

Safety Data Sheet: 2-Mercaptoethanol

1. Identification

Product	2-Mercaptoethanol; CAS 60-24-2; EC 200-464-6
Use	Industrial specialty chemical synthesis and polymer intermediate manufacture.
Company	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / email	+86-21-54265599 / sales@zxchem.com.cn
Emergency contact	ZXCHEM office number above, office hours, China time (UTC+8). For urgent medical assistance contact local emergency services.
Scope	Reference safety information for 2-Mercaptoethanol. The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazards Identification

Classification	Acute oral/inhalation toxicity Category 3; acute dermal toxicity Category 2; skin irritation 2; eye damage 1; skin sensitization 1A; reproductive toxicity 2; STOT repeated exposure 2, liver and heart; flammable liquid 4.
Signal word / symbols	Danger; GHS05, GHS06, GHS08, GHS09
Hazard statements	H227: combustible. H301/H331: toxic if swallowed or inhaled. H310: fatal on skin contact. H315: skin irritation. H317: allergic skin reaction. H318: serious eye damage. H361f: suspected fertility damage. H373: repeated exposure may damage organs.
Prevention	Use adequate ventilation; avoid inhaling mist. Prevent skin and eye contact. Wear suitable chemical-resistant gloves and eye protection. Wash after handling; keep food and drink out of the work area.
Response	After exposure, stop work and seek medical advice. For severe exposure obtain urgent medical care. Rinse contaminated skin or eyes with water; move an inhalation casualty to fresh air.
Environment	Prevent uncontrolled release to drains, soil or surface water. Collect spills for appropriate disposal.



3. Composition / Information on Ingredients

Reference ingredient	2-Mercaptoethanol, CAS 60-24-2, <100%; dithiobisethanol, CAS 1892-29-1, <0.25% in the reference. Supply assay ≥99%.
Supply grade	Assay ≥99%
Applicability	The cited concentration or purity describes the reference material. It is not a certificate of analysis for the delivered batch; different solvents or dilutions require the matching supplier safety document.

4. First-Aid Measures

General	Obtain immediate medical attention after significant exposure; protect rescuers and show the safety information to clinicians.
Inhalation	Move to fresh air. If breathing stops, trained personnel should use assisted ventilation with an appropriate barrier; avoid direct mouth-to-mouth exposure. Obtain urgent medical care.
Skin	Immediately remove contaminated clothing while washing thoroughly with water for at least 15 minutes. Obtain immediate medical attention; skin contact can be fatal.
Eyes	Flush gently with water for at least 15 minutes; remove contact lenses when easy. Obtain urgent medical care.
Ingestion	Rinse the mouth; do not induce vomiting. Call emergency medical services or a poison centre immediately. Give nothing by mouth to an unconscious person.
Effects	Acute poisoning and serious eye damage can occur; treatment is directed by a clinician.

5. Fire-Fighting Measures

Extinguishing media	Use alcohol-resistant foam, carbon dioxide or dry powder. Cool exposed containers with water spray; prevent contaminated runoff and use self-contained breathing equipment.
Hazards	Sulfur-containing fumes and irritating combustion gases. Heated containers may rupture.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personnel	Isolate the spill and provide ventilation. Use chemical-resistant gloves and eye protection; avoid contact and mist exposure.
Environment	Contain the release and protect drains and waterways. Report significant environmental contamination to the responsible authority.
Cleanup	Stop the leak if safe. Absorb liquid with a compatible inert material and collect in closed labelled containers. Do not wash into drains.

7. Handling and Storage

Handling	Use controlled transfer and effective ventilation. Avoid generating mist and prevent contamination of the work area.
Storage	Store tightly sealed in a cool, dry, ventilated toxic-chemical area. Protect from ignition, heat and incompatible oxidizers, acids and strong bases. Limit access to trained personnel.
Incompatibilities	Oxidizers, acids and strong bases.
Specific use	Evaluate compatibility and appropriate operating conditions in the complete formulation before industrial use.

8. Exposure Controls / Personal Protection

Exposure limits	The reference lists no universally applicable substance-specific exposure limit. Use enclosed transfer and vapor/mist controls.
Engineering controls	Use local extraction where mist can be generated. Maintain accessible eyewash and emergency washing facilities.
Personal protection	Wear chemical-resistant gloves selected for the task, suitable protective clothing and splash goggles. Add face protection for splash-prone tasks.
Respiratory protection	Use a properly selected respirator under a respiratory-protection program where engineering controls do not adequately limit airborne exposure.
Hygiene	Wash after handling, remove contaminated clothing promptly and do not eat, drink or smoke in the work area.

9. Physical and Chemical Properties

Appearance	Colorless to pale yellow liquid
Formula / molecular weight	C ₂ H ₆ OS / 78.13 g/mol
Boiling range, SDS reference	157–158°C
Flash point, SDS reference	73°C
Density, SDS reference	1.110 g/cm ³
Water solubility	Soluble
Other properties	Product-specific values for odor threshold, vapor pressure, partition coefficient, autoignition temperature and viscosity are not supplied by the selected reference set. No values are inferred.

10. Stability and Reactivity

Stability	Handle and store under the recommended conditions. Prevent contamination and unnecessary heating.
Incompatibilities	Oxidizers, acids and strong bases.
Decomposition	Sulfur-containing fumes and irritating combustion gases. Heated containers may rupture.

11. Toxicological Information

Exposure effects	Acute poisoning, eye damage, sensitization and repeated-exposure effects; suspected reproductive hazard.
Reference classification	Acute oral/inhalation toxicity Category 3; acute dermal toxicity Category 2; skin irritation 2; eye damage 1; skin sensitization 1A; reproductive toxicity 2; STOT repeated exposure 2, liver and heart; flammable liquid 4.
Toxicological data	Reference oral rat LD ₅₀ 244 mg/kg; dermal rabbit LD ₅₀ 112–224 mg/kg. Acute dermal toxicity requires immediate treatment after exposure.

12. Ecological Information

Environmental effects	Aquatic toxicant; prevent discharge to water and collect spills as chemical waste.
Controls	Prevent uncontrolled release, collect spills and dispose of contaminated material through an authorized route.
Assessment	No product-specific PBT/vPvB assessment is claimed. Absence of data does not establish absence of environmental effects.

13. Disposal Considerations

Product	Collect surplus product and contaminated cleanup material for disposal by an authorized chemical-waste contractor in accordance with local requirements.
Packaging	Containers may retain product residues. Do not reuse contaminated packaging without an approved cleaning process; use an authorized disposal route.

14. Transport Information

Classification	Class 6.1 — Toxic
UN number	UN 2966
Shipping name	Thioglycol
Class / packing group	DOT / TDG / IMDG / IATA: Class 6.1, packing group II.
Transport precautions	Protect packaging and closures from damage, secure loads and prevent releases. This reference is not a shipping declaration for a specific consignment.

15. Regulatory Information

Identity	2-Mercaptoethanol; CAS 60-24-2; EC 200-464-6
HS reference	293090; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish finished-product authorization.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H227: combustible. H301/H331: toxic if swallowed or inhaled. H310: fatal on skin contact. H315: skin irritation. H317: allergic skin reaction. H318: serious eye damage. H361f: suspected fertility damage. H373: repeated exposure may damage organs.
Limitations	Prepared as reference safety information for the identified material. It is not a batch analytical certificate or safety assessment of a different solvent-containing formulation.
Revision	2026.2; prepared 2026-10-06. Customer-document branding and title corrected; technical safety data retained.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

Revision: 2026.2 | Revision date: 2026-10-06