

Safety Data Sheet (MSDS)

(According to GB/T 16483 and GB/T 17519; Adapts to GHS, IMDG, IATA Standards)

Sodium Thiosulfate (Anhydrous)

SECTION 1: Identification

1.1 Product Identifiers - Product Name: Sodium Thiosulfate - Product Number: STS-CAS7779893-202802 - Brand: SIGALD - CAS-No.: 7779-89-3 - Synonyms: Sodium hyposulfite; Hypo; Sodium thiosulfate anhydrous - Chemical Family: Inorganic Sulfur Compound

1.2 Details of the supplier of the safety data sheet

- Company : NEWAY SINOPHC TECH. LIMITED
- RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI)PILOT FREE TRADE ZONE.
- Telephone : +86-021-50350029
- Fax : +86-021-50350029

1.3 Emergency telephone

Emergency Phone # : +86-021-50350029
(CHEMTREC)

1.4 Uses & Restrictions - Identified Uses: Photographic fixer; water treatment (chlorine remover); medical antidote (cyanide poisoning); analytical reagent; textile bleaching and dyeing auxiliary; electroplating additive. - Uses Advised Against: Direct food contact without approval; use in strong oxidizing environments beyond product limits; mixing with concentrated acids without proper protection.

SECTION 2: Hazards Identification

2.1 GHS Classification: Skin irritation (Category 3); Eye irritation (Category 2A); Aquatic hazard (Category 2)

2.2 GHS Label Elements - Hazard Pictogram: (Irritant) + (Aquatic hazard) - Signal Word: WARNING - Hazard Statements: H316 (Causes mild skin irritation); H319 (Causes serious eye irritation); H411 (Toxic to aquatic life with long-lasting effects) - Precautionary Statements: P264, P273, P280, P302+P352, P305+P351+P338, P337+P313, P391, P501

2.3 Physical/Chemical Hazards: Non-combustible solid; incompatible with concentrated acids (e.g., hydrochloric acid, sulfuric acid) which release toxic sulfur dioxide gas; decomposes at temperatures >220°C to release sodium sulfite and sulfur; no explosion hazard under normal conditions.

2.4 Health Hazards: Mild skin irritation (dryness, slight redness); severe eye irritation (redness, tearing, corneal irritation); inhalation of dust may cause mild respiratory tract discomfort

(coughing); ingestion in large amounts may cause gastrointestinal upset (nausea, vomiting, diarrhea); low acute toxicity.

2.5 Environmental Hazards: Toxic to aquatic organisms (fish, daphnia, algae); persistent in water bodies; moderate bioaccumulation in aquatic organisms (BCF: 100-500); long-lasting toxic effects on aquatic ecosystems; may contaminate soil and groundwater if leaked in large quantities.

SECTION 3: Composition/Information on Ingredients

Substance/Mixture: Substance (main component $\geq 99.0\%$)

Component	Content (w/w)	CAS-No.	Hazard Classification
Sodium Thiosulfate	$\geq 99.0\%$	7779-89-3	Skin Irrit. 3; Eye Irrit. 2A; Aquatic Toxicity 2
Moisture	$\leq 0.3\%$	7732-18-5	Non-hazardous
Ash (Inorganic Impurities)	$\leq 0.1\%$	-	Non-hazardous

SECTION 4: First Aid Measures

- Inhaled: Remove to fresh air immediately; keep the affected person at rest in a comfortable position; if coughing persists, seek medical attention. - Skin Contact: Remove contaminated clothing and shoes immediately; rinse skin thoroughly with plenty of running water for at least 10 minutes; apply moisturizing cream if needed; no special treatment required for mild irritation, seek medical help if redness or itching persists. - Eye Contact: Hold eyelids open; rinse eyes continuously with clean water or normal saline for at least 15 minutes (flush from inner to outer corner); do not rub eyes; seek emergency medical help immediately if eye irritation persists or vision is affected. - Swallowed: Do not induce vomiting (low toxicity); rinse mouth with water (do not swallow); give small amounts of water to dilute (only if the person is conscious and able to swallow); seek medical attention if large amounts are ingested or discomfort occurs.

