

Sodium Sulfide Flakes MSDS

1. Identification

- **Product Name:** Sodium Sulfide Flakes
 - **Chemical Name:** Sodium sulfide (anhydrous or hydrated)
 - **CAS Number:** 1313-82-2
 - **Synonyms:** Disodium monosulfide
 - **Recommended Use:** Leather tanning, water treatment, ore flotation, dyes manufacturing
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2. Hazard Identification

- **GHS Classification:**
 - Acute toxicity, oral (Category 3)
 - Skin corrosion (Category 1B)
 - Aquatic acute toxicity (Category 1)
 - **Label Elements:**
 - △ *Danger*
 - **Hazard Statements:**
 - H301: Toxic if swallowed
 - H314: Causes severe skin burns and eye damage
 - H400: Very toxic to aquatic life
 - **Precautionary Statements:**
 - P264: Wash thoroughly after handling
 - P280: Wear protective gloves, clothing, and eye protection
 - P301+P310: IF SWALLOWED: Immediately call a POISON CENTER
 - P303+P361+P353: IF ON SKIN: Remove clothing. Rinse skin with water
 - P305+P351+P338: IF IN EYES: Rinse cautiously with water. Remove contact lenses
 - P273: Avoid release to the environment
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3. Composition / Information on Ingredients

Chemical Name	CAS No.	% by Weight
Sodium Sulfide (Na ₂ S)	1313-82-2	60–70%
Water of Hydration	—	Balance

4. First-Aid Measures

- **Inhalation:** Move to fresh air immediately. If breathing is difficult, give oxygen. Seek medical attention.
 - **Skin Contact:** Remove contaminated clothing. Rinse skin with plenty of water for 15 minutes. Get medical help.
 - **Eye Contact:** Flush eyes with water for at least 15 minutes. Seek immediate medical attention.
 - **Ingestion:** Rinse mouth. Do NOT induce vomiting. Get immediate medical help.
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5. Fire-Fighting Measures

- **Extinguishing Media:** Use dry chemical, CO₂, or foam. DO NOT use water directly.
 - **Hazards from Fire:** Releases toxic gases such as hydrogen sulfide (H₂S) and sulfur oxides (SO_x)
 - **Protective Equipment:** Self-contained breathing apparatus (SCBA) and full protective clothing
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6. Accidental Release Measures

- **Personal Precautions:** Evacuate area. Use PPE. Avoid dust and vapors.
 - **Environmental Precautions:** Prevent spillage into sewers or waterways
 - **Clean-up:** Collect solid material carefully into dry, sealed containers. Neutralize residues with diluted acid if safe.
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7. Handling and Storage

- **Handling:** Avoid contact with skin, eyes, and clothing. Use only in well-ventilated areas. Do not breathe dust or vapors.
 - **Storage:** Store in a cool, dry, well-ventilated place away from acids and moisture. Keep containers tightly closed.
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8. Exposure Controls / Personal Protection

- **Occupational Exposure Limits:**
 - **Hydrogen sulfide (byproduct):**
 - OSHA PEL: 20 ppm ceiling
 - ACGIH TLV: 1 ppm (TWA), 5 ppm (STEL)

- **Engineering Controls:** Use local exhaust ventilation to control vapors
 - **PPE:**
 - **Eyes:** Chemical goggles or face shield
 - **Skin:** Impervious gloves and protective clothing
 - **Respiratory:** Use NIOSH-approved respirator if exposure limits are exceeded
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9. Physical and Chemical Properties

- **Appearance:** Yellow to red flakes
 - **Odor:** Rotten egg (due to H₂S release)
 - **Solubility:** Soluble in water (alkaline solution)
 - **Melting Point:** ~118°C (hydrated forms vary)
 - **Boiling Point:** Decomposes
 - **Density:** ~1.86 g/cm³
 - **pH (1% sol.):** >12 (strongly basic)
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10. Stability and Reactivity

- **Stability:** Stable in dry conditions
 - **Reactivity:** Reacts violently with acids to release toxic H₂S gas
 - **Incompatible Materials:** Acids, oxidizing agents, moisture
 - **Hazardous Decomposition:** Hydrogen sulfide (H₂S), sulfur oxides (SO_x)
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11. Toxicological Information

- **Acute Toxicity:**
 - Oral (rat) LD50: ~208 mg/kg
 - **Skin/Eye Irritation:** Corrosive to skin and eyes
 - **Inhalation Hazards:** Exposure to H₂S gas can cause respiratory distress or death
 - **Chronic Effects:** Prolonged exposure may lead to dermatitis or sensitization
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12. Ecological Information

- **Ecotoxicity:** Very toxic to aquatic organisms
- **Persistence and Degradability:** Degrades to sulfide/sulfur in water/soil
- **Mobility in Soil:** Moderate
- **Bioaccumulative Potential:** Low, but sulfide ions may impact aquatic life

13. Disposal Considerations

- **Waste Disposal:** Dispose of in accordance with local/regional/national regulations. Neutralize with dilute acid under ventilation before disposal.
 - **Container Disposal:** Triple rinse and dispose of safely. Do not reuse containers.
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