DYNAMIC (NANJING) CHEMICAL INDUSTRY CO., LTD **MSDS**

PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE
(METHOXY PROPYL ACETATE)

Section 1 - Identification of the Substance/Mixture and of the Company

1.1 Product Identifier:

Substance name: Propylene Glycol Monomethyl Ether Acetate

Synonyms: 1-Methoxy-2-acetoxypropane; Acetic acid, 2-methoxy-1-methylethyl ether; 1,2-Propanediol monomethyl ether acetate; 1-Methoxy-2-propanol acetate

CAS Number: 108-65-6

EC Number: 203-603-9

Index Number: 607-195-00-7

REACH pre-registration No.: 05-2114476192-48-0000

1.2 Relevant Identified Uses of the Substance and Uses Advised Against

Relevant identified uses:: Solvent for inks and coatings

Uses advised against: No data available

1.3 Details of the Supplier of the Safety Data Sheet

Manufacturer: Dynamic (Nanjing) Chemical Industry Co., Ltd.

Address: No. 2 Bailong Road, Nanjing Chemical Industry Park
Jiangsu Province, China 210047

Telephone number: 86-25-58391612

Fax number: 86-25-58392798

Email address: jackpei@dynai.com, xjy916@163.com

1.4 Emergency Telephone Number

Phone number: 86-25-58391612 (8:00am - 5:00 pm) [office hours]

China National Chemical Accident Counseling Service: 86-532-3889090 (third party services)

Section 2 - Hazards Identification

2.1 Classification of the substance or mixture

Regulation (EC) No 1272/2008 (CLP)	
Hazard Class & Category	**Hazard statement**
Flammable liquids, Category 3	H226

67/548/EEC or 1999/45/EC	
Hazard characteristics	**R-phrase(s)**

Irritant.	Irritant. R10, R36

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008

Pictograms

Flam. Liq. 3, H226: Flammable liquid and vapor

Signal word: Warning

CLP Hazard statement(s):

Physical Hazards:

H226: Flammable liquid and vapour.

Health Hazards:

Not classified as a health hazard according to CLP criteria.

Environmental Hazards:

Not classified as environmental hazard according to CLP criteria.

Precautionary statements:

Prevention P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting/equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response P303+P361+P353: If on skin or hair, remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378: In case of fire use appropriate media for extinction.

Storage P403+P235: Store in a well-ventilated place. Keep cool.

Disposal P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Labeling according to Directive 1999/45/EC

EC Symbols: Xi Irritant.

EC Risk Phrases: R10 Flammable.
R36 Irritating to eyes.

EC Safety Phrases: S25 Avoid contact with eyes.

2.3 Other Hazards

Health Hazards : Slightly irritating to respiratory system. Repeated exposure may cause skin dryness or cracking. Slightly irritating to the eye.

Aggravated Medical Condition: Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to thismaterial: Skin. Eyes. Respiratory system.

Safety Hazards : Flammable liquid and vapour. Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger.

Other Information : For Industry guidance and tools on REACH please visit the CEFIC website at http://cefic.org/Industry-support.

Section 3 - Composition/Information on Ingredients

3.1 Substances / Mixtures

Name	CAS No.	EC No.	Annex No.	Hazard Class	Hazard Statement	Content %
Propylene glycol monomethyl ether acetate	108-65-6	203-603-9	607-195-00-7	Flam. Liq. 3	H226	99.5%

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation: Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Skin Contact: Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the rest medical facility for additional treatment.

Ingestion: If swallowed, do not induce vomiting and transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

4.2 Most important symptoms and effects, both acute and delayed

Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. Respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

4.3 Indication of any immediate medical attention and special treatment needed

Causes central nervous system depression. Potential for chemical pneumonitis. Call a doctor or poison control center for guidance.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing waters into the aquatic environment.

Unsuitable extinguishing media: Do not use water in a jet.

5.2 Special hazards arising from the substance or mixture

Carbon monoxide may be evolved if incomplete combustion occurs. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

5.3 Advice for fire-fighters

Special protective equipment for fire-fighters: Wear full protective clothing and self-contained breathing apparatus.

Other Advice: Keep adjacent containers cool by spraying with water.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures:

Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet.

6.2 Environmental precautions:

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

6.3 Methods and material for containment and cleaning up:

For small liquid spills (<1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (>1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated

waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

Section 7 - Handling and Storage

7.1 Precautions for safe handling:

Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.

7.2 Conditions for safe storage, including any incompatibilities:

Keep container tightly closed. Store away from heat and light.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Occupational exposure limits

If exposure limits have not been established, maintain airborne levels to an acceptable level.

