

Version: v1
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SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : 2-Mercaptoethanol
Product Number : M301574
Brand : aladdin
CAS-No. : 60-24-2

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 sheet

Company : Shanghai Aladdin Biochemical Tech Co., Ltd
Address : 36 Xinjinqiao Road, Shanghai
Telephone : 400-620-6333
Fax : no data available

1.4 Emergency telephone number

Emergency Phone : 0532-83889090

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Dermal (Category 2), H310

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Skin sensitization (Sub-category 1A), H317

Reproductive toxicity (Category 2), H361d

Specific target organ toxicity - repeated exposure, Oral (Category 2), Liver, Heart, H373

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 2), H411

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2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word

Hazard statement(s)



Danger

H227

Combustible liquid

H310

Fatal in contact with skin

H315

Causes skin irritation

H317

May cause an allergic skin reaction

H319

Causes serious eye irritation

H361

Suspected of damaging fertility or the unborn child

H371

May cause damage to organs

H373

Causes damage to organs through prolonged or repeated exposure

H410

Very toxic to aquatic life with long lasting effects

H301+H311

Toxic if swallowed or in contact with skin

Precautionary statement(s)

P201

Obtain special instructions before use.

P210

Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.

P202

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

P235

Keep cool.

P260

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

P262

Do not get in eyes, on skin, or on clothing.

P264

Wash hands [and ...] thoroughly after handling.

P270

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

P271

Use only outdoors or in a well-ventilated area.

P272

Contaminated work clothing should not be allowed out of the workplace.

P273

Avoid release to the environment.

P280

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

P311

Call a POISON CENTER or doctor/...

P330

Rinse mouth.

P337

If eye irritation persists:

P391

Collect spillage.

P301+P310

IF SWALLOWED: Immediately call a POISON CENTER/doctor/...

P302+P352

IF ON SKIN: wash with plenty of water.

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P308+P311

IF exposed or concerned: Call a POISON CENTER/doctor/...

P333+P313

IF SKIN irritation or rash occurs: Get medical advice/attention.

P361+P364

Take off immediately all contaminated clothing and wash it before reuse.

P370+P378

In case of fire: Use ... to extinguish.

P405

Store locked up.

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P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : β -Mercaptoethanol 2-Hydroxyethylmercaptan BME Thioethylene glycol Thioglycol
2-Hydroxy-1-ethanethiol
Formula : C₂H₆OS
Molecular weight : 78.13
CAS No. : 60-24-2
EC-NO. : 200-464-6

Component	Classification	Concentration
2-Mercaptoethanol	Acute Tox. 3; Acute Tox. 2; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1A; Repr. 2; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 2; H301, H331, H310, H315, H318, H317, H361d, H373, H400, H411 M-Factor - Aquatic Acute: 1	for molecular biology, for electrophoresis, suitable for cell culture, 99%

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

In case of skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

If swallowed

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Carbon oxides Sulfur oxides Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

7.2 Conditions for safe storage, including any incompatibilities

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Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

7.3 Specific end use(s)

no data available

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

Eyeface 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 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 particle respirator type N100 (US) or type P3 (EN 143) 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

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	no data available
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	-100°C

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f) Initial boiling point and boiling range	157-158°C
g) Flash point	75°C
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Violent reactions possible with: Strong oxidizing agents A risk of explosion and/or of toxic gas formation exists with the following substances: Acids

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Metals, Oxidizing agents, Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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LD50 Oral - Mouse - 190 mg/kg

Remarks: (RTECS)

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

LC50 Inhalation - Rat - male - 4 h - 2,05 mg/l

Remarks: (ECHA)

Symptoms: Possible damages:, mucosal irritations, Cough, Shortness of breath

LD50 Dermal - Rabbit - male and female - 112 - 224 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit Result: Irritations (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Severe irritations (Draize Test) Remarks: (External MSDS) Risk of corneal clouding.

Respiratory or skin sensitisation

Maximization Test - Guinea pig Result: positive (OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Chromosome aberration test Species: Mouse Cell type: Bone marrow Application Route: Intraperitoneal Method
OECD Test Guideline 474 Result: negative

Carcinogenicity

no data available

Reproductive toxicity

Suspected of damaging the unborn child. Suspected of damaging fertility.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

Ingestion - May cause damage to organs through prolonged or repeated exposure. - Liver, Heart Oral - Liver, Heart

Aspiration hazard

no data available

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 49 d - NOAEL (No observed adverse effect level) - 15 mg/kg -
LOAEL (Lowest observed adverse effect level) - 50 mg/kg RTECS: KL5600000

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

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

Systemic effects: CNS disorders Nausea Vomiting Convulsions narcosis The following applies to mercaptans in general:
offensive odour. Other dangerous properties can not be excluded.

This substance should be handled with particular care.

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SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - *Leuciscus idus* (Golden orfe) - 37 mg/l - 96 h

(DIN 38412 T15)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - *Daphnia magna* (Water flea) - 0,4 mg/l - 48 h

(OECD Test Guideline 202)

Toxicity to algae static test ErC50 - *Desmodesmus subspicatus* (green algae) - 19 mg/l - 72 h

(OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - *Pseudomonas putida* - 125 mg/l - 17 h

(DIN 38 412 Part 8)

12.2 Persistence and degradability

Biodegradability Result: > 70 % - rapidly biodegradable Remarks: (ECHA) Biochemical Oxygen Demand (BOD) 105 mg/g

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

12.3 Bioaccumulative potential

Does not accumulate in organisms.

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

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SECTION 14: Transport information

DOT (US)

UN number: 2966	Packing group: II	Class: 6.1
Proper shipping name: THIOGLYCOL	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data
Environmental Hazards: no		

IMDG

UN number: 2966	Packing group: II	EMS-No: no data available
Proper shipping name: THIOGLYCOL		

IATA

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

SECTION 15: Regulatory information

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

SECTION 16: Other information

Further information

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