



SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0
Creation Date: July 15, 2019
Revision Date: July 15, 2019

SECTION 1: Identification

1.1 GHS Product identifier

Product name 1-methoxypropan-2-ol

1.2 Other means of identification

Product number -

Other names propylene glycol methyl ether; PGMME; Icinol PM

1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.

Uses advised against no data available

1.4 Supplier's details

Company Shanghai Yien Chemical Technology Co., Ltd
Address Building 6, 28 Yingong Road, Fengxian District, Shanghai
Chemical Industry Zone, Shanghai, 201400, China
Telephone +86-400-133-2688

1.5 Emergency phone number

Emergency phone number +86-400-133-2688

Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Flammable liquids, Category 3

Specific target organ toxicity – single exposure, Category 3

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H226 Flammable liquid and vapour

H336 May cause drowsiness or dizziness

Precautionary statement(s)

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response	P233 Keep container tightly closed.
	P240 Ground and bond container and receiving equipment.
	P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.
	P242 Use non-sparking tools.
	P243 Take action to prevent static discharges.
	P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
	P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
	P271 Use only outdoors or in a well-ventilated area.
	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
	P370+P378 In case of fire: Use ... to extinguish.
Storage	P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P319 Get medical help if you feel unwell.
	P403+P235 Store in a well-ventilated place. Keep cool.
	P403+P233 Store in a well-ventilated place. Keep container tightly closed.
Disposal	P405 Store locked up.
	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.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
1-methoxypropan-2-ol	1-methoxypropan-2-ol	107-98-2	203-539-1	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Do NOT induce vomiting. Rest. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

VAPOR: Irritating to eyes, nose, and throat. LIQUID: Irritating to skin and eyes. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary.

Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Ethylene glycol, glycols, and related compounds

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. (USCG, 1999)

5.3 Special protective actions for fire-fighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

6.2 Environmental precautions

Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.

6.3 Methods and materials for containment and cleaning up

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames, NO sparks and NO smoking. Above 38°C use a closed system, ventilation and explosion-proof electrical equipment. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

Fireproof. Cool. Keep in the dark. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Air sensitive. Forms explosive peroxides on prolonged storage. may form peroxides on contact with air.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

TLV: 50 ppm as TWA; 100 ppm as STEL; A4 (not classifiable as a human carcinogen). MAK: 370 mg/m³, 100 ppm; peak limitation category: I(2); pregnancy risk group: C. EU-OEL: 375 mg/m³, 100 ppm as TWA; 568 mg/m³, 150 ppm as STEL; (skin)

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

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

Eye/face protection

Wear safety spectacles or face shield.

Skin protection

Protective gloves. Protective clothing.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid.
Colour	Colourless.
Odour	Weak pleasant odor
Melting point/freezing point	-96 °C. Atm. press.:101 325 Pa.
Boiling point or initial boiling point and boiling range	120.17 °C. Atm. press.:101 325 Pa.
Flammability	Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F.
Lower and upper explosion limit/flammability limit	Lower and upper flammability limits (% vol/vol) at 150 deg C in air are 1.48 and 13.74, respectively.
Flash point	31.1 °C. Atm. press.:101.3 hPa.
Auto-ignition temperature	287 °C. Atm. press.:101.3 hPa.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	dynamic viscosity (in mPa s) = 1.7. Temperature:25.0°C.
Solubility	greater than or equal to 100 mg/mL at 66° F (NTP, 1992)
Partition coefficient n-octanol/water	log Pow = < 1. Temperature:20 °C.
Vapour pressure	11.7 mm Hg. Temperature:25 °C.;8.5 mm Hg. Temperature:20 °C.
Density and/or relative density	0.92 g/cm ³ . Temperature:25 °C.
Relative vapour density	3.12 (vs air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The substance can presumably form explosive peroxides. Reacts with strong oxidants, acid chlorides, acid anhydrides, aluminium and copper.

10.2 Chemical stability

Volatile liquid.

10.3 Possibility of hazardous reactions

Moderate, when exposed to heat or flame 1-METHOXY-2-PROPANOL is a methoxy alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Special hazards arising from the substance or mixture: carbon oxides.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (female) - 4 277 mg/kg bw.
- Inhalation: LC0 - rat (male/female) - > 7 000 ppm.
- Dermal: LD50 - rat (male/female) - > 2 000 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

A4: Not classifiable as a human carcinogen.

Reproductive toxicity

no data available

STOT-single exposure

The substance and the vapour in high concentrations are irritating to the eyes, skin and respiratory tract. Exposure to very high concentrations could cause depression of the central nervous system.

STOT-repeated exposure

The substance defats the skin, which may cause dryness or cracking.

Aspiration hazard

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - *Leuciscus idus* - > 4 600 - < 10 000 mg/L - 96 h.

- Toxicity to daphnia and other aquatic invertebrates: LC0 - Daphnia magna - < 1 412 mg/L - 48 h.
- Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - > 1 000 mg/L - 7 d.
- Toxicity to microorganisms: IC50 - activated sludge - > 1 000 mg/L - 3 h.

12.2 Persistence and degradability

AEROBIC: 1-Methoxy-2-hydroxypropane, present at 100 mg/L, reached 90% of its theoretical BOD in four weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(1). The aerobic biodegradation of 1-methoxy-2-hydroxypropane was studied in two sandy loam soils; half-lives ranged from <1 day at 0.2 ppm to <7 days at 100 ppm(2). 1-Methoxy-2-propanol was reported to have a half-life of 17.0 days in an OECD 301B Guideline test(3). In a biodegradation test using an APHA method with 1-methoxy-2-propanol, 58% of the theoretical BOD was reached after 20 days(3).

12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for 1-methoxy-2-hydroxypropane(SRC), using an estimated log Kow of -0.49(1) and a regression-derived equation(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of 1-methoxy-2-hydroxypropane can be estimated to be 1(SRC). According to a classification scheme(2), this estimated Koc value suggests that 1-methoxy-2-hydroxypropane is expected to have very high mobility in soil.

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN3092 (For reference only, please check.)

IMDG: UN3092 (For reference only, please check.)

IATA: UN3092 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: 1-METHOXY-2-PROPANOL (For reference only, please check.)

IMDG: 1-METHOXY-2-PROPANOL (For reference only, please check.)

IATA: 1-METHOXY-2-PROPANOL (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
1-methoxypropan-2-ol	1-methoxypropan-2-ol	107-98-2	203-539-1
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

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Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Other Information

Commercial product may contain impurities which may alter toxic properties. Check for peroxides prior to distillation; eliminate if found.

Any questions regarding this SDS, Please send your inquiry to sds@xixisys.com

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.