



TECHNICAL DATA SHEET

Dipotassium Phosphate Trihydrate ($K_2HPO_4 \cdot 3H_2O$)

CAS No.: 16788-57-1

EINECS No.: 240-740-1

EC No.: 231-834-5

Molecular Formula: $K_2HPO_4 \cdot 3H_2O$

Molecular Weight: 228.22 g/mol

Product Description

Dipotassium Phosphate Trihydrate is a white crystalline powder, highly soluble in water, and commonly used as a buffering agent, food additive, fertilizer component, and in industrial applications. It is valued for its excellent solubility, buffering capacity, and nutritional potassium content.

Typical Specifications

Parameter	Specification
Appearance	White crystalline powder
Assay ($K_2HPO_4 \cdot 3H_2O$)	$\geq 98.0\%$
pH (1% solution at 25°C)	8.5 – 9.5
Water Insoluble Matter	$\leq 0.1\%$
Loss on Drying (105°C, 2h)	15.5 – 18.0% (corresponds to 3H ₂ O)
Heavy Metals (as Pb)	≤ 10 ppm
Arsenic (As)	≤ 3 ppm
Fluoride (F)	≤ 10 ppm
Iron (Fe)	≤ 30 ppm

Physical & Chemical Properties

Appearance: White crystalline solid

Solubility: Freely soluble in water, insoluble in alcohol

Density: Approx. 2.33 g/cm³

Melting Point: Loses water above 130°C

Applications

Food Industry: Used as a buffering agent, emulsifier, stabilizer, and nutrient supplement.

Fertilizer Industry: Source of potassium and phosphorus for plant nutrition.

Industrial Applications: Used in water treatment, electroplating, and detergents.

Pharmaceuticals: As a buffering component in formulations.

Packaging & Storage

Packaging: 25 kg bags / jumbo bags, or customized.

Storage: Store in a cool, dry, well-ventilated area away from moisture and incompatible substances.

Shelf Life: 24 months under recommended storage conditions.

Safety & Handling

Non-flammable, stable under normal conditions.

Avoid inhalation of dust and contact with eyes/skin.

Handle with appropriate personal protective equipment.

Refer to SDS for detailed safety instructions.