SECTION 5: Firefighting Measures

- Suitable Extinguishing Media: Water spray, foam, CO₂, dry powder, sand. - Unsuitable Media: No special restrictions. - Special Hazards: Non-combustible solid; decomposes at high temperature (>220°C) to release sodium sulfite and sulfur (non-toxic fumes); no toxic decomposition products under normal fire conditions. - Firefighter Advice: Wear general



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firefighting protective equipment (face shield, fire-resistant suit); cool containers with water spray; avoid inhalation of dust and decomposition fumes; no special respiratory protection required under normal conditions.

SECTION 6: Accidental Release Measures

- Personal Precautions: Wear dust mask (ordinary dust mask), chemical-resistant gloves (rubber or nitrile), safety goggles; avoid direct contact with spilled powder and dust. - Environmental Precautions: Prevent powder from entering sewers, rivers, lakes, or other water bodies; use absorbent materials to block leakage (e.g., sand, vermiculite); notify local environmental authorities if large amounts leak into water bodies. - Cleanup: Small spill - collect powder with a clean shovel or vacuum cleaner (equipped with dust filter), place in a sealed container for disposal; large spill - dike the area with sand or soil, collect all powder into sealed drums, and treat by professional waste disposal institutions; clean the area with water (avoid washing into water bodies) and neutralize if necessary (mildly alkaline, no special neutralization required).

SECTION 7: Handling and Storage

- Handling: Operate in well-ventilated area; avoid creating dust clouds; wear personal protective equipment (gloves, goggles); do not mix with concentrated acids (hydrochloric acid, sulfuric acid); avoid splashing and spillage; wash hands and face thoroughly after handling. - Storage: Store in cool, dry, well-ventilated warehouse (5-35°C); keep container tightly closed to prevent moisture absorption, dust contamination, and caking; avoid direct sunlight and high temperature (>50°C); store separately from concentrated acids, food-grade materials, and oxidizing agents; stack containers stably (no more than 4 layers) to prevent tipping; label clearly with hazard warnings (eye irritant, aquatic toxin). - Shelf Life: 36 months (unopened, specified conditions); use promptly after opening, seal tightly after each use; do not use if caking, discoloration (turning yellow), or moisture absorption occurs. - Compatibility: Incompatible with concentrated acids (HCl, H₂SO₄), strong oxidants (KMnO₄), and heavy metal salts (Pb(NO₃)₂, CuSO₄).

SECTION 8: Exposure Controls/Personal Protection

- Engineering Controls: Install general ventilation in the workplace; use dust-collecting equipment (bag filters) during handling; install emergency eyewash stations nearby the workplace. - PPE: Respiratory protection: Use ordinary dust mask when dust is generated; Hand protection: Chemical-resistant gloves (rubber or nitrile); Eye/Face protection: Safety goggles; Body protection: Ordinary work clothes (dust-proof). - Hygiene Measures: Do not eat, drink, or smoke in the workplace; do not touch eyes, face, or mouth with contaminated hands; remove contaminated clothing and shoes immediately after contact; wash contaminated clothing separately before reuse; provide washing facilities (soap, water) near the workplace.

SECTION 9: Physical and Chemical Properties

Physical State: Solid (crystalline powder); Color: White; Odor: Odorless pH (25°C, 1% Aqueous Solution): 6.0-8.0; Melting Point: 48-52°C; Boiling Point: Decomposes at >220°C Flash Point: Non-flammable; Autoignition Temperature: Not applicable Density (25°C, solid): 1.667 g/cm³; Solubility: Easily soluble in water (108 g/100 mL at 25°C), slightly soluble in ethanol, insoluble in benzene and chloroform Vapor Pressure (25°C): <0.001 hPa; Partition Coefficient (log P): -2.4 (estimated); Viscosity: Not applicable (solid)

SECTION 10: Stability and Reactivity

- Stability: Stable under normal storage and handling conditions; maintains chemical stability and performance within the shelf life; stable in neutral and slightly acidic/alkaline environments; gradual decomposition in concentrated acidic environments and at temperatures >220°C. - Incompatibilities: Concentrated acids which may react to release sulfur dioxide gas; strong oxidants which may oxidize thiosulfate to sulfate; heavy metal salts which may form insoluble sulfides. - Hazardous Decomposition Products: At temperatures >220°C, decomposes to release sodium sulfite (Na₂SO₃) and sulfur (S); reacts with concentrated acids to release sulfur dioxide (SO₂) gas (irritating).

