Safety Data Sheet: 2-Mercaptobenzothiazole (MBT)

Version 2026 | Revision date: 2026-10-13 | Language: English

1. Identification

Product	2-Mercaptobenzothiazole (MBT)
CAS / EC	149-30-4 / 205-736-8
Use	Benzothiazole accelerator for industrial rubber-compound development.
Uses advised against	Unassessed consumer, medical or other applications outside the qualified grade and intended use.
Supplier	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Contact	+86-21-54265599 | sales@zxchem.com.cn | www.zxchem.com
Emergency contact	+86-21-54265599; office hours, China time UTC+8. For an urgent incident, contact local emergency services.
Scope	Reference safety information for 2-Mercaptobenzothiazole (MBT). 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. Hazard identification

Classification	Skin sensitization 1; aquatic acute hazard 1; aquatic chronic hazard 1 (matched EU reference).
Signal word	Warning
Pictograms	GHS07, GHS09
Hazard statements	H317: May cause an allergic skin reaction. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects.
Prevention	P264: Wash exposed skin after handling. P280: Wear suitable protective gloves, clothing and eye protection. P273/P391: Avoid environmental release and collect spillage.
Response	Follow the exposure-specific first-aid measures in Section 4. Remove contaminated clothing. Seek urgent advice for severe symptoms.
Storage / disposal	Keep closed under the conditions in Section 7. Dispose through an authorized waste route under local rules.
Other hazards	Dust, splashes, process conditions and decomposition can create exposure risks not represented by the commercial assay.

3. Composition/information on ingredients

2-Mercaptobenzothiazole	CAS 149-30-4; reference 95 wt%; commercial grades distinguished by melting point and physical limits.
Commercial scope	Reference safety information covers the stated chemical identity and physical form. The commercial assay or grade limits are given in the TDS; the reference is not an impurity analysis or a delivered-batch certificate.

4. First-aid measures

Eye contact	Rinse eyes immediately with water for at least 15 minutes; remove contact lenses when easily possible and continue rinsing. Seek medical attention if irritation persists.
Inhalation	Move to fresh air without exposing rescuers. Seek medical attention for persistent or developing symptoms.
Skin contact	Remove contaminated clothing and rinse thoroughly with water. Seek care if irritation or rash develops; wash clothing before reuse.
Ingestion	Rinse the mouth. Do not induce vomiting or give anything by mouth to an unconscious person. Seek medical advice after substantial ingestion or if symptoms occur.
Symptoms	May cause allergic skin reactions.
Immediate treatment	Treat symptoms. Seek medical advice for persistent effects; protect rescuers against secondary exposure.

5. Fire-fighting measures

Media / specific hazards	Use water spray, foam, dry chemical or carbon dioxide as appropriate for the surrounding fire. Avoid a high-pressure jet; contain contaminated firewater.
Protection	Use full protective equipment and self-contained breathing apparatus. Fight from a safe position; contain contaminated firewater and cool exposed containers when safe.

6. Accidental release measures

Personal / environmental precautions	Restrict entry, avoid exposure and prevent environmental release. Use the controls and protection in Section 8.
Containment / cleanup	Exclude unprotected personnel and collect the solid without creating airborne dust, using suitable tools and labeled waste containers. Prevent drain and waterway entry.
References	See Sections 7, 8 and 13 for handling, protection and disposal.

7. Handling and storage

Handling	Avoid contact and inhalation; maintain ventilation and good hygiene. Use suitable equipment and prevent chemical contamination.
Storage	Keep tightly closed in a cool, dry, ventilated place. Protect against moisture and contamination; keep away from incompatible materials. Keep away from ignition sources and strong oxidizers.
Incompatibilities	Stable under recommended storage conditions. Avoid excessive heat, ignition sources, strong oxidizers and chemical contamination.
Specific end use	Benzothiazole accelerator for industrial rubber-compound development.

8. Exposure controls/personal protection

Control parameters	No supply-specific occupational exposure limit or DNEL/PNEC is established by this record. Apply local substance and particulate exposure limits where relevant.
Engineering and personal protection	Use closed transfer or local extraction. Provide an eyewash and safety shower. Wear chemical-resistant gloves selected for the actual exposure, protective clothing and splash goggles. For airborne dust, use a suitable approved respirator selected through a workplace risk assessment; emergency or unknown atmospheres require independent air supply.
Hygiene / environmental control	Wash after handling; separate contaminated clothing. Contain product and process effluent; do not eat or drink in handling areas.

