freezing occur, immediately flush with plenty of lukewarm water (105- 115 F; 41-46 C). Do not use hot water. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

Eye contact: contact with liquid: immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion: if a large amount is swallowed, get medical attention.

Note to physician: for inhalation, consider oxygen.

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5. Fire Fighting Measures:

Fire and explosion hazards: severe fire hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion. Extinguishing media: carbon dioxide, regular dry chemical large fires: flood with fine water spray.

Fire fighting: move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area, cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: keep unnecessary people away, isolate hazard area and deny entry let the fire burn withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: stop leak if possible without personal risk.

Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Stop flow of gas.

Flash point: -162 f (-108 c)

Lower flammable limit: 2.0%

Upper flammable limit: 11.1%

Auto ignition: 851 f (455 c)

6. Accidental Release Measures:

Occupational release:

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.

7. Handling and Storage:

Storage: store and handle in accordance with all current regulations and standards. Store in a cool, dry place and well-ventilated area. Avoid heat, flames, sparks and other sources of ignition.

Keep separated from incompatible substances.

8. Exposure Controls, Personal Protection:

Exposure limits:

500 ppm ACGIH TWA

Ventilation: ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

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Eye protection: for the gas: eye protection not required, but recommended. For the liquid: wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Clothing: for the gas: protective clothing is not required. For the liquid: wear appropriate protective, cold insulating clothing.

Gloves: wear insulated gloves.

Respirator: under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

9. Physical and Chemical Properties:

Physical state: gas

Color: colorless

Odor: not available

Molecular weight: 42.08

Molecular formula: C_3H_6

Boiling point: -53 f (-47 c)

Melting point: -301 f (-185 c)

Density: 493 kg/m³ (@22bara and 35°C)

Water solubility: 45%

PH: not applicable

Volatility: not applicable

Odor threshold: not available

Evaporation rate: not applicable

Viscosity: 8.36 mPas.s @ -40 c

10. Stability and Reactivity:

Reactivity: may polymerize. May react on contact with air, heat and light or water.

Conditions to avoid: avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.

Incompatibilities: oxidizing materials, halo carbons, halogens, acids

Hazardous decomposition:

Thermal decomposition products: miscellaneous decomposition products

Polymerization: may polymerize. Avoid contact with heat, light, air, water or incompatible materials.

11. Toxicological Information:

Carcinogen status: IARC: human inadequate evidence, animal inadequate evidence, group 3;

ACGIH: A4 -not classifiable as a human carcinogen

Target organs: central nervous system

Tumorigenic data: available.

Mutagenic data: available.

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Additional data: stimulants such as epinephrine may induce ventricular fibrillation.

12. Ecological Information:

Fate and transport:

Henry's law constant: 9.6×10^{-4} atm-m³/mol

Bio concentration: 0.40 (estimated from water solubility).

aquatic processes: 1.6862069 hours (river model: 1 m deep, 1 m/s flow, 3 m/s wind).

Environmental summary: relatively non-persistent in the environment. Leaches through the soil or the sediment at a slow rate. Accumulates very little in the bodies of living organisms. Moderately volatile from water.

13. Disposal Considerations:

Dispose in accordance with all applicable regulations.

14. Transport Information:

Proper shipping name: propylene

Hazard class or division: 2.1

Labeling requirements: 2.1

Quantity limitations:

Passenger aircraft or railcar: forbidden

Cargo aircraft only: 150 kg

15. Regulatory Information:

Acute: yes

Chronic: no

Fire: yes

Reactive: no

Sudden release: yes

OSHA process safety (29 CFR1910.119): not regulated.

16. Other Information:

References: not available.

Other special considerations: not available.

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