

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.1 Revision Date 06.02.2017

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product name : 2-Methoxyethanol

Product Number : 284467
Brand : Sigma-Aldrich
Index-No. : 603-011-00-4
REACH No. : 01-2119494721-33-XXXX
CAS-No. : 109-86-4**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheetCompany : Sigma-Aldrich Chemie GmbH
Eschenstrasse 5
D-82024 TAUFKIRCHENTelephone : +49 (0)89 6513-1130
Fax : +49 (0)89 6513-1161**1.4 Emergency telephone number**Emergency Phone # : 0800 181 7059 (CHEMTREC Deutschland)
+49 (0)696 43508409 (CHEMTREC weltweit)**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**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), H360FD
Specific target organ toxicity - single exposure (Category 1), H370
Specific target organ toxicity - repeated exposure (Category 2), H373

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)
H226
H302 + H312 + H332
H360FDFlammable liquid and vapour.
Harmful if swallowed, in contact with skin or if inhaled.
May damage fertility. May damage the unborn child.

H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
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.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P308 + P311	IF exposed or concerned: Call a POISON CENTER/doctor.
P370 + P378	In case of fire: Use dry powder or dry sand to extinguish.
Supplemental Hazard Statements	none

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	:	Methyl Cellosolve Methyl glycol Ethylene glycol monomethyl ether
Formula	:	C ₃ H ₈ O ₂
Molecular weight	:	76.09 g/mol
CAS-No.	:	109-86-4
EC-No.	:	203-713-7
Index-No.	:	603-011-00-4
Registration number	:	01-2119494721-33-XXXX

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

Component	Classification	Concentration
2-Methoxyethanol Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No.	109-86-4	<= 100 %
EC-No.	203-713-7	
Index-No.	603-011-00-4	
Registration number	01-2119494721-33-XXXX	
	Flam. Liq. 3; Acute Tox. 4; Repr. 1B; STOT SE 1; STOT RE 2; H226, H302, H332, H312, H360FD, H370, H373	

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. 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

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

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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact

Material: Nature latex/chloroprene

Minimum layer thickness: 0.6 mm

Break through time: 35 min

Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

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 industria 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 (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: 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/cm ³ 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 mm ² /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)

SECTION 10: Stability and reactivity

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

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

Aluminum, Magnesium, Alkalis, 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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male - 2,257 mg/kg(2-Methoxyethanol)

(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - 12.4 - 17.8 mg/l(2-Methoxyethanol)

LD50 Dermal - Rabbit - 1,280 mg/kg(2-Methoxyethanol)

LD50 Intraperitoneal - Rat - 2,500 mg/kg(2-Methoxyethanol)

Skin corrosion/irritation

Skin - Rabbit(2-Methoxyethanol)

Result: No skin irritation

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

Serious eye damage/eye irritation

Eyes - Rabbit(2-Methoxyethanol)

Result: Mild eye irritation - 24 h

(OECD Test Guideline 405)

Respiratory or skin sensitisation

Maximisation Test - Guinea pig(2-Methoxyethanol)

Result: Does not cause skin sensitisation.

Germ cell mutagenicity

In vitro mammalian cell gene mutation test(2-Methoxyethanol)

Chinese hamster ovary cells

Result: negative

OECD Test Guideline 475(2-Methoxyethanol)

Mouse - male

Result: negative

Carcinogenicity

(2-Methoxyethanol)

(2-Methoxyethanol)

No data available(2-Methoxyethanol)

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.(2-Methoxyethanol)

Presumed human reproductive toxicant(2-Methoxyethanol)

May cause reproductive disorders.(2-Methoxyethanol)

Specific target organ toxicity - single exposure

No data available(2-Methoxyethanol)

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Oral - Testes, thymus(2-Methoxyethanol)

Aspiration hazard

No data available(2-Methoxyethanol)

Additional Information

Repeated dose toxicity - Rat - male - Oral - No observed adverse effect level - < 71 mg/kg(2-Methoxyethanol)

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(2-Methoxyethanol)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	static test LC50 - <i>Lepomis macrochirus</i> (Bluegill) - 10,000 mg/l - 96 h(2-Methoxyethanol) (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 27,000 mg/l - 48 h(2-Methoxyethanol)
Toxicity to algae	static test EC50 - <i>Pseudokirchneriella subcapitata</i> - 25,500 mg/l - 72 h(2-Methoxyethanol)

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 20 d(2-Methoxyethanol) Result: 88 % - Readily biodegradable.
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12.3 Bioaccumulative potential

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

12.4 Mobility in soil

No data available(2-Methoxyethanol)

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: 1188	IMDG: 1188	IATA: 1188
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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
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14.4 Packaging group

ADR/RID: III	IMDG: III	IATA: III
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14.5 Environmental hazards

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

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H360FD	May damage fertility. May damage the unborn child.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

Further information

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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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.