

Safety Data Sheet

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision date: 28.05.2015

Version: 1.0

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SECTION 1: Identification

Product identifier

Trade name/designation:	2-Ethoxyethanol
Product No.:	38013
Substance name:	2-Ethoxyethanol
CAS No.:	110-80-5
INDEX No.:	603-012-00-X
REACH registration No.:	01-2119560582-38-XXXX
Other means of identification:	

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

Relevant identified uses:	General chemical reagent
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Details of the supplier of the safety data sheet

United States of America

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Emergency telephone

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SECTION 2: Hazards identification

Classification of the substance or mixture

Classification according GHS

Hazard classes and hazard categories	Hazard statements
Flammable liquid, category 3	H226
Reproductive toxicity, category 1B	H360FD
Acute toxicity, category 4, oral	H302
Acute toxicity, category 4, dermal	H312
Acute toxicity, category 4, inhalation	H332

Classification according to Directive 67/548/EEC or 1999/45/EC

T	Reproductive toxic Cat.1 (Repr. Cat. 1)	R60
T	Reproductive toxic Cat.1 (Repr. Cat. 1)	R61
	Flammable	R10
Xn	Harmful	R20/21/22

Label elements

Labelling according GHS

Hazard pictograms



Signal word: Danger

Hazard statements	
H226	Flammable liquid and vapour.
H360FD	May damage fertility. May damage the unborn child.
H302+H312+H332	Harmful if swallowed, in contact with skin or if inhaled.

Precautionary statements	
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243	Take precautionary measures against static discharge.
P281	Use personal protective equipment as required.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P309+P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Labelling (67/548/EEC or 1999/45/EC)

Hazard symbols

T

R-phrases	
R60	May impair fertility.
R61	May cause harm to the unborn child.
R10	Flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.

S-phrases	
S53	Avoid exposure - obtain special instructions before use.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Other hazards

SVHC Yes

SECTION 3: Composition / information on ingredients

Substance name	2-Ethoxyethanol
Molecular formula	C ₄ H ₁₀ O ₂
Molecular weight	90,12 g/mol
CAS No.	110-80-5
REACH registration No.	01-2119560582-38-XXXX
INDEX No.	603-012-00-X

Hazardous ingredients Classification according to the OSHA Hazard Communication Standard 29 CFR 1910.1200

Substance name	Concentration	Product identifier	Hazard classes and hazard categories
2-Ethoxyethanol	≤100%	CAS No.: 110-80-5 EC No.: 203-804-1 REACH No.: 01-2119560582-38-XXXX	Flammable liquid, category 3 - H226; Reproductive toxicity, category 1B - H360FD; Acute toxicity, category 4, oral - H302; Acute toxicity, category 4, dermal - H312; Acute toxicity, category 4, inhalation - H332

Hazardous ingredients Classification according to 67/548/EEC

Substance name	Concentration	Product identifier	Hazard classes and hazard categories
2-Ethoxyethanol	≤100%	CAS No.: 110-80-5 EC No.: 203-804-1 REACH No.: 01-2119560582-38-XXXX	T, Reproductive toxic Cat.1 (Repr. Cat. 1), R60; T, Reproductive toxic Cat.1 (Repr. Cat. 1), R61; Flammable, R10; Xn, Harmful, R20/21/22

This substance has been listed as SVHC (substance of very high concern) in the Candidate List according to Article 59 of REACH. (ED/95/2010)

SECTION 4: First aid measures

General information

If exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation

Call a POISON CENTRE/doctor/.... Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

Most important symptoms and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

no data available

Self-protection of the first aider

First aider: Pay attention to self-protection!

Information to physician

no data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water spray ABC-powder Carbon dioxide (CO₂) Nitrogen

Extinguishing media which must not be used for safety reasons

no restriction

Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon dioxide (CO₂) Carbon monoxide

Advice for firefighters

DO NOT fight fire when fire reaches explosives. In case of fire: Wear self-contained breathing apparatus.

Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid generation of dust. Do not breathe dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Environmental precautions

Do not allow to enter into surface water or drains. Danger of explosion

Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Clean contaminated objects and areas thoroughly observing environmental regulations. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed and suitable containers for disposal.

Additional information

Clear spills immediately.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid: Inhalation Avoid contact with skin and eyes. Use extractor hood (laboratory). If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Handle under (Gas): Nitrogen

Conditions for safe storage, including any incompatibilities

storage temperature: 15-25 °C

Storage class: 3

Keep container tightly closed in a cool, well-ventilated place. Keep/Store away from combustible materials.

Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value	Remark
2-Ethoxyethanol	Gestis	CA	LTV	18 mg/m ³ - 5 ppm	
2-Ethoxyethanol	OSHA	US	LTV	740 mg/m ³ - 200 ppm	
2-Ethoxyethanol	NIOSH	US	LTV	1.8 mg/m ³ - 0.5 ppm	

Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Eye/face protection

Eye glasses with side protection DIN-/EN-Norms: DIN EN 166

Recommendation: VWR 111-0432

Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms: DIN EN 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,12 mm

Breakthrough time (maximum wearing time): 30-60 min

Recommended glove articles: VWR 112-0998

By long-term hand contact

Suitable material: NBR (Nitrile rubber)

Thickness of the glove material: 0,38 mm

Breakthrough time (maximum wearing time): 120-240 min

Recommended glove articles: VWR 112-3717 / 112-1381

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Suitable respiratory protection apparatus: Full-/half-/quarter-face masks (DIN EN 136/140)

