



TECHNICAL DATA SHEET

1. Product Identification

Product Name: Tripotassium Phosphate Heptahydrate

Synonyms: Potassium Phosphate Tribasic Heptahydrate

Chemical Formula: $K_3PO_4 \cdot 7H_2O$

Molecular Weight: 392.32 g/mol

CAS No.: 7785-53-7

EC No.: 231-907-1

2. Product Description

Tripotassium Phosphate Heptahydrate is a white to colorless crystalline powder or granules. It is highly soluble in water and exhibits strong alkalinity. The product is widely used in food processing, detergents, water treatment, and various industrial applications as a buffering agent, emulsifier, and pH regulator.

3. Chemical & Physical Properties

Item	Specification
Appearance	White crystalline powder or granules
Odor	Odorless
Solubility	Freely soluble in water
pH (1% aqueous solution, 25 °C)	11.5 – 12.5
Loss on Drying	38.0 – 42.0 %
Bulk Density	Approx. 0.8 – 1.1 g/cm ³
Hygroscopicity	Hygroscopic

4. Typical Specifications

Parameter	Specification
Assay (as $K_3PO_4 \cdot 7H_2O$)	≥ 98.0 %
Insoluble Matter	≤ 0.10 %
Chloride (Cl^-)	≤ 0.05 %
Sulfate (SO_4^{2-})	≤ 0.05 %
Heavy Metals (as Pb)	≤ 10 ppm
Iron (Fe)	≤ 50 ppm

5. Applications

■ Food Industry

Used as an emulsifier, stabilizer, buffering agent, and acidity regulator in processed foods, dairy products, and beverages (food-grade specification required).

■ Detergent & Cleaning Products

Acts as a water softener and alkalinity source to enhance cleaning efficiency.

■ Water Treatment

Applied for pH adjustment and corrosion inhibition in industrial water systems.

■ Industrial Processing

Used in ceramics, textiles, metal surface treatment, and chemical manufacturing as a buffering and dispersing agent.

6. Advantages

- High water solubility
- Excellent buffering and alkalinizing performance
- Stable chemical properties
- Consistent quality suitable for industrial and food-related applications

7. Packaging & Storage

■ Packaging:

25 kg net paper bag with inner PE liner, or according to customer requirements.

■ Storage Conditions:

Store in a cool, dry, and well-ventilated place. Keep container tightly closed and protect from moisture.

■ Shelf Life:

24 months under recommended storage conditions.

8. Regulatory Status

- Food-grade material available upon request
- Complies with relevant international standards subject to specific grade and application
- COA, MSDS, and TDS are available for download upon request