

Sodium Hypophosphite MSDS

1. Product Name and Identification

Product Name: [Sodium Hypophosphite](#)

Synonyms: Sodium phosphinate, Hypophosphorous acid sodium salt

Chemical Formula: NaH_2PO_2

Molecular Weight: 87.99 g/mol

CAS Number: 7681-53-0

Intended Use: Reducing agent, electroplating, chemical synthesis

2. Composition/Ingredients

Substance	CAS Number	Proportion (%)
Sodium Hypophosphite	7681-53-0	≥98%
Impurities (trace levels)	---	≤2%

3. Hazards Identification

Classification:

- Not classified as hazardous under GHS guidelines.
- May cause irritation to skin, eyes, and respiratory system under prolonged or excessive exposure.

Potential Hazards:

- **Health Hazards:** Can irritate skin and eyes on contact. Prolonged inhalation of dust may irritate respiratory passages.
- **Environmental Hazards:** Low potential for bioaccumulation but can be toxic to aquatic life in large quantities.

GHS Label Elements:

- **Pictogram:** Not required under normal conditions of use.
- **Signal Word:** Warning
- **Hazard Statements:**
 - H319 - Causes mild eye irritation.
 - H333 - May cause respiratory discomfort if dust is inhaled.
- **Precautionary Statements:**
 - Avoid generation of dust.
 - Wash thoroughly after handling.

4. First Aid Measures

Skin Contact:

Wash affected area with soap and water. Remove contaminated clothing. If irritation persists, seek medical attention.

Eye Contact:

Rinse eyes gently with water for at least 15 minutes. Remove contact lenses if present. If irritation continues, consult a physician.

Inhalation:

Move to fresh air. If breathing remains difficult, seek immediate medical attention.

Ingestion:

Rinse mouth with water. Do not induce vomiting unless directed by a medical professional. Get medical attention if symptoms appear.

5. Handling and Storage

Handling:

- Avoid inhaling dust or direct contact with skin and eyes.
- Use personal protective equipment (PPE) such as gloves and safety glasses.
- Handle in a well-ventilated area.

Storage:

- Store in a dry, cool, and well-ventilated space.
- Keep container tightly closed.
- Avoid storing near strong oxidizing agents.

6. Exposure Controls/Personal Protection

Engineering Controls:

- Maintain adequate ventilation in work areas. Use local exhaust systems if handling large quantities.

Personal Protection Equipment (PPE):

- **Eye Protection:** Safety glasses or goggles.
- **Skin Protection:** Chemical-resistant gloves and long-sleeved clothing.
- **Respiratory Protection:** Use a dust respirator if ventilation is inadequate.

Exposure Limits:

No specific Occupational Exposure Limits (OELs) established for Sodium Hypophosphite.

7. Physical and Chemical Properties

Property	Value
Form	Crystalline solid
Color	White to off-white
Odor	Odorless
pH (1% solution)	6-8
Boiling Point	Decomposes before boiling
Melting Point	230°C (with decomposition)
Solubility (Water)	Very soluble
Specific Gravity	1.5-1.6
Flash Point	Non-combustible

8. Stability and Reactivity

Stability: Stable under normal conditions of use and storage.

Conditions to Avoid:

- High temperatures
- Exposure to oxidizing agents

Materials to Avoid: Strong oxidizers, acids, and combustible materials.

Decomposition Products:

Releases phosphine gas and other toxic fumes if heated to decomposition.

9. Toxicological Information

Route of Exposure: Skin contact, eye contact, inhalation, ingestion.

Toxic Effects:

- Acute exposure may cause mild irritation to skin, eyes, and respiratory tract.
- Oral toxicity is considered low.

Chronic Effects:

- Repeated or prolonged exposure to high concentrations may lead to respiratory tract irritation.

LD50 Data:

- Oral (rat): >1,000 mg/kg

10. Disposal Considerations

Dispose of in accordance with local, regional, and national regulations. Small quantities of Sodium Hypophosphite can be safely dissolved in water and neutralized before disposal. Do not discharge into water sources or sewer systems.

Note: Ensure compliance with environmental protection agency (EPA) guidelines when disposing of large quantities.
