



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 Fluoride
- Product Number: SFL-20260209
- Brand: SIGALD
- CAS-No.: 7681-49-4

Synonyms: Sodium monofluoride

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

- Identified Uses: Water fluoridation, dental care products (toothpaste), metal surface treatment, pesticide intermediate, glass etching.
- Uses Advised Against: Uncontrolled use in food; direct contact with skin/mucous membranes without protection; use in children's products without dilution.

SECTION 2: Hazards Identification

2.1 GHS Classification: Acute toxicity (oral, Category 3); Skin corrosion/irritation (Category 2); Eye damage/irritation (Category 2A); Aquatic toxicity (Category 1)

- Hazard Pictogram: GHS06 (Skull and crossbones), GHS07 (Exclamation mark), GHS09 (Environment)
- Signal Word: Danger
- Hazard Statements: H301 (Toxic if swallowed), H315 (Causes skin irritation), H319 (Causes serious eye irritation), H400 (Very toxic to aquatic life)
- Precautionary Statements: P264, P270, P273, P280, P301+P310, P305+P351+P338, P3302.3
Physical/Chemical Hazards: Non-combustible; no explosive risks; reacts with acids to release toxic hydrogen fluoride gas.
- 2.4 Health Hazards: Toxic if swallowed; mild skin irritation; serious eye irritation; chronic exposure may cause dental fluorosis/skeletal fluorosis.
- 2.5 Environmental Hazards: Very toxic to aquatic life; persistent in water/soil.

SECTION 3: Composition

- Substance / Mixture: Pure Substance
- Formula: NaF



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- Molecular Weight: 41.99 g/mol
- Concentration: $\geq 98.0\%$ (NaF)
- Hazardous Ingredients: Sodium fluoride (100%, CAS:7681-49-4)

SECTION 4: First Aid Measures

- Inhaled: Move to fresh air. If breathing difficulty occurs, give oxygen and consult a doctor immediately.
- Skin Contact: Rinse skin with running water for 15 minutes; remove contaminated clothing and wash before reuse.
- Eye Contact: Rinse with plenty of water for 15-20 minutes (hold eyelids open). Consult an ophthalmologist immediately.
- Swallowed: Rinse mouth with water; DO NOT induce vomiting. Call a poison center/doctor immediately (administer calcium gluconate if advised).

SECTION 5: Firefighting Measures

- Suitable Extinguishing Media: Water spray, foam, CO₂, dry powder.
- Special Hazards: Reacts with fire-fighting water/acids to release toxic hydrogen fluoride gas; wear self-contained breathing apparatus (SCBA).
- Firefighter Protection: Wear full chemical protective gear and SCBA; avoid contact with runoff (toxic to aquatic life).

SECTION 6: Accidental Release Measures

- Personal Precautions: Wear nitrile gloves, chemical splash goggles, dust mask and protective clothing. Evacuate non-essential personnel.
- Environmental Precautions: Prevent runoff into waterways, sewers and soil; contain with sand/dikes.
- Cleanup Methods: Sweep up with inert non-combustible material (sand/vermiculite); transfer to sealed plastic/glass containers for disposal. DO NOT use water for large spills (avoids dissolution/runoff).

SECTION 7: Handling and Storage

- Handling: Operate in a well-ventilated fume hood; avoid dust inhalation, skin/eye contact and ingestion. Use dedicated equipment (no food/beverage in work area).
- Storage Conditions: Cool, dry, well-ventilated warehouse ($\leq 30^{\circ}\text{C}$); keep tightly sealed in plastic/glass containers (avoid metal); store away from acids, food, beverages and animal feed.
- Incompatibilities: Strong acids (HCl, H₂SO₄), acidic salts, aluminum/iron powders.
- Shelf Life: 36 months (unopened).

SECTION 8: Exposure Controls/Personal Protection

- Occupational Exposure Limits: TWA: 2.5 mg/m³ (F⁻, OSHA); STEL: 5 mg/m³ (F⁻, OSHA)
- PPE: Nitrile/neoprene gloves, chemical splash goggles, N95/P100 dust mask, lab coat/protective clothing; SCBA for emergency situations.



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- Engineering Controls: Local exhaust ventilation, dust collection system, fume hood for powder/acid contact operations.

SECTION 9: Physical and Chemical Properties

- Physical State: Crystalline powder/crystals
- Color: White to off-white
- Odor: Odorless
- Solubility: Soluble in water (4.2 g/100 mL at 20°C), slightly soluble in ethanol
- pH (1% solution): 8.0-9.5 (mildly alkaline)
- Density (25°C): 2.56 g/cm³
- Melting Point: 993°C
- Boiling Point: 1700°C (decomposes)
- Flash Point: Non-combustible

SECTION 10: Stability and Reactivity

- Stable under normal storage/use conditions (dry, away from acids).
- Incompatible with: Concentrated acids (releases HF gas), aluminum/iron (corrodes metals), acidic salts.
- Hazardous Reactions: $\text{NaF} + \text{H}^+ \rightarrow \text{HF}\uparrow + \text{Na}^+$ (toxic HF gas).
- Decomposition Products: Sodium oxide, fluorine gas (at extreme high temperature > 1700°C).

SECTION 11: Toxicological Information

- Oral LD₅₀ (Rat): 52 mg/kg (toxic)
- Dermal LD₅₀ (Rabbit): > 1000 mg/kg (mild toxicity)
- Inhalation LC₅₀ (Rat): > 1000 mg/m³ (4h)
- Skin Irritation: Mild (Rabbit, 4h)
- Eye Irritation: Severe (Rabbit, 24h, reversible with treatment)
- Chronic Toxicity: Dental fluorosis (children), skeletal fluorosis (long-term high exposure).
- Carcinogenicity: IARC Class 3 (not classifiable as to carcinogenicity to humans).

SECTION 12: Ecological Information

- Aquatic Toxicity (Zebrafish LC₅₀): 15 mg/L (96h); Daphnia EC₅₀: 10 mg/L (48h) (very toxic)
- Persistence and Degradability: Non-biodegradable; persistent in environment.
- Bioaccumulative Potential: Low (log K_{oc}: 0.5-1.0)
- Soil Mobility: High (soluble in water; leaches to groundwater)
- Environmental Fate: Accumulates in aquatic sediment; toxic to fish/aquatic invertebrates.

SECTION 13: Disposal Considerations

- Product Waste: Dispose via licensed hazardous waste facilities; neutralize with calcium hydroxide (forms insoluble CaF₂) before disposal (per local regulations).
- Packaging Waste: Rinse with calcium hydroxide solution; dispose as hazardous waste (do not recycle).
- DO NOT discharge to wastewater/soil/air (toxic to environment).



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SECTION 14: Transport Information

- UN Number: UN1690
- Transport Hazard Class: 6.1 (Toxic substances)
- Packaging Group: III
- Marine Pollutant: Yes (MARPOL Annex V)
- Special Precautions: Transport in sealed plastic/glass containers; avoid contact with acids/food; label as "TOXIC" and "ENVIRONMENTALLY HAZARDOUS".

SECTION 15: Regulatory Information

- Complies with GHS, REACH (Annex XVII), TSCA, GB 13690-2009, EPA Hazardous Waste Number (D008).
- Listed as a toxic chemical in China; EU SVHC (no); OSHA hazardous substance.
- Water fluoridation use complies with WHO/CDC standards (0.7-1.2 mg/L F⁻).

SECTION 16: Other Information

- Revision Date: 09 FEB 2026
- Calcium gluconate is the specific antidote for fluoride poisoning (administer only by medical personnel).

纳维盈医化科技
NEWAY SINOPHC TECH