


Number: 020

Section 1. Product and Company Identification

Product name: Propylene glycol monomethyl ether
Synonyms: -
Recommended use and Restrictions on use: Solvents of cellulose, acrylate, dyeing, printing ink, spots; Sealed solvents of cellophane.
Manufacturer, Importer, or Supplier: Shiny Chemical Industrial Co., Ltd. Address: No.5, Yeong Gong 1 st Rd, Yeong An Dist., Kaohsiung 82841, Taiwan, R.O.C. Telephone: +886-7-8619171 ext. 711~714
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Section 2. Hazards Identification

Classification: 1. Flammable liquids Category 3 2. Serious eye damage/eye irritation Category 2A 3. Specific target organ toxicity following single exposure: Category 3
Label elements: <div data-bbox="148 1137 531 1330">  </div> Hazard pictograms: Flame, Exclamation mark Signal word: Warning Hazard Statements: 1. Flammable liquid and vapour. 2. Causes serious eye irritation 3. May cause respiratory irritation. Precautionary statements: 1. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. 2. Keep container tightly closed. 3. Ground/bond container and receiving equipment. 4. Use explosion-proof electrical/ventilating/lighting equipment. 5. Use only non-sparking tools. 6. Take precautionary measures against static discharge. 7. Wear protective gloves/protective clothing/eye protection/face protection. 8. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.

<p>Rinse skin with water/shower.</p> <p>9. In case of fire: Use alcohol resistant foam, Carbon dioxide for extinction.</p> <p>10. Store in a well-ventilated place. Keep cool.</p> <p>11. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation</p> <p>12. Wash hands thoroughly after handling</p> <p>13. Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>14. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.</p> <p>15. If eye irritation persists: Get medical advice/attention</p> <p>16. Avoid breathing dust/fume/gas/mist/vapours/spray.</p> <p>17. Use only outdoors or in a well-ventilated area.</p> <p>18. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>19. Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>20. Store in a well-ventilated place. Keep container tightly closed.</p> <p>21. Store locked up.</p> <p>Other Hazards: -</p>

Section 3. Composition/Information on Ingredients

Pure substance

Chemical Name: Propylene glycol monomethyl ether
Synonyms: 1-Methoxy-2-hydroxypropane, 2-Methoxy-1-methylethanol, PGME, Propylene glycol methyl ether
CAS NO. : 107-98-2
Weight: 100%

Section 4. First Aid Procedures

<p>Description of first aid measures:</p> <ul style="list-style-type: none"> • Inhalation: <ol style="list-style-type: none"> 1. Remove ignition sources and move victims to fresh air. 2. Get medical attention immediately. • Skin contact: <ol style="list-style-type: none"> 1. Wash skin with water for at least 5 minutes. 2. Get medical attention if irritation develops or persists. 3. Clean contaminated clothing, shoes, and leather thoroughly before reuse or abandon. • Eye contact: <ol style="list-style-type: none"> 1. Immediately lift eyelids, flushing eyes with plenty of warm water for at least 20

minutes if irritation develops.
2. Get medical attention immediately if irritation still persists.
• Ingestion:
1. Never give anything by mouth to victims will soon lose consciousness or lose consciousness already or with the convulsion.
2. Don't induce vomiting.
3. Have victim drink 240~300 mL of water to dilute material in stomach.
4. If vomiting occurs, have victims gargle and repeat administering water.
5. Get medical attention immediately.
The most Important Symptoms and Hazardous Effects: -
Protection for emergency personnel: Use appropriate personal protective equipment such as class C clothing to take first aid in a safety area.
Notes to Physicians: If swallowed, consider gastric lavage and facilitating feces excretion.

Section 5. Firefighting Measures

Suitable extinguishing media: Carbon dioxide, alcohol foam, polymer foam, chemical dry, sprays water.
Special hazards during firefighting:
1. Vapors heavier than air will propagate to distant places. It may cause flash back when meeting fire sources.
2. May form peroxides with long-term exposure to air.
Firefighting procedures:
1. Spray leaks with water away from fire sources.
2. Moves containers away from the fire scene in safe condition.
3. Regarding big fire of storage tank areas, use water mist control shelves or auto-swing waterproof aims. If not feasible, should retreat and let it burn.
4. If fire cause safety valve alarm or tank change color, personnel should evacuate immediately.
5. Cool exposed storage tanks or containers with water mist.
Protective equipment for firefighters: Extinguishing staffs should wear an approved/certified respirator, splash goggles, and firefighting coats.

Section 6. Accidental Release Measures

Personal precautions:
1. Restrain personnel from close to spilled areas before totally cleaning out.
2. Confirm the cleaning work be responsible by trained staffs.
Environmental precautions:
1. Remove all ignition sources.

2. Ventilate spilled areas.
3. Stop leaks in safe condition.
4. Avoid leaks flushing to sewers or confined space.

Methods for cleaning up:

1. Use sand, soil, and inert absorbing agents to collect leaks.
2. Small spill: use absorbing agents to absorb. Place in covered and labeled containers.
3. Large spill: contact environmental or urgent handling units.

Section 7. Handling and Storage

Handling:

1. Keep away from sparks, fire sources. Avoid producing vapors or mist droplets.
2. Ventilate well and use minimal amount as possible.
3. Install fire and spill emergency devices.
4. Close containers tightly at any time and label.

Storage:

1. Store in shady, cool, dry, and well-ventilated place that sunshine cannot directly illuminate.
2. Close containers tightly even not use.
3. Keep away from incompatible substances and separate from operating areas.
4. Keep away from fire sources, flames or sparks.
5. Install auto-depressure and discharger devices on barrels. Check leaks regularly.

