

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: Propylene glycol monomethyl ether
Product Description: -
Chemical Formula: C₄H₁₀O₂
Recommended Use: Ink Solvent, Leather Dyeing

COMPANY IDENTIFICATION

Supplier: UNION PETROCHEMICAL PUBLIC COMPANY LIMITED
728 Union House Building, Baromratchonnani Rd.,
Bangbumru, Bangplad, Bangkok 10700
Supplier General Contact: +662 881 8288

This (M)SDS is a generic document with no country specific information included.

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

GHS CLASSIFICATION:

Flammable liquid: Category 3.
Eye irritation: Category 2A.

GHS LABEL ELEMENTS:

Pictogram:



Label Statements: Flammable liquid, Warning

Signal Word: Warning

Hazard Statements:

1. Flammable liquid and vapour
2. Causes serious eye irritation

Precautionary Statements:

1. Store away from direct sunlight and in well-ventilated place
2. Minimize sources of ignition
3. Avoid eye contact



SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	Synonymous Name
PROPYLENE GLYCOL MONOMETHYL ETHER (PM)	107-98-2	100%	1-Methoxy-2-hydroxypropane, 2-Methoxy-1-methylethanol, PGME, Propylene glycol methyl ether

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4 FIRST AID MEASURES

INHALATION

1. Remove the person from the source of exposure and seek for medical advice

SKIN CONTACT

1. Flush the affected area with clean water and seek for medical advice
2. Wash the polluted clothing thoroughly before next use

EYE CONTACT

1. Flush the affected area with clean water and seek for medical advice

INGESTION

1. Do not eat anything else, if may, drink some water and seek for medical help immediately

THE WORST SYMPTOMS

1. One may experience headache, stomach upset or fainted

NOTE TO FIRST- AID PERSONNEL

1. Wear Class C protection equipment

NOTE TO DOCTOR: -

SECTION 5 FIRE FIGHTING MEASURES

FIRE EXTINGUISHER: Carbon Dioxide, Alcohol Resistant Foam, Chemical Arid Powder or Mist

SPECIAL OCCASIONS MAY OCCUR DURING FIRE :

1. The smoke may contain the original material in addition to varying compositions of toxic or irritating combustion products.
2. The vapors are heavier than air and may travel a long distance and accumulated in low areas. Flashback may occur.

FIRE FIGHTING

1. Wash out the leak and keep it away from ignition
2. Remove the container away from the firing place
3. Fire at storage areas: Apply auto frame controlling kit or auto-spraying nozzle until the fire has been extinguished.
4. Evacuate immediately if tank safety valve sounded or color changed
5. Cool down the tanks or the containers with mist until the fire has been extinguished



SPECIAL EQUIPMENT FOR FIREFIGHTERS:

1. Respirators, protective gloves and fire clothing

SECTION 6 ACCIDENTAL RELEASE MEASURES

INDIVIDUAL PRECAUTIONS

1. Isolate any irrelevant person from the leak until the leakage is cleaned
2. Eliminate all sources of ignition in vicinity of leak to avoid fire or explosion
3. Only trained people are allowed to clean up the leakage

ENVIRONMENTAL PRECAUTIONS

1. Stop further leaking if possible
2. Prevent the leakage from entering into soil and sewerage

CLEANING METHODS

1. Reduce vapor by mist and collect the leakage by dirt or sand
2. Gather the pelleted sands into properly labeled containers
3. Contact emergency center for massive leakage

SECTION 7 HANDLING AND STORAGE

HANDLING

1. Away from any source of ignition
2. Avoid direct contact with eyes, skins and clothing and inhalation
3. Operation needs to be done in a well-ventilated place
4. Smoking is extremely prohibited
5. Containers, even those that have been emptied, can contain vapors; therefore, do not cut, drill, grind, weld or perform similar operations on or near empty containers

STORAGE

1. Store away from direct sunlight and minimize sources of ignition such as static build up, heat, spark or flame
2. All sorts of containers have to be closed and labeled all the time
3. Storages have to be away from any incompatible materials
4. Examine the containers for leakage periodically

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

1. Use local exhaust ventilation or other engineering controls to maintain airborne levels below requirements
2. If there are no applicable exposure limit requirements, general ventilation should be sufficient for daily uses

Control parameters/Exposure limits:

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard			Note	Source
Propylene glycol monomethyl ether		TWA	50 ppm			
Propylene glycol monomethyl ether		STEL	100 ppm			

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements. If there are no applicable exposure limit requirements, wear respiratory protection when one experienced adverse effects such as irritation or discomfort

