

Safety Data Sheet: Sodium Metabisulfite

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

1. Identification

Product	Sodium Metabisulfite
CAS / EC	7681-57-4 / 231-673-0
Use	Reducing agent for dechlorination, chemical processing and qualified food or photographic applications.
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 Sodium Metabisulfite. 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	Oral acute toxicity 4; serious eye damage 1 (OSHA reference).
Signal word	Danger
Pictograms	GHS05, GHS07
Hazard statements	H302: Harmful if swallowed. H318: Causes serious eye damage. EUH031: Contact with acids liberates toxic gas.
Prevention	P264: Wash exposed skin after handling. P280: Wear suitable protective gloves, clothing and eye protection. P270: Do not eat, drink or smoke when using this material.
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

Sodium metabisulfite	CAS 7681-57-4; reference ≤100 wt%.
Commercial grades	Technical ≥96.5%, food ≥97%, photo ≥98%; impurity limits differ.
Commercial scope	Solid sodium metabisulfite reference. The supplied technical, food and photo grades have separate assay and impurity limits; these are not certified by the reference.

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. Obtain urgent medical attention.
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	Ingestion is harmful and eye exposure can cause severe injury. Component endpoints: oral LD50 1,310 mg/kg, rat; dermal LD50 >2,000 mg/kg, rat. Acid contact releases sulfur dioxide, which creates an additional inhalation risk.
Immediate treatment	Urgent medical assessment is required after serious exposure. Treat symptoms; rescuers must avoid secondary exposure.

5. Fire-fighting measures

Media / specific hazards	Use extinguishing media suitable for the surrounding fire. Heating or acid contact can release sulfur dioxide and other sulfur-containing fumes; avoid dispersing powder.
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. Avoid acids and strong oxidizers.
Incompatibilities	Avoid acids, strong oxidizers and moisture. Acid contact releases toxic sulfur dioxide; solutions can oxidize during air exposure.
Specific end use	Reducing agent for dechlorination, chemical processing and qualified food or photographic applications.

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. Add a face shield where splash exposure is possible. 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	White crystalline powder
Formula / formula weight	Na ₂ S ₂ O ₅ ; 190.10 g/mol; component identity
Technical: water insolubles	≤0.05 %
Food: water insolubles	≤0.05 %
Water solubility	Soluble; acidification can evolve sulfur dioxide.
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	Avoid acids, strong oxidizers and moisture. Acid contact releases toxic sulfur dioxide; solutions can oxidize during air exposure.
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	Ingestion is harmful and eye exposure can cause severe injury. Component endpoints: oral LD ₅₀ 1,310 mg/kg, rat; dermal LD ₅₀ >2,000 mg/kg, rat. Acid contact releases sulfur dioxide, which creates an additional inhalation risk.
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	Component endpoints: fish LC ₅₀ 32 mg/L, 96 h; algae EC ₅₀ 48 mg/L, 72 h. The soluble salt may move in water and consume oxygen through reducing reactions; prevent drain discharge.
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	This road/rail regime is outside the cited reference assessment; no classification is asserted for this mode.
US DOT	Not regulated as dangerous goods in the matched reference; no UN number, class or packing group assigned.
IMDG	Not regulated as dangerous goods in the matched reference; no UN number, class or packing group assigned.
IATA	Not regulated as dangerous goods in the matched reference; no UN number, class or packing group assigned.
Environmental hazards	No transport environmental-hazard designation is assigned in the matched reference.
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.

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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