Section 8. Exposure controls

Engineering controls:

1. Local exhaust ventilation systems.
2. General ventilation systems.

Control parameters

TWA	STEL	CEILING	BEIs
100 ppm	150 ppm	-	-

Personal protective equipment:

- Respiratory protection: -
- Hand protection: Leak-proof gloves. Butyl rubber gloves are better.
- Eye protection: Chemical safety goggles.
- Skin and physical protection: Leak-proof aprons or working clothing.

Hygiene measures:

1. Remove contaminated clothing quickly as possible after work. Clean clothing before reuse or abandon. Tell cleaning staffs the harmfulness.
2. Forbid smoking or eating in workplace.

3. After handling this material, wash hands thoroughly.
4. Keep workplace clean.

Section 9. Physical and Chemical Properties

Appearance: Hygroscopicity, colourless clear liquid with ether smell	Odor: Sweet taste of ether, irritation (shed tears)
Odor threshold: 10 ppm	Melting point: -65°C
pH: -	Boiling point/Boiling range: 120°C
Flammability (solid, gas): -	Flash point: 32°C
Decomposition temperature: -	Test method: closed cup
Auto-ignition temperature: 286°C	Explosion limits: 1.6% ~ 13.8%
Vapor pressure: 11.8 mmHg (25°C)	Vapor density: 3.11 (air=1)
Density: 0.917 (g/cm ³) (25°C , water=1)	Solubility: Soluble in water
Partition coefficient (n-octanol/water, log K _{ow}): -0.53	Volatility rate: about 0.7 (N-butyl acetate=1)

Section 10. Stability and Reactivity

Chemical stability: Stable under ordinary conditions.
Possibility of hazardous reactions: Oxidizing agents (nitrate, perchlorate, peroxidative substances): Increase fire and explosion risk.
Conditions to avoid: Static, sparks, air, sunshine, moisture.
Materials to avoid: Oxidizing agents.
Hazardous decomposition products: -

Section 11. Toxicological Information

Exposure Route: Skin, inhalation, ingestion, eye.
Symptoms: Irritation, headaches, nausea, dizziness.
Acute toxicity: <ul style="list-style-type: none"> • Inhalation: <ol style="list-style-type: none"> 1. The concentration higher than 100 ppm will irritate eye, nose and throat. 2. The concentration higher than 1,000 ppm will depress nervous system. Symptoms are headaches, nausea, dizziness, tiredness, loss of coordination, even lose consciousness. • Skin: <ol style="list-style-type: none"> 1. It does not cause irritation. 2. Absorb by the skin rapidly. • Eyes: <ol style="list-style-type: none"> 1. The concentration higher than 100 ppm will cause irritation. 2. The concentration higher than 250 ppm will shed tears.

<ul style="list-style-type: none"> • Ingestion: <ol style="list-style-type: none"> 1. Low toxicity. 2. Symptoms are similar to inhalation. <ul style="list-style-type: none"> • LD₅₀ (animal test, entry): 6,600 mg/kg (rat, oral) • LC₅₀ (animal test, entry): 15,000 ppm/4 hour(s) (rat, inhalation) • 5,000 mg/open test (rabbit, skin): Cause mild irritation.
Chronic / Long-term toxicity: 3,000 ppm/6 hour(s) (pregnant rats 6~15 days, inhalation) may cause abnormal fetal development.

Section 12. Ecological Information

<p>Ecological toxicity:</p> <ol style="list-style-type: none"> 1. LC₅₀ (fish): >2,000 mg/L/96 hour(s) 2. EC₅₀ (aquatic invertebrates): - 3. Bioconcentration factor (BCF): -
<p>Persistence and degradability:</p> <ol style="list-style-type: none"> 1. A test indicates to inoculate with mud; 88~92% of propylene glycol monomethyl ether will decompose within 4 weeks. 2. When released into the water, this material is expected to evaporate and biodegrade. 3. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. <ul style="list-style-type: none"> • Half-life (Air): - • Half-life (Water surface): - • Half-life (Groundwater): - • Half-life (Soil): -
Bioaccumulative potential: May not be possible to accumulate. This material is expected to eliminate via inhalation. A small amount is eliminated by urine.
Mobility in soil: When released into the soil, this material is expected to biodegrade.
Other adverse effects: -

Section 13. Disposal Considerations

<p>Waste disposal:</p> <ol style="list-style-type: none"> 1. Incineration. 2. Safe sanitary burying. 3. Dispose in accordance with recent regulations.

Section 14. Transport Information

United Nations Number (UN No.): 3092
UN Proper Shipping Name: 1-METHOXY-2-PROPANOL
Transport Hazard classes: 3

Packaging Group: III
Marine pollutant (Yes/No): No
Specific Transport Measures and Precautionary Conditions: -

Section 15. Regulatory Information

Applicable Regulations:

1. Occupational Safety and Health Act.
2. Regulations for the Labeling and Hazard Communication of Hazardous Chemicals.
3. Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste.
4. Standards of Permissible Exposure Limits at Job Site.
5. Public Hazardous Substances & Flammable Pressurized Gases Establishment Standards & Safety Control Regulations.
6. Regulations Governing Designating and Handling of Priority Management Chemicals.

Section 16. Other Information

References	1. ChemWatch Database, 2018. 2. OHS MSDS Database, 2018. 3. European Chemicals Agency (ECHA) 4. National Institute of Technology and Evaluation
Created by	Shiny Chemical Industrial Co., Ltd. Address: No.5, Yeong Gong 1st Rd., Yeong An Dist., Kaohsiung City Telephone: +886-7-8619171 ext. 711~714
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Notes	The symbol " - " in this sheet indicates no available information; the symbol " / " indicates the information is not applicable to the substance.