

Material Safety Data Sheet PROPYLENE GLYCOL METHYL ETHER ACETATE

Section 1 - Product Identification

Synonym : PGMEA, 1-Methoxy-2-acetoxyp propane, 1-Methoxy-2-propyl acetate
Chemical Formula : $C_6H_{12}O_3$
Company Identification : Tradeasia International Pte. Limited
Address : 133 Cecil Street # 12-03 Keck Seng Tower, Singapore
Tel: +65-6227 6365
Fax: +65-6225 6286
Email: contact@chemtradeasia.com
Recommended use : Solvent.

Section 2 – Hazards Identification

2.1. Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

FLAMMABLE LIQUIDS: CAT. 3

2.2. Label elements

Symbols/Pictograms



Signal Word

Warning

Hazard Statements

Flammable liquid and vapour.

Precautionary Statements Storage

Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

Keep the container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/.../equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

In case of fire: Use CO₂, dry chemical, or foam to extinguish.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

May be harmful in contact with skin.

Section 3 – Composition/Information on Ingredients

3.1 Composition comments

Chemical Name	EC No/CAS No	Purity, %
Propylene Glycol Methyl Ether Acetate	108-65-6	100

Section 4 – First-Aid Measures

4.1. Description of first aid measures

Eyes

Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Skin

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops.

Ingestion

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Inhalation

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

May cause eye/skin irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Section 5 – Fire Fighting Measures

5.1. Suitable Extinguishing media

Carbon dioxide (CO₂). Dry chemical. Water spray mist or foam. Alcohol-resistant foam.

5.2. Unsuitable Extinguishing media

Do not use a solid (straight) water stream as it may scatter and spread fire.

5.3. Specific hazards arising from the chemical

Hazardous Combustion Products

Carbon Monoxide, Carbon Dioxide.

Specific hazards

Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to the source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases. Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

5.4. Special protective actions for fire-fighters

Specific Methods

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after the fire is out.

Special Protective Equipment for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 – Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Keep people away from an upwind of spill/leak. Avoid contact with skin, eyes and clothing. Remove all sources of ignition. Pay attention to flashbacks. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. In case of a large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let the product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

6.3. Methods and material for containment and cleaning up

Methods for containment

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

Methods for cleaning up

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

Section 7 – Handling and Storage

7.1. Precautions for safe Handling

Technical Measures/Precautions

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Take precautionary measures against static discharges. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions

Keep the container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials

Oxidizing agents, acids

Section 8 – Exposure Controls/Personal Protection

8.1. Appropriate engineering controls

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

8.2. Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Goggles.

Skin protection

Gloves.

Body Protection

Long sleeved clothing, chemical resistant apron.

Respiratory protection

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures

Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Appearance: Not available.

Color: Colorless.

Odor: Ether-like, Mild, Fruity.

Molecular Formula: $C_6H_{12}O_3$

Molecular Weight: 132.16 g/mol

Flammability: Flammable

Flash Point (°C): 42

Flashpoint (°C/°F): 42-46°C/107.6-115°F

Autoignition Temperature (°C/°F): 315-354.4°C/599-670°F

Lower Explosion Limit (%): 1.3-1.5

Upper Explosion Limit (%): 7-13.2

Melting point/range(°C/°F): -87 to -67°C/-124.6 to -89°F

Boiling point/range(°C/°F): 145.8-150°C/294.4-302°F @ 760 mmHg

pH: Not available.

Density (g/cm₃): 0.965-0.97 @ 20°C

Specific gravity: 0.964-0.969 @ 20°C

Vapor pressure @ 20°C (kPa): 0.49

Vapor density: 4.6

Evaporation Rate: Not available.

Partition coefficient (n-octanol/water): 0.36-0.43

Viscosity: Not available.

Solubility: Water soluble.

Section 10 – Stability and Reactivity

10.1. Reactivity

Reactive with acids. Reactive with oxidizing agents.

10.2. Chemical stability

Stable under normal temperatures and pressures.

10.3. Possibility of hazardous reactions

Hazardous polymerization does not occur.

10.4. Conditions to avoid:

Heat. Ignition sources. Incompatible materials.

10.5. Incompatible materials

Oxidizing agents, acids.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

Section 11 – Toxicological Information

11.1 Health effects associated with ingredients

Principal Routes of Exposure:

Skin. Ingestion. Inhalation.

