



# NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.  
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

## Safety Data Sheet (MSDS)

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

### SECTION 1: Identification

#### 1.1 Product Identifiers

- Product Name: Sodium Hypophosphite
- Product Number: SP-20260215
- Brand: SIGALD
- CAS-No.: 7681-53-0

Synonyms: Sodium dihydrogen phosphite; Hypophosphorous acid sodium salt

#### 1.2 Details of the supplier of the safety data sheet

- Company : NEWAY SINOPHC TECH. LIMITED
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- Telephone : +86-021-50350029
- Fax : +86-021-50350029

#### 1.3 Emergency telephone

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

#### 1.4 Uses & Restrictions

- **Identified Uses:** Reducing agent in electroplating/chemical plating, water treatment agent, organic synthesis intermediate, food additive (antioxidant, limited dosage)
- **Uses Advised Against:** Mixing with strong oxidizers without control; use in high-temperature (>200°C) acidic systems; excessive oral ingestion

### SECTION 2: Hazards Identification

2.1 GHS Classification: Skin irritation (Category 2); Serious eye irritation (Category 2A); Acute aquatic toxicity (Category 3)2.2 GHS Label Elements

- Hazard Pictogram: GHS07 (Exclamation mark), GHS09 (Environment)
- Signal Word: **Warning**
- Hazard Statements: H315 (Causes skin irritation), H319 (Causes serious eye irritation), H402 (Harmful to aquatic life)
- Precautionary Statements: P264, P280, P302+P352, P305+P351+P338, P332+P313, P337+P313, P273, P3912.3 Physical/Chemical Hazards: Non-combustible; strong reducing agent; reacts violently with strong oxidizers (KMnO<sub>4</sub>, H<sub>2</sub>O<sub>2</sub>) to release heat; decomposes at >200°C to phosphine gas (toxic) and sodium phosphate; reacts with strong acids to release hypophosphorous acid2.4 Health Hazards: Mild skin irritation with prolonged contact; serious eye irritation; dust inhalation causes temporary respiratory tract irritation; mild oral toxicity with excessive ingestion (gastrointestinal discomfort)2.5 Environmental Hazards: Harmful to aquatic life; no bioaccumulation potential; dissociates in water, phosphate ions are natural nutrients (no long-term pollution)



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## SECTION 3: Composition/Information on Ingredients

- **Substance/Mixture:** Pure Substance
- **Main Component:** Sodium Hypophosphite (98.7%, CAS:7681-53-0)
- **Formula:**  $\text{NaH}_2\text{PO}_2$
- **Molecular Weight:** 87.98 g/mol
- **Hazardous Ingredients:** None (hazardous from reaction/decomposition products only)

## SECTION 4: First Aid Measures

- **Inhaled:** Move to fresh air, keep respiratory tract open. Drink water to soothe throat; consult a physician if coughing or irritation persists for more than 1 hour.
- **Skin Contact:** Rinse skin with running water for 5 minutes; remove contaminated clothing and wash with mild soap before reuse. Apply moisturizer if dryness/irritation occurs.
- **Eye Contact:** Hold eyelids open and rinse thoroughly with running water for 10-15 minutes; remove contact lenses if worn. Consult an ophthalmologist if redness, blurriness or irritation remains.
- **Swallowed:** Rinse mouth with water; do not induce vomiting. Seek medical advice only for large ingestions with gastrointestinal discomfort (nausea, diarrhea).

## SECTION 5: Firefighting Measures

- **Suitable Extinguishing Media:** Water spray, foam,  $\text{CO}_2$ , dry powder
- **Special Hazards:** Non-combustible; violent reaction with oxidizers may cause fire; decomposition at  $>200^\circ\text{C}$  releases toxic phosphine gas; no hazardous combustion products at normal fire temperatures
- **Firefighter Protection:** Wear standard fire-fighting gear + N95 respirator (to avoid phosphine gas); cool containers with water spray to prevent thermal decomposition

## SECTION 6: Accidental Release Measures

- **Personal Precautions:** Wear safety goggles, nitrile gloves and N95 dust mask for large spills; ensure good ventilation; avoid dust inhalation and skin/eye contact.
- **Containment & Cleanup:** Sweep up powder with inert material (sand/vermiculite) and transfer to sealed HDPE containers; wipe small spills with damp cloth to prevent dust dispersion; dilute and flush small amounts to wastewater system per local regulations.
- **Environmental Precautions:** Prevent large undiluted spills from entering waterways (dilute with water if needed); no special measures for small spills (biodegradable ions).

## SECTION 7: Handling and Storage

- **Handling:** Operate in well-ventilated area; use plastic/glass equipment; avoid mixing with strong oxidizers/acids; wear PPE for bulk processing; avoid dust generation.
- **Storage Conditions:** Cool, dry, well-ventilated warehouse ( $\leq 30^\circ\text{C}$ ); store in sealed HDPE drums/bags; avoid direct sunlight, high temperature and high humidity; keep away from strong oxidizers, strong acids and heat sources.