Chemical Name	Type	Exposure Limit values	Source
Propylene glycol monomethyl ether acetate	TWA	50 ppm 275 mg/m3	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU (12 2009)
	STEL	100 ppm 550 mg/m3	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU (12 2009)

8.2 Exposure controls

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information: Eye bath. Washing facilities.

Eye/face protection: It is a good industrial hygiene practice to minimize eye contact.

Skin protection: It is a good industrial hygiene practice to minimize skin contact.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable),

air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices.

Environmental Controls: No data available.

Section 9 - Physical and Chemical Properties

Appearance:	colorless liquid
Odor:	Sweet
pH:	No data available.
Melting Point:	-50 °C
Boiling Point:	150 °C
Flash Point:	46 °C
Evaporation Rate:	0.39
Flammability (solid, gas):	No data available.
Vapor pressure:	4.9 mbar (20 °C)
Vapor density (air=1):	4.6
Specific Gravity:	0.969
Solubility in Water:	Appreciable
Solubility (other):	No data available.

Partition coefficient (n-octanol/water): Pow: 3.6, log Pow: 0.56

Autoignition Temperature:	354 °C
Explosive properties:	No data available.

Section 10 - Stability and Reactivity

10.1 Reactivity: May form peroxides of unknown stability.

10.2 Chemical stability: Stable

10.3 Possibility of hazardous reactions: Forms peroxides of unknown stability.

10.4 Conditions to avoid: Heat, sparks, flames. Contact with air.

10.5 Incompatible materials: Strong oxidizing agents.

10.6 Hazardous decomposition products: Carbon Dioxide. Carbon Monoxide.

Section 11 - Toxicological Information

Information on Toxicological effects

Likely routes of exposure: Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

Acute Toxicity

Acute Oral Toxicity: Low toxicity: LD50 >5000 mg/kg , Rat

Acute Dermal Toxicity: Low toxicity: LD50 >5000 mg/kg, Rabbit

Acute Inhalation Toxicity: Expected to be of low toxicity if inhaled.

Skin corrosion/irritation: Not irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.

Serious eye damage/ irritation: Expected to be slightly irritating.

Respiratory Irritation: Inhalation of vapours or mists may cause irritation to the respiratory system.

Respiratory or skin Sensitization: Not a skin sensitiser.

Germ cell mutagenicity: Not considered a mutagenic hazard.

Reproductive and Developmental Toxicity: Not expected to impair fertility. Not a developmental toxicant. Causes adverse effects on the foetus based on animal studies.

Carcinogenicity: Not expected to be carcinogenic.

Specific target organ toxicity - single exposure: Not applicable.

Specific target organ toxicity - repeated exposure: Kidney: caused kidney effects in male rats which are not considered relevant to humans.

Section 12 - Ecological Information

Basis for Assessment : Information given is based on product testing.

Acute Toxicity

Fish : Low toxicity : LC/EC/IC50 > 100 mg/l

Aquatic Invertebrates : Low toxicity : LC/EC/IC50 > 100 mg/l

Algae : Low toxicity : LC/EC/IC50 > 1000 mg/l

Microorganisms : Expected to have low toxicity: LC/EC/IC50 > 100 mg/l

Mobility : If product enters soil, it will be highly mobile and may contaminate groundwater. Dissolves in water.

Persistence/degradability : Readily biodegradable Oxidises rapidly by photo-chemical reactions in air.

Bioaccumulative potential : Not expected to bioaccumulate significantly.

Section 13 - Disposal Considerations

Material Disposal: Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.

Container Disposal: Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned

drums. Send to drum recoverer or metal reclaimer.

Local Legislation: Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Section 14 - Transport Information

Land (as per ADR classification): Regulated

Class: 3

Packing group: III

Hazard indentification no.: 30

UN No.: 3272

Danger label (primary risk): 3

Proper shipping name: ESTERS, N.O.S. (Propylene Glycol Monomethyl Ether Acetate)

Environmentally Hazardous: No

IMDG

Identification number: UN 3272

Proper shipping name: ESTERS, N.O.S. (Propylene Glycol Monomethyl Ether Acetate)

Class / Division: 3

Packing group: III

Marine pollutant: No

Sea (Annex II of MARPOL 73/78 and the IBC code)

Pollution Category: Z

Ship Type: 3

Product Name: Propylene Glycol Monomethyl Ether Acetate

Special Precaution: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

Additional Information: This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.

Section 15 - Regulatory Information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Chemical Inventory Status

AICS : Listed.

DSL : Listed.

INV (CN) : Listed.

ENCS (JP) : Listed. (2)-3144

TSCA : Listed.

EINECS : Listed. 203-603-9

KECI (KR) : Listed. KE-23315

PICCS (PH) : Listed.

NZIOC : Listed.

Section 16 - Other Information

Uses and Restrictions: Raw material for use in the chemical industry.

Use only in industrial processes

Disclaimer: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.