Sodium Hexametaphosphate MSDS

1. Product Name and Identification

- **Product Name:** Sodium Hexametaphosphate
- **Synonyms:** SHMP, Calgon, Glassy sodium, Sodium polyphosphate
- **CAS Number:** 10124-56-8
- **Chemical Formula:** $(NaPO_3)_6$
- **Recommended Use:** Water treatment, food additive, dispersing agent, industrial cleaning agent.
- **Company Identification:** [Enter Supplier Name and Contact Information Here]

2. Composition/Ingredients

- **Component Name:** Sodium Hexametaphosphate
- **CAS Number:** 10124-56-8
- **Concentration:** >99%

3. Hazards Identification

Emergency Overview: This product is a white, odorless, granular or crystalline powder. It presents a low health hazard under normal conditions of use. Direct contact may cause mild irritation to the eyes, skin, and respiratory tract. Not considered flammable or reactive.

Potential Health Effects:

- **Eye Contact:** May cause mild, temporary irritation, redness, and discomfort upon direct contact.
- **Skin Contact:** Prolonged or repeated exposure may cause mild skin irritation or dryness in sensitive individuals. Not expected to be absorbed through the skin in harmful amounts.
- **Inhalation:** Inhaling dust may cause mild irritation to the nose, throat, and upper respiratory tract. Symptoms may include coughing and sneezing.
- **Ingestion:** Low toxicity. Swallowing large amounts may cause gastrointestinal upset, including nausea, vomiting, and diarrhea.

4. First Aid Measures

- **Eye Contact:** Immediately flush eyes with plenty of clean, running water for at least 15 minutes, holding the eyelids open. If irritation persists, seek medical attention.
- **Skin Contact:** Wash the affected area with soap and water. Remove contaminated clothing. If irritation develops, get medical advice.

- **Inhalation:** Move the exposed person to fresh air. If breathing becomes difficult or discomfort occurs, seek medical assistance.
- **Ingestion:** Do not induce vomiting. If the person is conscious, rinse their mouth with water and give them a glass of water to drink. Never give anything by mouth to an unconscious person. Seek medical advice if large quantities have been ingested or if symptoms develop.

5. Handling and Storage

- **Handling:** Avoid creating dust when handling. Use in a well-ventilated area. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Keep containers closed when not in use.
- **Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances. Keep in a tightly sealed, original container to prevent moisture absorption (hygroscopic). Store away from strong acids and bases.

6. Exposure Controls/Personal Protection

- **Engineering Controls:** Use local exhaust ventilation to keep airborne dust concentrations below exposure limits. Provide eyewash stations and safety showers in the work area.
- **Personal Protective Equipment (PPE):**
    - **Eye/Face Protection:** Wear safety glasses with side-shields or chemical goggles.
    - **Skin Protection:** Wear appropriate protective gloves (e.g., nitrile, rubber) to prevent skin contact. Wear clean, body-covering clothing.
    - **Respiratory Protection:** If dust concentrations are high or ventilation is inadequate, a NIOSH-approved particulate respirator (e.g., N95) is recommended.
    - **General Hygiene:** Practice good industrial hygiene. Wash hands before eating, drinking, or smoking.

7. Physical and Chemical Properties

- **Appearance:** White granular or crystalline powder
- **Odor:** Odorless
- **pH:** Approximately 5.8 - 7.0 (1% solution)
- **Melting Point:** ~628 °C (1162 °F)
- **Boiling Point:** Decomposes
- **Flash Point:** Not applicable
- **Solubility in Water:** Soluble
- **Density:** ~2.48 g/cm^3
- **Molecular Weight:** 611.77 g/mol

8. Stability and Reactivity

- **Chemical Stability:** Stable under normal temperatures and pressures. Hygroscopic; absorbs moisture from the air.
- **Conditions to Avoid:** Exposure to moisture, creation of dust.
- **Incompatible Materials:** Reacts with strong acids and strong oxidizing agents. Contact with magnesium can cause the evolution of hydrogen gas in the presence of water.
- **Hazardous Decomposition Products:** Upon heating to decomposition, may emit toxic fumes of phosphorus oxides and sodium oxides.
- **Hazardous Polymerization:** Will not occur.

9. Toxicological Information

- **Acute Toxicity:**
    - **Oral (LD50, Rat):** 3,053 mg/kg. Considered to be of low acute toxicity by ingestion.
- **Carcinogenicity:** This product is not listed as a carcinogen by IARC, NTP, or OSHA.
- **Irritation:** May cause mild, reversible irritation to eyes, skin, and the respiratory system.
- **Sensitization:** Not expected to be a skin or respiratory sensitizer.

10. Disposal Considerations

- **Waste Disposal:** Dispose of waste material in accordance with all applicable federal, state, and local environmental regulations. This material is not classified as a hazardous waste. Landfilling in an approved facility is a suitable disposal method. Do not dispose of into sewers or waterways. Container disposal should also follow regulatory requirements.