SECTION 11: Toxicological Information

- Acute Toxicity: Oral (Rat, LD₅₀): >5000 mg/kg; Dermal (Rabbit, LD₅₀): >2000 mg/kg; Inhalation (Rat, LC₅₀): >10 mg/m³ (4-hour exposure, dust). - Skin/Eye Irritation: Mild skin irritation (Category 3); severe eye irritation (Category 2A) with potential corneal irritation; no skin sensitization reported. - Respiratory Toxicity: Inhalation of dust causes mild respiratory tract discomfort (coughing); no severe respiratory toxicity reported. - Other Toxicity: No mutagenic, carcinogenic or teratogenic effects reported (per OECD test guidelines); low chronic toxicity; no long-term organ damage reported in animal tests.

SECTION 12: Ecological Information

- Fish (Zebrafish, LC₅₀): 100-200 mg/L (96-hour exposure) - Daphnia (EC₅₀): 50-100 mg/L (48-hour exposure) - Algae (Growth Inhibition, EC₅₀): 80-150 mg/L (72-hour exposure) - Biodegradability: Moderately biodegradable (BOD₅/COD = 0.2-0.3); persistent in water bodies for 30-60 days. - Environmental Fate: Easily soluble in water; no hydrolysis or photodegradation under natural conditions; moderate bioaccumulation in aquatic organisms (BCF: 100-500 in fish); may contaminate soil and groundwater through leaching if leaked in large quantities.

SECTION 13: Disposal Considerations

- Product Waste: Collect waste product in a sealed container; do not mix with other wastes; dispose of via licensed waste treatment facilities in accordance with local regulations (landfill or incineration); do not discharge into water bodies or sewers. - Packaging Waste: Rinse

packaging containers thoroughly with water (collect rinse water for treatment); dispose of the container as general solid waste if no residual product remains, or as hazardous waste if contaminated; recycle packaging materials only if permitted and after thorough cleaning. - Special Disposal Notes: Incineration must be conducted in professional facilities; do not landfill without prior treatment if mixed with concentrated acids; comply with local environmental protection regulations for waste disposal.

SECTION 14: Transport Information

- UN Number: ADR/RID: Not regulated; IMDG: Not regulated; IATA-DGR: Not regulated - UN Proper Shipping Name: Not applicable (non-hazardous for transport) - Transport Class: Not classified; Packaging Group: Not applicable; Environmental Hazards: Yes (Marine Pollutant, Category 2) - Special Precautions: Transport in sealed, dust-proof packaging (paper-plastic composite bags with PE liner or iron drums); avoid collision, vibration, and impact to prevent packaging damage and powder leakage; keep away from concentrated acids during transport; store in a cool, ventilated area during transit; do not expose to sunlight or high temperature; transport by ordinary cargo vehicles; drivers and handlers must be familiar with product characteristics.

SECTION 15: Regulatory Information

- National Regulations (China): Complies with Hazardous Chemical Safety Management Regulation (non-hazardous chemical); meets GB/T 637-2006 (Sodium Thiosulfate) and GB 5085.1-2007 (Hazardous Waste Identification Standards); compliant with water treatment, textile and medical auxiliary use standards. - International Regulations: GHS Rev.9 (Skin Irrit. 3, Eye Irrit. 2A, Aquatic Toxicity 2); REACH (EU, registered); TSCA (US, listed); FDA (US, compliant for medical and food contact auxiliary use).

SECTION 16: Other Information

- Revision Date: 20 FEB 2025 - Disclaimer: Based on current scientific knowledge and product testing data; supplier not liable for damage caused by improper use, storage, handling, or non-compliance with regulations; the information in this MSDS is accurate to the best of our knowledge at the time of revision.