




MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name	Methoxy Propanol (Propylene Glycol Mono-methyl Ether)
Synonyms	1-methoxy-2-propanol、 1-methoxy-2-hydroxypropane、
Recommended use and restrictions on use	Solvent

2. Hazard Identification

Emergency classification	Flammable liquids; Serious eye damage / eye irritation : Category3- H226
Warning information	Warning !
GHS label	
Signal word	Warning
Hazard statement	Harmful if swallow. H-302 Irritating to eyes , skin and may cause irritation to respiratory system- H320, H315, H335 May be Harmful if inhaled: H333
Precautionary statement	Keep away from sources of ignition and oxides- P210 Good ventilation of working area- P271 Personal protection is necessary : glove, goggle and mask- P280
Other hazards	No further information

3. Composition / Information on Ingredients

Substances :

Product name	1-methoxy-2-propanol
Synonyms	
CAS Number	107 - 98- 2
ingredients	99.5%

4. First-Aid Measures

First-aid measures for different exposure routes	
Inhalation	<p>Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel.</p> <p>Call a physician or transport to a medical facility.</p> <p>Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.</p>
Skin Contact	Wash skin with plenty of water.
Eye Contact	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Ingestion	If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
Most important symptoms and hazardous effects	NO INFORMATION AVAILABLE
Protection of First-aiders	Mask, Water shower, Plastic apron and sleeves, boots -- if handling large quantities.

Notes to Physician	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
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5. Fire-Fighting Measures

Extinguishing Media	<p>Water fog or fine spray, dry chemical fire extinguishers, carbon dioxide fire extinguishers, foam. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire. Alcohol resistant foams</p> <p>(ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.</p>
<p>Fire and Explosion</p> <p>Hazards</p>	<p>Keep people away. Isolate fire area and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider use of unmanned hose holder or monitor nozzles. Immediately withdraw all personnel from area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.</p>
<p>Special Firefighting</p> <p>Procedures</p>	<p>Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with SCBA. If this is not available, wear full chemical resistant clothing with SCBA and fight fire from a remote location. For protective equipment in post-fire or non-fire clean up situations, refer to the relevant sections.</p>

<p>Special Equipment for the Protection of Firefighters</p>	<p>OTHER FLAMMABILITY INFORMATION: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. When product is stored in closed containers a flammable atmosphere can develop. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Flammable mixtures may exist within the vapor space of containers at room temperature. Flammable concentrations of vapor can accumulate at temperatures above flash point, see Section 9.</p>
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6. Accidental Release Measures

<p>Personal Precautions</p>	<p>Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Vapor explosion hazard. Keep out of sewers. No smoking</p>
	<p>in area. Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.</p>
<p>Environmental Precautions</p>	<p>Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.</p>
<p>Methods for Cleaning Up</p>	<p>Small spills: Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Contain spilled material if possible. Pump with explosion-proof equipment. If available, use foam to smother or suppress vapors. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.</p>

7. Safe Handling and Storage Measures

Handling	<p>Keep away from heat, sparks, and flame. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Never use air pressure for transferring product. No smoking, open flames or sources of ignition in handling and storage area. Electrically ground and bond all equipment. Never use air pressure for transferring product. Use of non-sparking or explosion proof equipment may be necessary, depending upon the type of operation. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, drill, grind, weld, or perform similar operations on or near empty containers. See Section 8, Exposure Controls/Personal Protection. Spills of these organic materials on hot fibrous insulations may lead to lowering of the auto-ignition temperatures possibly resulting in spontaneous combustion.</p>
Storage	<p>Minimize sources of ignition, such as static build-up, heat, spark or flame. Store in the following material(s): Carbon steel, Stainless steel, Teflon drums. Keep containers closed.</p>

8. Exposure Controls / Personal Protection

Control parameters				
Control Parameters				
8 hours time weighted	Short-term exposure	Maximum exposure	biological standards	
average exposure limits TWA	limits STEL	limits CEILING		
100ppm	150ppm	-	-	
Personal Protective Equipment				

Respiratory Protection	<p>Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure airline with auxiliary self-contained air supply</p>
Hand Protection	<p>Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene.</p> <p>Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.</p> <p>When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. NOTICE:</p> <p>The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.</p>
Eye Protection	Use chemical goggles.

