OTTO CHEMIE PVT LTD

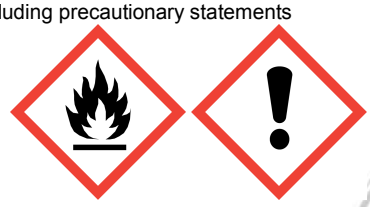
201, 51-53 Maroo Bhavan, Kalbadevi, Mumbai – 400002, India. Tel : + 91 22 2207 0099 / 6638 2599
Email : info@ottokemi.com, Web : www.ottokemi.com

----------ISO 9001: 2015----------

MATERIAL SAFETY DATA SHEET

Identification
1.1GHS Product identifier
1-Methoxy 2-propanol, 98%
Code M 1881

2.Hazard identification
2.1Classification of the substance or mixture
Flammable liquids, Category 3
Specific target organ toxicity \u2013 single exposure, Category 3
2.2GHS 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. 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. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area.
Response	P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P370+P378 In case of fire: Use ... to extinguish. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTER/doctor/\u2026if you feel unwell.
Storage	P403+P235 Store in a well-ventilated place. Keep cool. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal	P501 Dispose of contents/container to ...

2.3Other hazards which do not result in classification
none

3.Composition/information on ingredients
3.1Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
1-Methoxy-2-propanol	1-Methoxy-2-propanol	107-98-2	none	100%

4.First-aid measures
4.1Description of necessary first-aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
Fresh air, rest. Refer for medical attention.
In case of skin contact
Remove contaminated clothes. Rinse skin with plenty of water or shower.

In case of eye contact
First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.
If swallowed
Rinse mouth. Do NOT induce vomiting. Rest. Refer for medical attention .
4.2Most important symptoms/effects, acute and delayed
VAPOR: Irritating to eyes, nose, and throat. LIQUID: Irritating to skin and eyes. (USCG, 1999)
4.3Indication of immediate medical attention and special treatment needed, if necessary
/SRP:/ 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/

5.Fire-fighting measures
5.1Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2Specific hazards arising from the chemical
FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. (USCG, 1999)
5.3Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

6.Accidental release measures
6.1Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.
6.2Environmental precautions
Collect leaking and spilled liquid in sealable containers as far as possible. Wash away remainder with plenty of water.
6.3Methods and materials for containment and cleaning up
Use personal protective eqipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignitino. Beware of vapors accumulating to form explosive concentrations.

7.Handling and storage
7.1Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
7.2Conditions 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 peroxided on contact with air.

8.Exposure controls/personal protection
8.1Control parameters
Occupational Exposure limit values
Recommended Exposure Limit: 10 Hour Time-Weighted Average: 100 ppm (360 mg/cu m).
Recommended Exposure Limit: 15 Minute Short-Term Exposure Limit: 150 ppm (540 mg/cu m).
Biological limit values
no data available
8.2Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.3Individual protection measures, such as personal protective equipment (PPE)
Eye/face protection
Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Respiratory protection
Wear dust mask when handling large quantities.
Thermal hazards
no data available

9.Physical and chemical properties

Physical state	colourless liquid
Colour	Colorless liquid
Odour	Weak pleasant odor
Melting point/ freezing point	230\u00b0C(lit.)

Boiling point or initial boiling point and boiling range	120\u00b0C
Flammability	Class IC Flammable Liquid: Fl.P. at or above 22.78\u00b0C and below 37.78\u00b0C.Flammable.
Lower and upper explosion limit / flammability limit	Lower and upper flammability limits (% vol/vol) at 150\u00b0C in air are 1.48 and 13.74, respectively.
Flash point	32\u00b0C(lit.)
Auto-ignition temperature	270\u00b0C at 1013 hPa
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	1.81 mPa-s at 20\u00b0C
Solubility	In water:soluble
Partition coefficient n-octanol/water (log value)	log Kow = -0.49 (est)
Vapour pressure	10.9 mm Hg (25 \u00b0C)
Density and/or relative density	0.924
Relative vapour density	3.12 (vs air)
Particle characteristics	no data available

10.Stability and reactivity
10.1Reactivity
no data available
10.2Chemical stability
Volatile liquid.
10.3Possibility of hazardous reactions
Moderate, when exposed to heat or flame1-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.
10.4Conditions to avoid
no data available
10.5Incompatible materials
Strong oxidizing agents.
10.6Hazardous decomposition products
Special hazards arising from the substance or mixture: carbon oxides.

11.Toxicological information
Acute toxicity
Oral: LD50 Rabbit oral 5300 mg/kg /commercial grade/
Inhalation: LC50 Guinea pig inhalation 15,000 ppm/10 hr
Dermal: no data available
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
no data available
STOT-repeated exposure
no data available
Aspiration hazard
no data available

12.Ecological information
12.1Toxicity
Toxicity to fish: LC50; Species: Pimephales promelas (Fathead minnow); Concentration: >20.8 g/L for 96 hr /Conditions of bioassay not specified in source examined
Toxicity to daphnia and other aquatic invertebrates: LC50; Species: Daphnia magna /(Water flea)/; Conditions: static; Concentration: 23.3 g/L for 48 hr
Toxicity to algae: EC50; Species: Selenastrum capricornutum (Algae); Concentration: >1,000 mg/L for 7 days; Effect: growth inhibition /Conditions of bioassay not specified in source examined

Toxicity to microorganisms: no data available
12.2Persistence 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).
12.3Bioaccumulative 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).
12.4Mobility 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.
12.5Other adverse effects
no data available

13.Disposal considerations
13.1Disposal 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.

14.Transport information
14.1UN Number
ADR/RID: UN3092 IMDG: UN3092 IATA: UN3092
14.2UN Proper Shipping Name
ADR/RID: 1-METHOXY-2-PROPANOL
IMDG: 1-METHOXY-2-PROPANOL
IATA: 1-METHOXY-2-PROPANOL
14.3Transport hazard class(es)
ADR/RID: 3 IMDG: 3 IATA: 3
14.4Packing group, if applicable
ADR/RID: III IMDG: III IATA: III
14.5Environmental hazards
ADR/RID: no IMDG: no IATA: no
14.6Special precautions for user
no data available
14.7Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

15.Regulatory information
15.1Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
1-Methoxy-2-propanol	1-Methoxy-2-propanol	107-98-2	none
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.

Section 16: Other Information
This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.