



TECHNICAL DATA SHEET (TDS)

Product Name: Sodium Hexametaphosphate (SHMP) | **CAS No.:** 10124-56-8 | **EINECS No.:** 233-343-1

Product Overview: Sodium Hexametaphosphate is a high-purity inorganic polyphosphate polymer consisting of distribution chains of metaphosphate ring structures. It acts as an exceptional chelating agent, deflocculant, scale inhibitor, and dispersion stabilizer in various industrial processes.

1. COMPREHENSIVE TECHNICAL SPECIFICATIONS

Technical Parameter	SHMP 62% Grade	SHMP 67% Grade
Chemical Formula	(NaPO ₃) ₆	(NaPO ₃) ₆
Molecular Weight	611.77 g/mol	611.77 g/mol
Total Phosphate (as P ₂ O ₅)	62.0% Min.	67.0% Min.
Inactive Phosphate (as P ₂ O ₅)	7.5% Max.	4.0% Max.
pH (1% Solution @ 25°C)	5.8 – 7.3	5.8 – 6.8
Appearance	White Granular / Fine Powder	Transparent Glassy Flakes / Powder
Water Insoluble Matter	0.10% Max.	0.05% Max.
Iron (Fe) Content	0.05% Max. (500 ppm)	0.015% Max. (150 ppm)
Heavy Metals (as Pb)	0.001% Max. (10 ppm)	0.001% Max. (10 ppm)
Arsenic (As)	3 ppm Max.	3 ppm Max.
Bulk Density	0.80 – 1.00 g/cm ³	0.85 – 1.05 g/cm ³
Packaging Specification	>25 kg Double Lined PP in HDPE Bag (25 kg / 50 kg HDPE woven bag with double PE inner lining)	

2. KEY INDUSTRIAL APPLICATIONS

- Industrial & Boiler Water Treatment:** Sequesters Ca²⁺ and Mg²⁺ ions to suppress scale formation, pipe encrustation, and corrosion in cooling towers, boilers, and industrial water pipelines.
- Textile & Dyeing Industry:** Functions as a chelating softener and dispersion equalizer to enhance dye solubility, prevent streakiness, and eliminate scum formation.
- Pulp & Paper Manufacturing:** Acts as a slurry dispersant for coating pigments and controls mineral scale buildup on paper machine systems.
- Detergent & Cleaning Formulations:** Enhances surfactant performance, conditions hard water, and acts as a builder in industrial and commercial cleaning compounds.
- Ceramics & Refractories:** Functions as a superior deflocculant and liquefying agent to optimize slurry viscosity and improve green strength in ceramic slip casting.