

Section 1. Identification

1.1 Product Identifier 1234

Product Name 2-METHOXYETHANOL pure

CAS Number 109-86-4

REACH Registration No 01-2119494721-33-XXXX

Molecular Formula $\text{CH}_3\text{OCH}_2\text{CH}_2\text{OH}$ =76.10

1.2 Relevent identified uses of the substance or mixture & uses advised against

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

1.3 Supplier Vickers Laboratories Ltd



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Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008/EC

Flammable liquid, category 3

Acute toxicity, category 4 (oral)

Acute toxicity, category 4 (dermal)

Acute toxicity, category 4 (inhalation)

Reproductive toxicity, category 1B

H226: Flammable liquid and vapour.

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H332: Harmful if inhaled.

H360: May damage fertility or the unborn child.

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements	Flammable liquid and vapour. May damage fertility or the unborn child. Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed.
Precautionary Statements	Keep container tightly closed. Wear protective gloves / protective clothing / eye protection / face protection. Avoid breathing dust / fume / gas / mist / vapours / spray. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
2-Methoxyethanol	109-86-4	203-713-7	01-2119494721-33-XXXX	>99%	Flam. Liq. 3, Acute Tox. 4 (O), Acute Tox. 4 (D), Acute Tox. 4 (I), Repr. 1B

Section 4. First Aid

4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.
Skin	Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. If discomfort persists OBTAIN MEDICAL ATTENTION.
Inhalation	Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Ingestion	If conscious give plenty of water to drink. Do not induce vomiting. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Personal protection for first aiders	Wear protective gloves / eye protection.

4.2 Most important symptoms and effects, both acute & delayed.

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media	Water spray, alcohol resistant foam, dry powder or carbon dioxide. Use water spray to keep fire exposed containers cool.
Unsuitable Media	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards	Vapour-air mixtures are explosive.
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5.3 Advice for firefighters

Advice for firefighters	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.
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Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection	Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots.
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6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

6.3 Methods and material for containment and cleaning up

Major Spillage Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with detergent and copious amounts of water.

Minor Spillage Contain and absorb on inert material. Transfer absorbent to container for removal. Allow solvent to evaporate in remote area, then dispose of absorbent as solid chemical waste. Wash area down with detergent and copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

All transfer systems should be earthed to prevent accumulation of static electricity. Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition. Keep containers closed when not in use. Keep well separated from oxidising agents.

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)	Short Term 15min period		
2-Methoxyethanol	109-86-4	>99%	1.0 ppm	-	-	-

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

8.2 Exposure controls

Respiratory Protection Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.

Hand Protection Use solvent resistant gloves.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance Clear colourless liquid.

Odour Ethereal.

pH Not applicable

Boiling Point 124.5 °C

Melting Point -85 °C

Flash Point 38 °C (Open cup)

Upper Flammable Limit 14%

Lower Flammable Limit 2.5%

Auto Ignition 285 °C

Explosive Properties Moderate/severe in confined spaces.

Oxidising Properties	No.
Vapour Pressure	9.5 mmHg @ 25°C
Relative Density	0.9660
Water Solubility	Completely miscible in water.

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1 Reactivity	No data available.
10.2 Chemical Stability	Stable under normal conditions
10.3 Possibility of hazardous reactions	No data available.
10.4 Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.
10.5 Incompatible Materials	Strong oxidising agents. Hydrogen peroxide, chromium trioxide and potassium permanganate.
10.6 Hazardous Decomposition Products	None unusual. Burning will produce smoke, carbon monoxide and/or carbon dioxide.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	The liquid or concentrated vapour will cause moderate irritation to the eye producing acute pain, inflammation of the conjunctiva and corneal clouding which will persist for several days.
Skin	The liquid is mildly irritating to the skin. Skin absorption may be an important exposure route producing toxic effects similar to inhalation.
LD50 Skin	3930 mg/Kg Rabbit
Ingestion	Ingestion will cause gastrointestinal irritation. Ingestion of large amounts may cause liver and kidney damage.
LD50 Oral	2257 mg/Kg Rat
Inhalation	Blood changes, central nervous system toxicity, kidney and liver damage have been observed in exposed workers. Toxic effects on the blood resemble those observed following exposure to benzene and include anaemia and bone marrow damage. Tremors, agitation, headache and lethargy are reversible symptoms of exposure.
LD50 Inhalation	12.4 - 17.8 mg/L Rat (4 hours)
TCLo	Not available
Carcinogenicity	No information is available.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	Teratogen category 1. In laboratory animals and human exposures, a decrease in sperm count, sperm abnormalities, and a degeneration of the testes have been observed. Significant maternal toxicity, embryotoxic effects and teratogenic effects occur.
Other Information	It is regarded as posing a significant risk to exposed workers and hence low MEL's have been set.

Section 12. Ecological

12.1 Toxicity	Readily bio-degraded in the environment.
LC50 Algal	Not available
LC50 Crustacea	10000 mg/L Daphnia (24 hours)
LC50 Fish	10000 mg/L Bluegill (<i>Lepomis macrochirus</i>) (48 hours)
12.2 Persistence and degradability	Readily bio-degraded in the environment.
12.3 Bioaccumulative potential	No data available.
12.4 Mobility in soil	No data available.
12.5 Results of PBT & vPvB assessment	Assessment not required.
12.6 Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste. Never dispose of into water courses or sewerage systems due to high risk of explosion.
Contaminated Packaging	Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion.

Section 14. Transport Information

14.1 UN Number	1188
14.2 Proper Shipping Name	Ethylene glycol monomethyl ether
14.3 Transport classes	
UN classification	3
Subsidiary hazard(s)	None
Transport category	3
ADR Hazard ID	30
Tunnel Restriction Code	D/E
14.4 Packing Group	III
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Flammable liquid, category 3; Acute toxicity, category 4 (oral); Acute toxicity, category 4 (dermal); Acute toxicity, category 4 (inhalation); Reproductive toxicity, category 1B

Signal word Danger

Hazard Pictograms



Hazard Statements H226, H360, H332, H312, H302
Flammable liquid and vapour. May damage fertility or the unborn child. Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed.

Precautionary Statements P233, P280, P261, P301+P310, P331
Keep container tightly closed. Wear protective gloves / protective clothing / eye protection / face protection. Avoid breathing dust / fume / gas / mist / vapours / spray. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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