

MATERIAL SAFETY DATA SHEET

Product Name: 2-Methoxyethanol

CAS No.: 109-86-4

Version: 0

1. Identification

Product Code : 90462
Company Name : Advent Chembio Private Limited
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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
2-METHOXYETHANOL	109-86-4	100%

3. Hazards Identification

Emergency Overview : WARNING! FLAMMABLE LIQUID AND VAPOR. MAY FORM EXPLOSIVE PEROXIDES IN AIR.
HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS CENTRAL NERVOUS SYSTEM, BLOOD AND BLOOD FORMING ORGANS, REPRODUCTIVE SYSTEM AND KIDNEYS. POSSIBLE BIRTH DEFECT HAZARD. MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Saf-T-Data

Health Rating : 3 - Severe (Life)
Flammability Rating : 2 - Moderate
Reactivity Rating : 2 - Moderate
Contact Rating : 2 - Moderate (Life)

Potential Health Effects

Inhalation : Inhalation of vapors may cause irritation, headache, dizziness, fatigue, nausea, vomiting, and loss of appetite.
Weakness, incoordination and tremors may occur

Ingestion : Moderately toxic. Can cause headache, fatigue, nausea, vomiting, dizziness, and weakness. Hemorrhagic gastritis, liver damage, pancreas damage and brain edema resulting in death has occurred in human exposure of 3 g/kg. Damage to kidneys is possible from ingestion of large quantities.

Skin Contact : May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.

Eye Contact : May cause irritation, redness and pain.

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- Chronic Exposure** : Prolonged exposure may cause injury to bone marrow, blood cells, kidney, liver and testes. A suspected human reproductive hazard and a birth defect hazard. Severe neurological disabilities has been reported from chronic industrial exposure. Symptoms have included headache, dizziness, lethargy, weakness, personality changes, apathy, unequal pupil size, and disorientation.
- Aggravation of Pre-existing Conditions** : Persons with pre-existing blood or central nervous system disorders may be more susceptible to the effects of this substance

4. First Aid Measures

- General information** : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand. Show this safety data sheet to the doctor in attendance.
- Inhalation** : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion** : If swallowed, give large quantities of water to drink and get medical attention immediately. Never give anything by mouth to an unconscious person.
- Skin Contact** : Wipe off excess material from skin then immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
- Note to Physician** : Treatment is symptomatic and supportive. Sodium sulfate can be given in case of ingestion to precipitate out the barium as barium sulfate.

5. Fire fighting measures

- Fire** : Flash point: 39C (102F)
Autoignition temperature: 286C (547F)
Flammable limits in air % by volume:
lel: 1.8; uel: 14
Flammable.
- Explosion** : Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with strong oxidizers may cause fire. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
- Fire Extinguishing Media** : Dry chemical, foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.
- Special Information** : In the event of a fire, wear full protective clothing and NIOSH-

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approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures** : Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Methods and material for containment and cleaning up** : Sweep up and place in a clearly labeled container for chemical waste.
Clean surface thoroughly to remove residual contamination.
- Notification Procedures** : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
- Environmental precautions** : Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

- Precautions for safe handling** : Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Be aware of possible peroxide formation. Avoid use of aluminum and magnesium equipment. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperatures and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of ignition sources.
- Conditions for safe storage, including any incompatibilities** : Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

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8. Exposure Controls Personal Protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
2-Methoxyethanol (EGME)	TWA	25 ppm	OSHA
Methyl Cellosolve	TLV	0.1 ppm	ACGIH

Ventilation System

: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved):

: If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection

: Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure.

Eye Protection:

: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

Other

: Wear suitable protective clothing.

Respiratory protection

: In case of inadequate ventilation use suitable respirator.

