

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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

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

Product name : 2-Mercaptoethanol

Product Number : M6250

Brand : Aldrich

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2. HAZARDS IDENTIFICATION**Classification of the substance or mixture**

According to Regulation (EC) No1272/2008

Acute toxicity, Inhalation (Category 2)

Acute toxicity, Dermal (Category 2)

Acute toxicity, Oral (Category 3)

Skin irritation (Category 2)

Serious eye damage (Category 1)

Skin sensitization (Category 1)

Acute aquatic toxicity (Category 1)

Chronic aquatic toxicity (Category 1)

According to European Directive 67/548/EEC as amended.

Toxic by inhalation, in contact with skin and if swallowed. Irritating to skin. Risk of serious damage to eyes. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

H301

Toxic if swallowed.

H310

Fatal in contact with skin.

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H318

Causes serious eye damage.

H330

Fatal if inhaled.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P260

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

P273

Avoid release to the environment.

P280	Wear protective gloves/eye protection/face protection.
P284	Wear respiratory protection.
P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Hazard symbol(s)	
T	Toxic
N	Dangerous for the environment
R-phrases(s)	
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s)	
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S60	This material and its container must be disposed of as hazardous waste.
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Thioethylene glycol
2-Hydroxyethylmercaptan
BME
β-Mercaptoethanol

Formula : C₂H₆OS
Molecular Weight : 78,13 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration
2-Mercaptoethanol				
60-24-2	200-464-6	-	Acute Tox. 2; Acute Tox. 3; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1; H301, H310, H315, H317, H318, H330, H410 T, N, R23/24/25 - R38 - R41 - R43 - R50/53	-

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

4. 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

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**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.

Conditions for safe storage

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.

Recommended storage temperature: 2 - 8 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Personal protective equipment****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).

Hand protection

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

Handle with gloves.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum).

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the

product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	colourless yellow
Odour	Stench.

Safety data

pH	4,5 - 6 at 500 g/l at 20 °C
Melting point	< -50 °C
Boiling point	157 °C
Flash point	68 °C
Ignition temperature	295 °C at 1.013 hPa
Lower explosion limit	2,3 %(V)
Upper explosion limit	18 %(V)
Vapour pressure	0,76 hPa at 20 °C 4,67 hPa at 40 °C
Density	1,114 g/mL at 25 °C
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: -0,326 log Pow: -0,056 at 25 °C
Relative vapour density	2,70 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

no data available

Materials to avoid

Metals, Oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 244 mg/kg

LD50 Oral - rat - 98 - 162 mg/kg

LC50 Inhalation - rat - 4 h - 625 ppm

LD50 Dermal - rabbit - 168 - 200 mg/kg

LD50 Dermal - rabbit - 112 - 224 mg/kg

Skin corrosion/irritation

Skin - rabbit - Irritating to skin. - Draize Test

Serious eye damage/eye irritation

Eyes - rabbit - Risk of serious damage to eyes.

Respiratory or skin sensitization

Maximisation Test - guinea pig - OECD Test Guideline 406 - May cause sensitization by skin contact.

Germ cell mutagenicity

Experiments showed mutagenic effects in cultured bacterial cells.

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

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	Toxic if inhaled. May cause respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	Toxic if absorbed through skin. Causes skin irritation.
Eyes	Causes serious eye irritation.

Signs and Symptoms of Exposure

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Weakness, Unconsciousness, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema

Additional Information

RTECS: KL5600000

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - 46 - 100 mg/l - 96,0 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia - 1,52 mg/l - 48 h
	EC50 - Daphnia - 0,89 mg/l - 48 h Method: OECD Test Guideline 202
Toxicity to algae	EC50 - Desmodesmus subspicatus (green algae) - 12 mg/l - 72 h
Toxicity to bacteria	LC50 - Bacteria - 125 mg/l - 17 h

Persistence and degradability

Biodegradability	Result: < 30,0 % - Not readily biodegradable.
	Result: 6 % - Not readily biodegradable.
	aerobic
	Result: < 10 % - Not readily biodegradable.

Bioaccumulative potential

Does not accumulate in organisms.

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Biochemical Oxygen 105 mg/g
Demand (BOD)

Chemical Oxygen 1,894 mg/g
Demand (COD)

13. DISPOSAL CONSIDERATIONS**Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**ADR/RID**

UN-Number: 2966 Class: 6.1 Packing group: II
Proper shipping name: THIOGLYCOL

IMDG

UN-Number: 2966 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: THIOGLYCOL
Marine pollutant: No

IATA

UN-Number: 2966 Class: 6.1 Packing group: II
Proper shipping name: Thioglycol

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION**Text of H-code(s) and R-phrases mentioned in Section 3**

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Dam.	Serious eye damage
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H410	Very toxic to aquatic life with long lasting effects.
Skin Irrit.	Skin irritation
N	Dangerous for the environment
T	Toxic
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.

R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitization by skin contact.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Further information

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