

Material Safety Data Sheet

1, 2-DIMETHOXYETHANE

Section 1 - Chemical Product and Company Identification

MSDS Name: 1, 2-Dimethoxyethane

Synonyms: Monoglyme Dimethyl glycol

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	EC no	EINECS/ELINCS
110-71-4	1,2-Dimethoxyethane	203-794-9	NA

Section 3 - Hazards Identification

3.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Acute toxicity, Inhalation (Category 4), H332

Reproductive toxicity (Category 1B), H360FD

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

3.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H332

Harmful if inhaled.

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.

P233

Keep container tightly closed.

P261

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

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Supplemental Hazard information (EU)

EUH019 May form explosive peroxides.

Restricted to professional users.

3.3 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 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 - Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Dry powder Dry sand

Unsuitable extinguishing media

Do NOT use water jet.

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.

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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 non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national 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**
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. Store in cool place.
- 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

Components with workplace control parameters

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).

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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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, 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 a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of 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 Colour: colourless
b) Odour	Ether-like
c) Odour Threshold	No data available
d) pH	neutral
e) Melting point/freezing point	Melting point/range: - 58 °C - lit.
f) Initial boiling point and boiling range	85°C – lit.
g) Flash point	-3°C – Non –equilibrium method – NF T 66-009
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available.
j) Upper/lower flammability or explosive limits	Upper explosion limit: 10,4 %(V) Lower explosion limit: 1,6 %(V)

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k) Vapour pressure	66hPa at 20°C - OECD Test Guideline 104 280hPa at 50°C - OECD Test Guideline 104
l) Vapour density	3,11
m) Relative density	0,867 g/cm ³ at 25 °C – lit.
n) Water solubility	1.000 g/l at 25 °C
o) Partition coefficient: n-octanol/water	log Pow: -0,21 at 25 °C – (experimental)- Bioaccumulation is not expected., (External MSDS)
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	0,48 mm ² /s at 20 °C – OECD Test Guideline 114 –
s) Explosive properties	No data available
t) Oxidizing properties	No data available

9.2 Other safety information

Solubility in other Solvents	Ethanol at 20 °C – soluble Ether – soluble Chloroform - soluble Acetone – soluble Benzene – soluble
Surface tension	70,7 mN/m at 1g/l at 23 °C -OECD Test Guideline 115
Relative vapour density	3,11

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

No data available

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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 - female - 5.370 mg/kg

(OECD Test Guideline 401)

LD50 Dermal - Rat - female - > 5.000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity unscheduled

DNA synthesis assay Human lymphocytes

Result: negative

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

sister chromatid exchange assay

Chinese hamster ovary cells

Result: positive

OECD Test Guideline 474

Mouse - male and female - Bone marrow

Result: negative

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

May damage the unborn child.

May damage fertility.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: KI1451000

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To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

12.1 Toxicity

Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - > 500 mg/l - 96 h	static test LC50 – Leuciscus idus (Golden orfe) - > 500 mg/l – 96h
Toxicity to daphnia and other aquatic invertebrates	Semi static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 11 % - Not inherently biodegradable. (OECD Test Guideline 302B)
Chemical Oxygen Demand (COD)	1.700 mg/g Remarks: (External MSDS)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

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

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product.

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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

REACH - Restrictions on the manufacture, : Ethylene glycol dimethyl ether
placing on the market and use of
certain dangerous substances,
preparations and articles (Annex XVII) : Ethylene glycol dimethyl ether

REACH - Candidate List of Substances of Very
High Concern for Authorisation (Article 59).

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.
H332 Harmful if inhaled.
H360FD May damage fertility. May damage the unborn child.

Further information

The above information is believed to be correct but does not support 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.

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