Hand Protection: Wear chemical protective gloves

Eye Protection: Use safety glasses with side shields

Skin and Body Protection: Wear clean, body covering clothing

Specific Hygiene Measures:

1. After duty one should take off contaminated clothes, if any, clean thoroughly before next use or disposal. Laundry worker must be advised about the hazard
2. No food or smoking at workplace
3. Keep the workplace clean and neat

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State:	Liquid
Color:	Colorless
Odour:	Ether
Odour Threshold:	10ppm

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density:	N/D
Density:	0.917 @ 25°C
Flammability (Solid, Gas):	N/A to liquids
Flash Point:	32°C
Test method:	closed cup
Autoignition Temperature:	286°C
Explosion limit:	1.6% - 13.8%
Boiling Point:	120°C
Decomposition Temperature:	N/D
Vapour Density (Air=1):	N/D
Vapour Pressure:	11.8mmHg @ 25°C
Evaporation Rate (n-butyl acetate = 1):	0.79
pH:	N/A
Log Kow (n-Octanol/Water Partition Coefficient):	-0.53
Solubility in Water:	completely miscible @ 25°C
Viscosity:	N/D

OTHER INFORMATION

Freezing Point:	N/D
Melting Point:	N/A to liquids
Molecular Weight:	N/D
Hygroscopic:	N/D
Coefficient of Thermal Expansion:	N/D



SECTION 10	STABILITY AND REACTIVITY
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REACTIVITY: Stable under recommended storage conditions

POSSIBILITY OF HAZARDOUS REACTIONS: Prevent contact with air for a long period of time or it may form peroxides

CONDITIONS TO AVOID: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid static discharge

INCOMPATIBLE MATERIALS: Strong Acids, strong bases and strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide and carbon dioxide

SECTION 11	TOXICOLOGICAL INFORMATION
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ROUTE OF EXPOSURE: Skin, inhalation, ingestion, eyes

SYMPTOMS: Irritation, headache, dizziness and drowsiness

INFORMATION ON TOXICOLOGICAL EFFECTS

<u>Route of Exposure</u>	<u>Conclusion/Remarks</u>
Skin	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Prolonged and repeated contact may cause slight skin irritation with local redness
Inhalation	
Toxicity (Rat): LD50, 6 Hour, vapour, > 25,8 mg/l	Brief exposure (minutes) is not likely to cause adverse effects. The odor is objectionable at 100 ppm; higher levels produce eye, nose, and throat irritation and are intolerable at 1000 ppm. Anesthetic effects are seen at or above 1000 ppm
Oral	
Toxicity (Rat): LD50 > 4016 mg/kg	Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury
Eye	
Irritation: Data available.	May cause slight temporary eye irritation. Corneal injury is unlikely

CHRONIC TOXICITY OR LONG TERM EFFECTS

- Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.
- It has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals whereas effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

SECTION 12	ECOLOGICAL INFORMATION
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The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

LC50 (Fish): >2000 mg/l/96H

EC50 (Aquatic Invertebrates): —

Bio concentration factor (BCF): —



PERSISTENCE AND DEGRADABILITY

Photodegradation

Half-life (air): 7-8 hours

BIOACCUMULATIVE POTENTIAL: Low

MOBILITY IN SOIL: Potential for mobility in soil is very high

OTHER ADVERSE EFFECTS: -

SECTION 13

DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS:

1. Incineration
2. Bury
3. Any disposal practice must be in compliance with local regulations and laws

SECTION 14

TRANSPORT INFORMATION

UN Number: 3092

UN Shipping Name: 1-Methoxy-2-Propanol

Transport Hazard Class(es): 3

Packing Group: III

Environmental Hazards: Not considered environmental hazardous

Special Precautions: —

SECTION 15

REGULATORY INFORMATION

This material is considered hazardous according to the Classification of Chemicals based on Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

1. Occupational safety and health act
2. Regulations for the Labeling and Hazard Communication of Hazardous Chemicals
3. Standards of Permissible Exposure Limits at workplace
4. Road and traffic safety rules
5. Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste
6. Public Hazardous Materials and Flammable Pressurized Gases Establishment Standards and Safety Control Regulations
7. Assessment and Classification of Hazardous Chemicals Regulation

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable, “-” = No information is available at this time

REFERENCES

1. CHEMINFO Database, CCINFO Disc, 2005-3
2. RTECS Database, TOMES PLUS Disc, Vol.65, 2005
3. HSDB Database, TOMES PLUS Disc, Vol.65, 2005
4. Material Safety Data Sheets, Genium Publishing Corporation, 1997
5. NIOSH/OSHA, Occupational Health Guidelines for Chemical Hazards, 1981
6. ChemWatch Database, 2005-1



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