Acute toxicity

LD50/oral/rat: 8532 mg/kg

LD50/oral/mouse: >5000 mg/kg

LD50/dermal/rabbit: 5 g/kg

LD50/dermal/rat: Not available.

LC50/inhalation/rat: Not available. Not available.

LC50/inhalation/mouse: No information available

Other LD50 or LC50 information: Not available.

Skin corrosion/irritation

Not likely to cause skin irritation.

Serious eye damage/eye irritation

May cause eye irritation. Mild eye irritation. May cause conjunctivitis. May cause corneal opacity.

Inhalation

May cause respiratory tract irritation.

Ingestion

Health injuries are not known or expected under normal use.

Skin sensitization

Not available.

Chronic toxicity

Prolonged or repeated ingestion may affect the liver, and kidneys. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may cause degeneration of the olfactory epithelium in the nasal cavities. Prolonged skin contact may cause skin irritation.

Mutagenic Effects

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Specific target organ toxicity - single exposure

Not available.

Specific target organ toxicity - repeated exposure

Not available.

Aspiration hazard

Not available.

Section 12 – Ecological Information

12.1. Ecotoxicity

Freshwater Fish Species Data: 161 mg/L LC50 Pimephales promelas 96 h static 1

Water Flea Data: 500 mg/L EC50 Daphnia magna 48 h

12.2. Bioaccumulative potential

Not available.

12.3. Mobility in soil

Not available.

12.4. Persistence and Degradability

Readily biodegradable.

Section 13 – Disposal Considerations

13.1. Disposal methods

Waste from residues / unused products

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal

Section 14 – Transport Information

14.1. DOT

UN-No: UN3272

Proper Shipping Name: Esters, n.o.s. (1-methoxy-2-propanol acetate)

Hazard Class: 3

Subsidiary Class: Not available.

Packing group: III

Emergency Response Guide Number: Not available.

Marine Pollutant: Not available.

14.2. IATA

UN-No: UN3272

Proper Shipping Name: Esters, n.o.s. (1-methoxy-2-propanol acetate)

Hazard Class: 3

Subsidiary Risk: Not available.

Packing Group: III

ERG Code: 3L

Section 15 – Regulatory Information

15.1. Safety, health and environmental regulations

U.S. Regulations:

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer: This product does not contain a chemical requiring a warning under California Prop. 65.

Chemicals Known to the State of California to Cause Reproductive Toxicity: This product does not contain a chemical requiring a warning under California Prop. 65.

Canadian Regulations:

Canada Hazardous Products Regulation: This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR.

Canada Controlled Products Regulation: This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

EU Regulations:

R-phrases(s): R10 - Flammable.

S -phrase(s): S 2 - Keep out of the reach of children.

The product is classified in accordance with Annex VI to Directive 67/548/EEC.

Indication of danger: Flammable

Section 16 : Additional Information

16.1. List of abbreviation and acronyms used in this MSDS

SDS : Safety Data Sheets

Index N° : atomic number of the element most characteristic of the properties of the substance

CAS No : Chemical Abstracts Service number

EC No : EINECS Number : European Inventory of Existing Commercial Substances

Repr. Cat. 2 : Substance presumed human reproductive toxicant

Acute Oral Cat. 5 : Substance which is of relatively low acute oral toxicity.

GHS : Globally Harmonised System of Classification and Labelling

LD₅₀ : Median Lethal Dose

LC₅₀ : Lethal Concentration, 50%

N.A. : Not Applicable

OSHA : Occupational Safety & Health Administration

Cal OSHA : The State of California Division of Occupational Safety and Health (DOSH)

PEL : Permissible Exposure Limits

ACGIH : American Conference of Governmental Industrial Hygienists

TLV : Threshold Limit Value

Japanese MITI : Japanese Ministry of International Trade and Industry

EC₅₀ : Half maximal effective concentration

UN : United Nations

U.S. EPA TSCA Inventory: Inventory of the chemical substances manufactured or processed in the United States according to Toxic Substances Control Act compiled and published under the authority of the Environmental Protection Agency

Canadian DSL: Canadian Domestic Substances List

16.2. Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its accuracy, reliability or completeness. The conditions or methods of handling, storage use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.