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- **Incompatibilities:** Strong oxidizing agents, strong mineral acids (HCl, H<sub>2</sub>SO<sub>4</sub>), high temperature (>200°C), heavy metal salts
- **Shelf Life:** 24 months (unopened, under specified storage conditions); 6 months after opening (seal tightly to prevent moisture absorption)

### SECTION 8: Exposure Controls/Personal Protection

- **Occupational Exposure Limits:** No established limits (OSHA/ACGIH); phosphine (decomposition product) TWA: 0.3 ppm (OSHA)
- **Engineering Controls:** Basic ventilation; local exhaust ventilation for bulk powder processing; fume hood if mixing with acidic materials
- **PPE:**
  - Eye/Face: Safety goggles (routine handling); face shield (bulk transfer/acid contact)
  - Skin: Nitrile gloves (bulk handling); lab coat/coverall (industrial processing)
  - Respiratory: N95 dust mask (bulk powder); chemical respirator (phosphine gas protection) if decomposition occurs

### SECTION 9: Physical and Chemical Properties

- Physical State: White crystalline powder/crystals (25°C)
- Odor: Odorless
- Solubility: 100 g/100mL (water, 20°C); soluble in glycerol; slightly soluble in ethanol; insoluble in ether
- pH (10% aq. solution, 25°C): 6.2 (neutral)
- Density: 1.38 g/cm<sup>3</sup> (25°C)
- Melting Point: Decomposes at 100°C (anhydrous)
- Boiling Point: N/A (decomposition)
- Flammability: Non-combustible
- Hygroscopy: Slightly hygroscopic
- Bulk Density: 0.9-1.1 g/cm<sup>3</sup>
- Viscosity: N/A (solid)
- Reducing Property: Strong reducing agent

### SECTION 10: Stability and Reactivity

- **Stability:** Chemically stable under normal storage and use conditions (≤30°C, sealed); slightly hygroscopic with no degradation; stable in neutral/alkaline media
- **Hazardous Reactions:** Reacts violently with strong oxidizers to release heat; decomposes at >200°C to toxic phosphine gas and sodium phosphate; reacts with strong acids to release hypophosphorous acid
- **Decomposition Products:** PH<sub>3</sub> (phosphine), Na<sub>3</sub>PO<sub>4</sub>, H<sub>2</sub>O (at >200°C)
- **Conditions to Avoid:** High temperature, direct sunlight, contact with strong oxidizers/strong acids

### SECTION 11: Toxicological Information



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- Oral LD<sub>50</sub> (Rat): >1000 mg/kg (mild toxicity)
- Dermal LD<sub>50</sub> (Rabbit): >5000 mg/kg (mild skin irritation only)
- Inhalation LC<sub>50</sub> (Rat): >5 mg/m<sup>3</sup>/4h (dust, mild respiratory irritation)
- Skin Irritation: Category 2 (mild, reversible irritation; Rabbit, 4h exposure)
- Eye Irritation: Category 2A (serious reversible irritation; Rabbit, 24h exposure)
- Carcinogenicity: IARC Group 3 (Unclassifiable); no mutagenic/reproductive toxic effects

### SECTION 12: Ecological Information

- Aquatic Toxicity (Zebrafish LC<sub>50</sub>): 1200 mg/L/96h (Category 3, harmful)
- Aquatic Toxicity (Daphnia EC<sub>50</sub>): 950 mg/L/48h (harmful)
- Persistence: Fully biodegradable (phosphate ions utilized by microbes; BOD<sub>5</sub> /COD >0.5)
- Bioaccumulative Potential: None (log K<sub>oc</sub>: 0.8; no biomagnification in food chain)
- Environmental Fate: Dissociates into Na<sup>+</sup> and H<sub>2</sub>PO<sub>2</sub><sup>-</sup> in water; H<sub>2</sub>PO<sub>2</sub><sup>-</sup> is oxidized to phosphate ions by microbes; Na<sup>+</sup> and phosphate are natural inorganic ions with no environmental impact

### SECTION 13: Disposal Considerations

- **Product Waste:** Dispose via licensed waste treatment facilities; dilute with water and discharge to biological wastewater treatment systems (per local regulations); unspoiled product can be recycled for industrial use.
- **Packaging Waste:** Rinse thoroughly with water; recycle as non-hazardous plastic waste; no special disposal required.
- **Contaminated Material:** All cleanup materials are non-hazardous; dispose as ordinary industrial waste.

### SECTION 14: Transport Information

- UN Number: Not dangerous goods
- Transport Hazard Class/Packaging Group: N/A
- Marine Pollutant: No
- **Precautions:** Transport by ordinary vehicles; avoid collision, leakage, direct sunlight and high temperature; keep sealed; do not transport with strong oxidizers/strong acids.

### SECTION 15: Regulatory Information

- Complies with GHS, REACH, TSCA, GB 13690-2009 (China); not classified as a hazardous chemical
- EU SVHC: Not listed; meets industrial chemical regulatory standards
- Labeling: Mandatory GHS07/GHS09 hazard label; no other special labeling requirements

### SECTION 16: Other Information

- **Revision Date:** 15 FEB 2026
- **Notes:** Avoid mixing with strong oxidizers to prevent violent reaction; test moisture content before use if stored beyond 12 months; use dust collection system for bulk processing; avoid high-temperature processing (>200°C) to prevent phosphine gas release.