Hygiene measures

: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

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Appearance	:	Clear, colorless liquid.
Odor	:	Pleasant odor.
pH	:	No information found
Melting point/freezing point	:	-85.1C (-121F)
Initial boiling point and boiling range	:	124C (255F)
Flash Point	:	No information found.
Vapor pressure	:	6.2 @ 20C (68F)
Vapor density	:	2.62 (Air=1):
Relative density	:	0.96 @ 20C/4C
Solubility in water	:	Miscible in water.
Solubility (other)	:	No data available.
Formula	:	CH ₃ OC ₂ H ₄ OH
Molecular Weight	:	76.09 g/mol

10. Stability and Reactivity

Stability	:	Stable under ordinary conditions of use and storage. Formation of explosive peroxides has been reported from auto-oxidation. Reported to dissolve aluminum from scratched or heated aluminum surfaces. Do not distill to dryness. Avoid excessive temperatures or prolonged reflux, such as in batch distillations.
Hazardous Decomposition Products	:	Carbon dioxide and carbon monoxide may form when heated to decomposition.
Hazardous Polymerization	:	Will not occur.
Incompatibilities:	:	Strong oxidizers and alkalis, strong acids, high temperatures in the presence of strong bases. Contact with excessive heat, open flame, sparks, or ignition sources.
Conditions to Avoid:	:	Heat, flame, ignition sources, air, incompatibles.

11. Toxicological Information**Information on likely routes of exposure**

Ingestion	:	May cause irritation of the gastrointestinal tract.
Inhalation	:	May cause irritation to the respiratory system.
Skin contact	:	May cause irritation.
Eye contact	:	May cause temporary eye irritation.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

Oral Product(Anhydrous)	:	Oral rat LD50: 2370 mg/kg
Dermal Product	:	No data available.

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Inhalation Product	:	Rat LC50: 1500 ppm/7H Skin rabbit LD50: 1280 mg/kg.
Repeated dose toxicity Product	:	No data available.
Skin corrosion/irritation Product	:	May cause skin irritation.
Serious eye damage/eye irritation Product	:	May irritate eyes.
Respiratory or skin sensitization Product	:	Not a skin sensitizer.
Carcinogenicity Product	:	This substance has no evidence of carcinogenic properties.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans DIOXANE	:	No carcinogenic components identified.
US. National Toxicology Program (NTP) Report on Carcinogens DIOXANE	:	No carcinogenic components identified.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050	:	No carcinogenic components identified.
Germ cell mutagenicity In vitro Product	:	No mutagenic components identified.
In vivo Product	:	No mutagenic components identified.
Reproductive toxicity Product	:	In laboratory animals, this compound has caused both birth defects and damage to the reproductive system.
Specific target organ toxicity - single exposure Product	:	No data available.
Specific target organ toxicity - repeated exposure Product	:	No data available.
Aspiration hazard Product	:	Not classified.
Other effects	:	None known.

12. Ecological Information**Ecotoxicity****Acute hazards to the aquatic environment :****Fish Product** : The LC50/96-hour values for fish are over 100 mg/l.**Aquatic invertebrates Product** : No data available.**Chronic hazards to the aquatic environment :****Fish Product** : No data available.**Aquatic invertebrates Product** : No data available.**Toxicity to Aquatic Plants Product:** : No data available.**Persistence and degradability****Biodegradation Product** : Material is expected to readily biodegrade.**BOD/COD ratio Product** : No data available.**Bioaccumulative potential**

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- Bioconcentration factor (BCF) Product** : No data available on bioaccumulation.
- Partition coefficient n-octanol / water (log Kow) Product** : This material has a log octanol-water partition coefficient of less than 3.0
- Mobility in soil** : No data available.
- Other adverse effects** : No data available.

13. Disposal consideration

- Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws. 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.
- Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN1188	ETHYLENE GLYCOL MONOMETHYL ETHER	3	III	No
IMDG	UN1188	ETHYLENE GLYCOL MONOMETHYL ETHER	3	III	No
IATA	UN1188	ETHYLENE GLYCOL MONOMETHYL ETHER	3	III	No

15. Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

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