

Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 17 Jan 2023

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product name:

2-Methoxyethanol

1.1. Catalog No.:

679778

1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical
uses: R&D

1.3. Uses advised against:

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04451 Cunnersdorf
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Tel. +49 34291 3372-36
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1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36
This number is only available during office hours.

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3), H226
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Reproductive toxicity (Category 1B), H360
Specific target organ toxicity - single exposure (Category 1), Immune system, H370
Specific target organ toxicity - repeated exposure (Category 2), thymus, H373

2.2. Label elements

2.2.1. Pictogram



2.2.2.

2.2 GHS Label elements, including precautionary Statements

Signal word Danger

Hazard statement(s)

H226 Flammable liquid and vapour.

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled.

H360 May damage fertility or the unborn child.

H370 Causes damage to organs (Immune system).

H373 May cause damage to organs (thymus) through prolonged or repeated exposure.

Precautionary statement(s)

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable

for breathing. Call a POISON CENTER/doctor if you feel unwell.

P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Ethylene glycol monomethyl ether

Methyl Cellosolve

Methyl glycol

Formula : C3H8O2

Molecular weight : 76.09 g/mol

CAS-No. : 109-86-4

EC-No. : 203-713-7

Index-No. : 603-011-00-4

Component: 2-Methoxyethanol

Classification: Flam. Liq. 3; Acute Tox. 4; Acute Tox. 3; Acute Tox. 4; Repr. 1B; STOT SE 1; STOT RE 2; H226, H302, H331, H312, H360, H370, H373

Concentration: <=100%

3.1.1. Formula

C3H8O2

3.1.2. Molecular Weight (g/mol)

76.09

3.1.3. CAS-No.

109-86-4

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. Move out of dangerous area.

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. Take victim immediately to hospital. 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

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.

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.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling
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 under inert gas.
Storage class (TRGS 510): 3: Flammable liquids
- 7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters
Components with workplace control Parameters
TWA: 1 ppm Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
Remarks:
Remarks Identifies the possibility of significant uptake through the skin
Indicative
TWA: 1 ppm / 3 mg/m³ UK. EH40 WEL - Workplace Exposure Limits
Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.
Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used
- 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 gloves 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.
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 fullface 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance Form: clear, liquid
Colour: colourless
 - b) Odour ether-like
 - c) Odour Threshold No data available
 - d) pH 5.0 - 7.0 at 25 °C
 - e) Melting point/freezing point
Melting point/range: -85 °C - lit.
 - f) Initial boiling Point and boiling range
124 - 125 °C - lit.
 - g) Flash point 40 °C - closed cup
 - h) Evaporation rate No data available
 - i) Flammability (solid, gas)
No data available
 - j) Upper/lower flammability or explosive limits
Upper explosion limit: 24.5 %(V)
Lower explosion limit: 2.5 %(V)
 - k) Vapour pressure 10 hPa at 20 °C
 - l) Vapour density 2.63 - (Air = 1.0)
 - m) Relative density 0.965 g/cm³ at 25 °C
 - n) Water solubility soluble
 - o) Partition coefficient: n-octanol/water log Pow: -0.8
 - p) Auto-ignition temperature No data available
 - q) Decomposition temperature 204 - 232 °C -
 - r) Viscosity 1.6 mm²/s at 20 °C -
 - s) Explosive properties Not explosive
 - t) Oxidizing properties No data available
- ### 9.2 Other safety information
- Relative vapour density 2.63 - (Air = 1.0)

10. STABILITY AND REACTIVITY

- 10.1 Reactivity
Vapours may form explosive mixture with air.
- 10.2 Chemical stability
Stable under recommended storage conditions.
Contains the following stabiliser(s):
2,6-di-tert-Butyl-p-cresol (0.005 %)
- 10.3 Possibility of hazardous reactions
No data available
- 10.4 Conditions to avoid
Heat, flames and sparks.
- 10.5 Incompatible materials
Aluminum, Magnesium, Alkalies, Strong oxidizing agents
- 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

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male - 2,257 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - 12.4 - 17.8 mg/l

LD50 Dermal - Rabbit - 1,280 mg/kg

LD50 Intraperitoneal - Rat - 2,500 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation

(Directive 67/548/EEC, Annex V, B.4.)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation - 24 h

(OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximisation Test - Guinea pig

Result: Does not cause skin sensitisation.

Germ cell mutagenicity

In vitro mammalian cell gene mutation test

Chinese hamster ovary cells

Result: negative

OECD Test Guideline 475

Mouse - male

Result: negative

Carcinogenicity

No data available

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 cause congenital malformation in the fetus.

Presumed human reproductive toxicant

May cause reproductive disorders.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure. - thymus

Oral - Testes, thymus

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity - Rat - male - Oral - No observed adverse effect level - < 71 mg/kg

RTECS: KL5775000

Effects due to ingestion may include: Changes in the blood count, Headache, Central nervous system depression,

Ingestion of large amounts may cause: Damage of the: Liver, Kidney, Central nervous system

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

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish static test LC50 - *Lepomis macrochirus* (Bluegill) - 10,000 mg/l - 96

h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

semi-static test EC50 - *Daphnia magna* (Water flea) - 27,000 mg/l - 48 h

Toxicity to algae static test EC50 - *Pseudokirchneriella subcapitata* - 25,500 mg/l - 72 h

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 20 d

Result: 88 % - Readily biodegradable.

12.3 Bioaccumulative potential

No bioaccumulation is to be expected (log Pow <= 4).

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

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.

14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1188 IMDG: 1188 IATA: 1188

14.2 UN proper shipping name

ADR/RID: ETHYLENE GLYCOL MONOMETHYL ETHER

IMDG: ETHYLENE GLYCOL MONOMETHYL ETHER

IATA: Ethylene glycol monomethyl ether

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

14.6 Special precautions for user

No data available

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

: 2-Methoxyethanol

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

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15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

16. OTHER 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. For lab use only!