9. Physical and chemical properties

Physical state / appearance	Yellow to grayish-white powder or granules
Formula / formula weight	C7H5NS2; 167.25 g/mol; component identity
High grade: melting point	≥173 °C
First grade: melting point	≥171 °C
Standard grade: melting point	≥170 °C
Odor / odor threshold	No supply-grade value provided.
Boiling / decomposition point	No supply-grade limit provided.
Flammability / flash point	No supply-grade test value provided; see fire and reactivity information in Sections 5 and 10.
Vapor pressure / density	No supply-grade value provided.
Partition coefficient / autoignition	No supply-grade value provided.

10. Stability and reactivity

Reactivity / stability / reactions	Stable under recommended storage conditions. Avoid excessive heat, ignition sources, strong oxidizers and chemical contamination.
Conditions and materials to avoid	Follow the incompatible-material and storage requirements in Section 7.
Decomposition products	See Section 5. No normal-storage decomposition is indicated under the recommended conditions.

11. Toxicological information

Routes / effects	May cause allergic skin reactions. Reference oral LD50 3,800 mg/kg, rat; dermal LD50 7,940 mg/kg, rabbit. The reference notes IARC Group 2A; absence of a CLP cancer hazard statement does not negate that evaluation.
Other endpoints	Supply-batch sensitization, mutagenicity, carcinogenicity, reproduction and repeated-dose testing has not been provided. This does not override the classifications and target organs listed in Section 2.
Mixture assessment	Reference-substance or component results are not delivered-batch analytical or toxicological results.

12. Ecological information

Aquatic toxicity / behavior	Reference endpoints: trout LC50 0.42 mg/L, 96 h; Daphnia EC50 4.1 mg/L, 48 h; algae EC50 0.25 mg/L, 96 h. Not readily biodegradable in the matched reference. Very toxic to aquatic life with long-lasting effects.
Other environmental endpoints	Supply-batch PBT/vPvB, endocrine-disruption, persistence, degradation, mobility and bioaccumulation assessments have not been provided. Do not infer absence of effects from missing data.

13. Disposal considerations

Product and residues	Characterize waste under applicable local rules and use a licensed waste contractor. Do not discharge chemical residues or contaminated process water to drains.
Contaminated packaging	Do not reuse contaminated packaging for unrelated purposes. Handle retained material with the same protection as the product and use an authorized disposal or return route.

14. Transport information

ADR / RID	UN 3077; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (mercaptobenzothiazole); Class 9; PG III.
IMDG	UN 3077; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (mercaptobenzothiazole); Class 9; PG III; marine pollutant.
IATA	UN 3077; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (mercaptobenzothiazole); Class 9; PG III.
Environmental hazards	Environmentally hazardous; marine pollutant.
Special precautions	Use mode-appropriate packaging and secure closures. Quantity exemptions and bulk authorization are not assumed.
Scope	Transport entries apply to the reference identity, concentration and form described in Section 3. Changes in composition require reassessment.

15. Regulatory information

Classification framework	GHS/CLP reference classification is given for the material in Section 3. Local worker-protection, labeling, transport, environmental and end-use requirements apply.
Registration / use status	No supply-specific registration number, market authorization or end-use certification is established by this reference record.
Chemical safety assessment	No supply-formulation chemical safety assessment is supplied by ZXCHEM in this record.
End-use / market scope	Assess destination restrictions and workplace controls, including the referenced IARC evaluation. EU REACH Annex XVII entry 75 is application-specific; do not infer blanket approval for tattoo, consumer or skin-contact uses.

16. Other information

Revision date	2026-10-13; initial ZXCHEM reference safety document, version 2026.1.
Abbreviations	ADR/RID: road/rail dangerous goods; IMDG: maritime dangerous goods; IATA: air dangerous goods; PG: packing group; LD50/LC50: median lethal dose/concentration; STOT: specific target organ toxicity.
Use of information	Use together with the grade TDS and a workplace assessment. Concentration, solvent, impurity or physical-form changes require applicable safety information.
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.

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