

Sodium Tripolyphosphate MSDS

1. Product Name and Identification

- **Product Name:** [Sodium Tripolyphosphate](#)
- **Synonyms:** STPP, Pentasodium Triphosphate, Sodium Triphosphate
- **CAS Number:** 7758-29-4
- **Chemical Formula:** $\text{Na}_5\text{P}_3\text{O}_{10}$
- **Recommended Use:** Detergent builder, food preservative, water softener, dispersing agent, industrial cleaner.
- **Company Identification:** [Enter Supplier Name and Contact Information Here]

2. Composition/Ingredients

- **Component Name:** Sodium Tripolyphosphate
- **CAS Number:** 7758-29-4
- **Concentration:** >94%

3. Hazards Identification

Emergency Overview: This product is a white, odorless powder or granular solid. It presents a low overall health hazard. Direct contact may cause mild irritation to the skin, eyes, and respiratory system. This material is non-combustible and not considered a fire or explosion hazard.

Potential Health Effects:

- **Eye Contact:** Dust may cause mechanical irritation, leading to symptoms of redness, tearing, and mild discomfort.
- **Skin Contact:** Prolonged or repeated exposure may cause mild skin irritation, especially for individuals with pre-existing skin conditions. Not expected to be absorbed through the skin in harmful amounts.
- **Inhalation:** Inhaling high concentrations of dust may cause irritation to the nose, throat, and respiratory tract. Symptoms can include coughing and sneezing.
- **Ingestion:** Low acute toxicity. Ingestion of large quantities may lead to gastrointestinal upset, including nausea, vomiting, and diarrhea.

4. First Aid Measures

- **Eye Contact:** Immediately flush the eyes with copious amounts of clean, running water for at least 15 minutes, holding the eyelids open to ensure thorough rinsing. If irritation persists, seek medical advice.

- **Skin Contact:** Wash the affected area with soap and water. Remove any contaminated clothing. If skin irritation develops, consult a physician.
- **Inhalation:** Move the exposed person to an area with fresh air. If breathing becomes difficult or irritation persists, seek medical attention.
- **Ingestion:** Do not induce vomiting. If the person is conscious, have them rinse their mouth and drink one or two glasses of water to dilute the material. Seek medical advice if a large amount was ingested or if symptoms develop.

5. Handling and Storage

- **Handling:** Avoid creating dust when handling the product. Use in a well-ventilated area. Avoid direct contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking.
- **Storage:** Store in a cool, dry, well-ventilated place away from incompatible materials. Keep containers tightly sealed to prevent moisture absorption, as the material is hygroscopic.

6. Exposure Controls/Personal Protection

- **Engineering Controls:** Use local exhaust ventilation where dust is generated to maintain airborne concentrations below recommended exposure limits. Eyewash stations and safety showers should be accessible in the work area.
- **Personal Protective Equipment (PPE):**
 - **Eye/Face Protection:** Wear safety glasses with side-shields or chemical goggles to protect against dust.
 - **Skin Protection:** Wear impervious gloves (e.g., nitrile, rubber) for prolonged or repeated contact.
 - **Respiratory Protection:** If dust concentrations are high or ventilation is poor, use a NIOSH-approved particulate respirator (e.g., N95 dust mask).
 - **General Hygiene:** Practice good industrial hygiene. Keep the workplace clean and wash hands frequently.

7. Physical and Chemical Properties

- **Appearance:** White powder or granules
- **Odor:** Odorless
- **pH:** 9.5 - 10.5 (1% solution)
- **Melting Point:** 622 °C (1152 °F)
- **Boiling Point:** Decomposes
- **Flash Point:** Not applicable
- **Solubility in Water:** Soluble
- **Density:** Approximately 2.52 g/cm³

- **Molecular Weight:** 367.86 g/mol

8. Stability and Reactivity

- **Chemical Stability:** Stable under normal temperatures and pressures. Material is hygroscopic.
- **Conditions to Avoid:** Exposure to moisture, creation of dust, and extreme temperatures.
- **Incompatible Materials:** Reacts with strong acids and strong oxidizing agents.
- **Hazardous Decomposition Products:** Upon thermal decomposition, may release toxic fumes of phosphorus oxides and sodium oxides.
- **Hazardous Polymerization:** Will not occur.

9. Toxicological Information

- **Acute Toxicity:**
 - **Oral (LD50, Rat):** 3,120 mg/kg.
 - **Dermal (LD50, Rabbit):** > 4,640 mg/kg.
- **Carcinogenicity:** This product is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), National Toxicology Program (NTP), or Occupational Safety and Health Administration (OSHA).
- **Irritation:** May cause mild and reversible irritation to the eyes, skin, and respiratory tract.
- **Sensitization:** Not considered to be a skin or respiratory sensitizer.

10. Disposal Considerations

- **Waste Disposal:** Dispose of waste in accordance with all applicable federal, state, and local environmental regulations. This material is not classified as a hazardous waste. The preferred method of disposal is landfilling in an approved facility. Do not flush into sewer systems or natural waterways. Dispose of empty containers in the same manner as the product.