



ARC PHOSPHATES

The Manufacturing Company

Mobile: 7016931615 | Email: info@acrphosphates.com

Web: www.arcphosphates.com

TECHNICAL DATA SHEET (TDS)

Product Name: Trisodium Phosphate (TSP) | **CAS No.:** 7601-54-9 (Anhydrous) / 10101-89-0 (Dodecahydrate)

Product Overview: Trisodium Phosphate is a highly water-soluble inorganic compound widely utilized as an alkaline cleaning agent, builder, degreaser, water softener, and pH buffer across heavy industrial, water treatment, chemical manufacturing, etc

1. COMPREHENSIVE TECHNICAL SPECIFICATIONS

Technical Parameter	TSP Anhydrous Grade	TSP Dodecahydrate Grade
Chemical Formula	Na_3PO_4	$\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$
Molecular Weight	163.94 g/mol	380.12 g/mol
Main Content / Assay (as Na_3PO_4)	98.0% Min.	98.0% Min.
Phosphorus Pentoxide (P_2O_5 Content)	41.0% - 42.5%	18.0% - 19.0%
pH (1% Solution @ 25°C)	11.5 - 12.5	11.5 - 12.5
Appearance	White Free-Flowing Powder	White Needle Crystalline Crystals
Water Insoluble Matter	0.10% Max.	0.05% Max.
Clarity of Solution	Clear and Colorless	Clear and Colorless
Chloride (as Cl)	0.40% Max.	0.15% Max.
Sulfate (as SO_4)	0.50% Max.	0.20% Max.
Iron (Fe) Content	0.005% Max. (50 ppm)	0.003% Max. (30 ppm)
Heavy Metals (as Pb)	10 ppm Max.	10 ppm Max.
Arsenic (As)	3 ppm Max.	3 ppm Max.
Packaging Specification	(25 kg / 50 kg HDPE woven bag with double PE inner lining)	

2. KEY INDUSTRIAL APPLICATIONS

- Industrial Cleaning & Degreasing:** Functions as a heavy-duty degreaser and builder in industrial detergents, metal surface cleaners, and floor cleaning compounds.
- Boiler & Industrial Water Treatment:** Acts as a water softening agent, scale inhibitor, and boiler feed water buffer to control calcium hardness and corrosion.
- Textile & Dyeing Industry:** Used as a scouring agent, dye leveling additive, and water conditioning chemical in textile wet processing.
- Metal Surface Pre-Treatment:** Employed for metal etching, electroplating bath preparation, and rust removal prior to painting or coating.
- Paper & Pulp Processing:** Serves as a dispersant for coating pigments and pitch control additive in paper slurry preparation.