Skin and Body Protection:	When prolonged or frequently repeated contact could occur, use chemically protective clothing resistant to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.
Specific Hygiene Measures	NO INFORMATION AVAILABLE NO INFORMATION AVAILABLE

9. Physical and Chemical Properties

Appearance (physical state, color, etc.)	colorless Liquid	Odor	Sweet, ether odor
Odor threshold	No information available	Melting point	-97 °C
pH	No information available	Boiling Point/Boiling Range	120 °C
Flammability	flammable liquid	Flash Point & Method	42 °C closed cup
Decomposition temperature	No information available	Used	
Autoignition temperature	286 °C	Explosion limits	LFL: 1.6 vol%, UFL:13.8 vol%
Vapor pressure	11.8 mmHg @ 25 °C	Vapor density	3.11 @ 20 °C (Air=1)
Density	0.919 @ 25/25°C	Solubility	Infinitely in water
Partition coefficient n-octanol/water	No information available	Evaporation rate	No information available

10. Stability and Reactivity

Stability	Thermally stable at typical use temperatures
Possible Hazardous Reactions Occurring under Specific Conditions	NA
Conditions to Avoid	Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.
Materials to Avoid	Avoid contact with strong acids, strong bases, 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 aldehydes, ketones, organic acids.

11. Toxicological Information

Routes of exposure (inhalation, ingestion, skin and eye contact)	Inhalation, ingestion, skin and eye contact
Symptoms	No information available

Acute toxicity	<p>Ingestion :</p> <p>The oral LD50 for rats is 7200 mg/kg (6.6 ml/kg.).</p> <p>Eye Contact :</p> <p>May cause slight temporary eye irritation. Corneal injury is unlikely.</p> <p>Skin Contact :</p> <p>Prolonged or repeated contact may cause skin irritation. Prolonged skin contact with very large amounts may cause dizziness or drowsiness. Skin Absorption :</p> <p>Very low toxicity if swallowed. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.</p> <p>The LD50 for skin absorption in rabbits is approximately 13,000 mg/kg (12 ml/kg).</p> <p>Inhalation :</p> <p>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.</p>
Chronic Toxicity or delayed Toxicity	No information available

12. Ecological Information

Ecotoxicity	<p>Material is practically non-toxic to aquatic organisms on an acute basis (LC50 or EC50 >100 mg/L in most sensitive species tested).</p> <p>Acute LC50 in fathead minnow (<i>Pimephales promelas</i>) is 20,800 mg/L.</p> <p>Acute LC50 in water flea <i>Daphnia magna</i> is 23,300 mg/L.</p> <p>Growth inhibition EC50 in green alga <i>Selenastrum capricornutum</i> is</p>
	<p>>1000 mg/L.</p> <p>Acute LC50 for golden orfe (<i>Leuciscus idus</i>) is 4600-10,000 mg/L.</p>

Persistence and degradability	<p>Biodegradation reached in Modified OECD Screening Test (OECD Test No. 301 E) after 28 days: 96%. 20-Day biochemical oxygen demand (BOD20) is 1.14 p/p. 5-Day biochemical oxygen demand (BOD5) is below detection limits.</p> <p>Tropospheric half-life is estimated to be 3.1-7.8 hr.</p> <p>Inhibitory concentration (IC50) in OECD Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is >1000 mg/L.</p> <p>Theoretical oxygen demand (ThOD) is calculated to be 1.95 p/p. Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.</p>
Bioaccumulative potential	No information available
Mobility in soil	No information available
other adverse effect	No information available

13. Disposal Considerations

<p>Recommended Methods for Safe and Environmentally Preferred Disposal</p>	<p>DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.</p> <p>All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.</p> <p>FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.</p>
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14. Transport Information

UN number	3092
UN classification number	Propylene Glycol Mono-methyl Ether
Transport hazard class	No information available
Packing group	Packing Group III
Marine pollution	No
Specific precautionary transport measures and conditions	Hazard labels:3.Flammable liquid

15. Regulatory Information

Applicable Regulations	1.Labor regulations 2.Dangerous and harzadous chemicals warning label regulations 3.Traffic and transportation regulations
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16. Other Information

Literature references	This information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. A properly trained person using this product intends this document only as a guide to the appropriate precautionary handling of the material. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.
Date the GHS was prepared	2021/04/01
Validity-	3 years

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