



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>

Technical Data Sheet (TDS)

- Sodium Tripolyphosphate (STPP)

Revision Date: 20 February 2026 **Product Number:** STPP-20260220 **CAS Number:** 7758-29-4 **EINECS Number:** 231-838-7 **Chemical Formula:** Na₅ P₃O₁₀

1. Product Overview

Sodium Tripolyphosphate (STPP) is an inorganic sodium salt of polyphosphoric acid, appearing as a white, odorless, crystalline powder. It is highly soluble in water and acts as a powerful sequestering agent, water softener, and emulsifier. STPP is a versatile industrial chemical widely used for its ability to chelate metal ions (such as Ca²⁺ and Mg²⁺) and disperse solids. This product is manufactured under strict quality control to ensure low levels of impurities and consistent performance across various applications, including detergent formulations, food processing, and industrial water treatment.

2. Technical Specifications

Item	Specification
Physical State	Solid powder (25°C)
Color	White
Odor	Odorless
Assay (Na ₅ P ₃ O ₁₀)	≥ 94.0%
pH (1% Solution)	9.5 - 10.5 (Alkaline)
Solubility in Water	15 g/100 mL (25°C)
Bulk Density	0.5 - 0.9 g/cm ³
Melting Point	622°C (Decomposes)
Hygroscopy	Hygroscopic; absorbs moisture from air
Crystal Form	Type I (High Temperature) / Type II (Low Temperature)

3. Product Advantages

- Excellent Sequestration:** Strong ability to bind calcium and magnesium ions, effectively softening hard water.
- Dispersing Power:** Prevents redeposition of dirt and solids in washing applications.
- pH Buffering:** Maintains an alkaline environment, enhancing the effectiveness of cleaning agents.
- Emulsification:** Stabilizes oil-water emulsions in food and industrial formulations.
- High Purity:** Low heavy metal and insoluble content ensures safety and reliability.

4. Application Fields

- Detergents & Cleaners:** Builder in powder and liquid detergents; removes water hardness and boosts surfactant efficiency.
- Food Industry (Food Grade):** Emulsifier, sequestrant, and moisture retainer in seafood, meat products, and baked goods (E 编号: E451i).
- Water Treatment:** Scale and corrosion inhibitor in industrial cooling water systems.
- Ceramics:** Deflocculant in ceramic slip casting to improve flow properties.
- Textiles:** Water softener and detergent in textile processing and dyeing.
- Leather Tanning:** Buffering agent and degreasing aid.

5. Usage Methods

5.1 Recommended Dosage

- Laundry Detergents:** 10% - 40% of the total formulation.



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>

- **Food Processing:** 0.1% - 0.5% (strictly follow GB 2760 or FDA limits).
- **Water Treatment:** 5 - 50 mg/L (depending on water hardness).
- **Ceramic Slurries:** 0.1% - 0.3% to reduce viscosity.

5.2 Handling Guidelines

1. **Dissolution:** Add STPP slowly to water with agitation to prevent clumping (lumping). Dissolution is endothermic (cools the water).
2. **Compatibility:** Compatible with most anionic and non-ionic surfactants. Avoid mixing with strong acids, which will hydrolyze the phosphate chain.
3. **Formulation:** In detergents, blend with surfactants, builders (e.g., sodium carbonate), and fillers.

6. Packaging & Storage

- **Packaging:** 25kg multi-ply paper bags with PE liner; 1000kg bulk bags (FIBC).
- **Storage:** Store in a **cool, dry, well-ventilated warehouse**. Keep containers tightly closed to prevent absorption of moisture (caking) and contamination.
- **Shelf Life:** 24 months from the date of manufacture if stored properly in unopened packaging.
- **Transport:** Classified as **Non-Hazardous Goods**. Transport in covered vehicles to protect from rain and moisture. Avoid contact with acids during transit.

7. Quality Assurance

- Manufactured in an ISO 9001 certified facility.
- Complies with GB/T 9983 (Industrial), GB 25566 (Food), and FCC standards.
- Each batch is tested for assay, pH, and impurities, accompanied by a COA.

纳维盈医化科技
NEWAY SINOPHC TECH