

**1,2-DIMETHOXY ETHANE
CAS NO 110-71-4**

**MATERIAL SAFETY DATA SHEET
SDS/MSDS**

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : 1,2-Dimethoxy ethane

CAS-No. : 110-71-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet

Company : Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi -110002
INDIA

Telephone : +91 11 49404040
Email : care@cdhfinechemical.com

1.4 Emergency telephone number

Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225
Skin irritation (Category 2), H315
Reproductive toxicity (Category 1B), H360FD

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H360FD May damage fertility. May damage the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P370 + P378 In case of fire: Use dry powder or dry sand to extinguish.
 P403 + P235 Store in a well-ventilated place. Keep cool.
 Supplemental Hazard information (EU)
 EUH019 May form explosive peroxides.

Restricted to professional users.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : Monoglyme
 Dimethylglycol
 mono-Glyme
 Ethylene glycol dimethyl ether

Formula : C₄H₁₀O₂
 Molecular weight : 90.12 g/mol
 CAS-No. : 110-71-4
 EC-No. : 203-794-9
 Index-No. : 603-031-00-3

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Ethylene glycol dimethyl ether	Included in the Candidate List of Substances of Very High Concern (SVH) according to Regulation (EC) No. 1907/2006 (REACH)	
CAS-No.	110-71-4	Flam. Liq. 2; Skin Irrit. 2; Repr. <= 100 %
EC-No.	203-794-9	1B; H225, H315, H360FD
Index-No.	603-031-00-3	

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. 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.

Storage class (TRGS 510): Flammable liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL)

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Long-term systemic effects	3.1 mg/m ³
Workers	Skin contact	Long-term systemic effects	1.1mg/kg BW/d
Consumers	Inhalation	Long-term systemic effects	1.5 mg/m ³
Consumers	Skin contact	Long-term systemic effects	0.23mg/kg BW/d
Consumers	Ingestion	Long-term systemic effects	0.23mg/kg BW/d

Predicted No Effect Concentration (PNEC)

Compartment	Value
Soil	1.39 mg/kg
Marine water	0.64 mg/l
Fresh water	6.4 mg/l
Marine sediment	2.57 mg/kg
Fresh water sediment	25.7 mg/kg
Onsite sewage treatment plant	20 mg/l

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

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.

Body Protection

Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|---|
| a) Appearance | Form: liquid, clear
Colour: colourless |
| b) Odour | ether-like |
| c) Odour Threshold | No data available |
| d) pH | ca.7 |
| e) Melting point/freezing point | Melting point/range: -58 °C - lit. |
| f) Initial boiling point and boiling range | 85 °C - lit. |
| g) Flash point | -2 °C - closed cup |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |

- | | | |
|----|--|--|
| k) | Vapour pressure | 67 hPa at 20 °C |
| l) | Vapour density | 3.11 - (Air = 1.0) |
| m) | Relative density | 0.867 g/cm ³ at 25 °C |
| n) | Water solubility | soluble |
| o) | Partition coefficient: n-octanol/water | log Pow: -0.21 - The preceding data, or interpretation of data, was determined using Quantitative Structure Activity Relationship (QSAR) modeling. |
| p) | Auto-ignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | 0.5 mm ² /s at 20 °C - |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | No data available |

9.2 Other safety information

Relative vapour density 3.11 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Oxidizing agents, Strong acids

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 5,370 mg/kg(Ethylene glycol dimethyl ether)

LC50 Inhalation - Rat - 6 h - > 20 - < 63 mg/l(Ethylene glycol dimethyl ether)

LD50 Dermal - Rat - > 5,000 mg/kg(Ethylene glycol dimethyl ether)

Skin corrosion/irritation

Skin - Rabbit(Ethylene glycol dimethyl ether)

Result: Irritating to skin.

Serious eye damage/eye irritation

Eyes - Rabbit(Ethylene glycol dimethyl ether)

Result: No eye irritation

Respiratory or skin sensitisation

in vivo assay - Mouse(Ethylene glycol dimethyl ether)

Does not cause skin sensitisation.

(OECD Test Guideline 429)

Remarks: Information given is based on data obtained from similar substances.

Germ cell mutagenicity

Not mutagenic in Ames Test Did not show mutagenic effects in animal experiments.(Ethylene glycol dimethyl ether)

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Presumed human reproductive toxicant(Ethylene glycol dimethyl ether)

May cause reproductive disorders.(Ethylene glycol dimethyl ether)

Specific target organ toxicity - single exposure

No data available(Ethylene glycol dimethyl ether)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No aspiration toxicity classification(Ethylene glycol dimethyl ether)

Additional Information

RTECS: K11451000

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish LC50 - Brachydanio rerio (zebrafish) - > 5,000 mg/l - 96 h(Ethylene glycol dimethyl ether)

Remarks: The data is estimated based on the component aquatic toxicity classification.

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 4,000 mg/l - 48 h(Ethylene glycol dimethyl ether)
(OECD Test Guideline 202)

semi-static test NOEC - Daphnia magna (Water flea) - 320 mg/l - 21 d(Ethylene glycol dimethyl ether)
(OECD Test Guideline 202)

Remarks: Information given is based on data on the components and the ecotoxicology of similar products.

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 48 d(Ethylene glycol dimethyl ether)
Result: 16 % - According to the results of tests of biodegradability this product is not readily biodegradable.
(OECD Test Guideline 302B)

12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

12.4 Mobility in soil

No data available(Ethylene glycol dimethyl ether)

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 2252

IMDG: 2252

IATA: 2252

14.2 UN proper shipping name

ADR/RID: 1,2-DIMETHOXYETHANE

IMDG: 1,2-DIMETHOXYETHANE

IATA: 1,2-Dimethoxyethane

14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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

Authorisations and/or restrictions on use

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

EUH019	May form explosive peroxides.
H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H360FD	May damage fertility. May damage the unborn child.

Further information

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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale