



TECHNICAL DATA SHEET

Product Name: Sodium Trimetaphosphate

CAS Number: 7785-84-4

Molecular Formula: $\text{Na}_3\text{P}_3\text{O}_9$

Molecular Weight: 305.89

EINECS No.: 232-088-3

EC Code: Not allocated

1. Product Description

Sodium Trimetaphosphate (STMP) is a white crystalline powder classified as a cyclic metaphosphate. It is widely used as a chelating agent, stabilizer, and dispersing agent in food processing, detergents, water treatment, and various industrial applications. STMP exhibits excellent metal ion sequestration ability, good water solubility, and stable performance, making it suitable for both food-grade and industrial-grade uses.

2. Specification

Parameter	Specification
Appearance	White crystalline powder
Bulk density	0.90 – 1.20 g/cm ³
Particle size	≥ 95% pass 100 mesh
Identification	Positive
Assay (as $\text{Na}_3\text{P}_3\text{O}_9$)	≥ 95.0%
pH (1% solution)	6.5 – 7.5
Loss on Drying	≤ 1.0%
Heavy Metals (Pb)	≤ 10 ppm
Arsenic (As)	≤ 1 ppm
Chloride (Cl)	≤ 0.10%
Sulfate (SO ₄)	≤ 0.10%
Insoluble matter	≤ 0.1%

Microbiological Standards:

Item	Limit
Total Plate Count	≤ 1000 CFU/g
Yeast & Mold	≤ 100 CFU/g
E. Coli	Negative
Salmonella	Negative

3. Applications

- Food processing – chelating agent and stabilizer
- Meat, seafood, and dairy products – improves texture and stability
- Detergent formulations – water softening and cleaning efficiency enhancement
- Water treatment – scale and corrosion control
- Industrial applications – dispersing agent in ceramics, textiles, and coatings

4. Packaging and Storage

- ◆ **Packaging:** 25 kg net weight per fiber drum or paper bag, inner with PE liner
- ◆ **Shelf Life:** 24 months when properly stored
- ◆ **Storage Conditions:** Store in a cool, dry place, away from moisture and direct sunlight

5. Regulatory Status

- Food grade, conforms to FDA (21 CFR), GB 2760, and applicable EU food additive regulations
- Manufactured under ISO and HACCP-certified facilities
- Non-GMO, Allergen-Free, BSE/TSE-free