Recommendation: VWR 111-0206

Suitable material: A2B2E2K2P3

Recommendation: VWR 111-0059

Additional information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

no data available

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

- | | |
|----------------------|-------------------|
| (a) Appearance | |
| Physical state: | liquid |
| Colour: | colourless |
| (b) Odour: | no data available |
| (c) Odour threshold: | no data available |

Safety relevant basic data

- | | |
|--|---------------------------------|
| (d) pH: | 7 (20 °C) |
| (e) Melting point/freezing point: | -70 °C |
| (f) Initial boiling point and boiling range: | 135 °C (1013 hPa) |
| (g) Flash point: | 40 °C |
| (h) Evaporation rate: | no data available |
| (i) Flammability (solid, gas): | Flammable liquid and vapour. |
| (j) Upper/lower flammability or explosive limits | |
| Lower explosion limit: | 1.7 vol% |
| Upper explosion limit: | 16 vol% |
| (k) Vapour pressure: | 3.8 mmHg (20 °C) |
| (l) Vapour density: | 3.1 (20 °C) |
| (m) Relative density: | 0.932 g/cm ³ (20 °C) |
| (n) Solubility(ies) | |
| at 20 °C: | easily soluble |
| Soluble (g/L) in: | no data available |
| (o) Partition coefficient: n-octanol/water: | -0.32 (20 °C) |
| (p) Auto-ignition temperature: | 235 °C |
| (q) Decomposition temperature: | no data available |
| (r) Viscosity | |
| Kinematic viscosity: | no data available |
| Dynamic viscosity: | 2.1 mPa*s (20 °C) |
| (s) Explosive properties: | not applicable |
| (t) Oxidising properties: | not applicable |

Other information

- | | |
|------------------------|-----------------------|
| Bulk density: | no data available |
| Refraction index: | 1.406 (20 °C; 589 nm) |
| Dissociation constant: | no data available |
| Surface tension: | no data available |
| Henry constant: | no data available |

SECTION 10: Stability and reactivity

Reactivity

no data available

Chemical stability

no data available

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

no data available

Additional information

no data available

SECTION 11: Toxicological information

Information on toxicological effects**Acute effects**

Acute oral toxicity:

LD50 (oral. Rat): 2125 mg/kg (IUCLID)

Acute dermal toxicity:

LD50 (dermal. Rabbit): 3300 mg/kg (IUCLID)

Acute inhalation toxicity:

no data available

Irritant and corrosive effects

Primary irritation to the skin:

not applicable

Irritation to eyes:

not applicable

Irritation to respiratory tract:

not applicable

Respiratory or skin sensitisation

In case of skin contact: not sensitising

After inhalation: not sensitising

STOT-single exposure

not applicable

STOT-repeated exposure

not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**Carcinogenicity**

No indication of human carcinogenicity.

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

May damage fertility. May damage the unborn child.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information

Ecotoxicity

Acute (short-term) fish toxicity:

no data available

Chronic (long-term) fish toxicity:

no data available

Acute (short-term) daphnia toxicity:

no data available

Chronic (long-term) daphnia toxicity:

no data available

Acute (short-term) algae toxicity:

no data available

Chronic (long-term) algae toxicity:

no data available

Persistence and degradability

no data available

Bioaccumulative potential

Partition coefficient: n-octanol/water: -0,32

Mobility in soil:

no data available

Results of PBT/vPvB assessment

no data available

Other adverse effects

no data available

SECTION 13: Disposal considerations

Waste treatment methods

Appropriate disposal / Product

Dispose according to local legislation. Consult the appropriate local waste disposal expert about waste disposal. Send to a hazardous waste incinerator facility under observation of official regulations.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to local legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

no data available

SECTION 14: Transport information

Land transport (ADR/RID/DOT)

UN-No.:	1171
Proper Shipping Name:	ETHYLENE GLYCOL MONOETHYL ETHER
Class(es):	3
Classification code:	F1
Hazard label(s):	3
Packing group:	III
Environmental hazards:	No
Special precautions for user:	
Hazard identification number (Kemler No.):	30
Tunnel restriction code:	D/E
	(Passage forbidden through tunnels of category D when carried in bulk or in tanks. Passage forbidden through tunnels of category E.)

Sea transport (IMDG)

UN-No.:	1171
Proper Shipping Name:	ETHYLENE GLYCOL MONOETHYL ETHER
Class(es):	3
Classification code:	
Hazard label(s):	3
Packing group:	III
Environmental hazards:	No
MARINE POLLUTANT:	No
Special precautions for user:	
Segregation group:	-
EmS-No.	F-E S-D
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	not relevant

Air transport (ICAO-TI / IATA-DGR)

UN-No.:	1171
Proper Shipping Name:	ETHYLENE GLYCOL MONOETHYL ETHER
Class(es):	3
Classification code:	F1
Hazard label(s):	3
Packing group:	III
Special precautions for user	not relevant

SECTION 15: Regulatory information

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

General rules

Water hazard class (WGK): hazardous to water (WGK 2)

California Prop 65 Components

This product does contain chemicals known to the State of California to cause cancer, birth, or other reproductive defects.

2-Ethoxyethanol developmental, male

Chemical Safety Assessment

no data available

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)
CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)
DOT – U.S. Department of Transportation
Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
RID - Regulation concerning the International Carriage of Dangerous Goods by Rail
STV - Short Term Value
SVHC - Substances of Very High Concern
vPvB - very Persistent, very Bioaccumulative

Additional information

Indication of changes: general update

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.