TECHNICAL DATA SHEET

Phosphoric Acid 75% Technical Grade

Revised: 08/09/2026

PRODUCT IDENTIFICATION

Product Name: Phosphoric Acid 75% Technical Grade
CAS Number: 7664-38-2
Molecular Formula: H_3O_4P
Molecular Weight: 97.995 g/mol
Grade: Technical Grade
Purity / Concentration: 75%
Synonyms: Orthophosphoric Acid, Phosphoric Acid Solution

PRODUCT OVERVIEW

Alliance Chemical offers high-quality Phosphoric Acid 75% Technical Grade, a clear, syrupy liquid essential for industrial processing. With a high purity level and strictly controlled heavy metal content, including lead and mercury levels below 0.88 ppm, this solution provides reliable performance for pH adjustment and chemical synthesis.

Grade Significance: Technical Grade indicates that this product is manufactured for industrial and manufacturing applications where high performance and consistency are required, though it is not intended for pharmaceutical or direct medical use.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	75	74.5	75.5	Titration
Color (APHA/Hazen)	APHA	5	—	15	Spectrophotometry
Specific Gravity (20°C)	g/mL	1.579	1.577	1.581	Hydrometer @ 20°C
Non-Volatile Residue	%	0.01	—	0.01	Residue on Ignition
Heavy Metals As Pb	ppm	2	—	5	ICP-MS (as Pb)
Iron (Fe)	ppm	2.7	0	9	ICP-MS
Lead Pb	ppm	≤ 0.88 ppm	—	—	ICP-MS
Chloride Cl	ppm	8.82	—	17.65	ICP
Sulfate So4	ppm	≤ 44.12 ppm	—	—	ICP
Acidity	%	≤ 0.01 %	—	—	Titration
Cadmium Cd	ppm	≤ 0.88 ppm	—	—	ICP-MS
Mercury Hg	ppm	≤ 0.88 ppm	—	—	ICP-MS

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear yellowish liquid, syrupy consistency	**Odor**	Odorless
Form	Liquid	**Boiling Point**	~135–158 °C
Melting / Freezing Point	~ −17 to 21 °C (freezing point)	**Flash Point**	210°C (410°F)
Specific Gravity	1.575	**Solubility**	Complete water miscibility, dissolves in polar organic solvents
Molecular Formula	H_3O_4P	**Molecular Weight**	97.995 g/mol
Vapor Pressure (20°C)	0.1 mmHg	**Viscosity (25°C)**	1.5 cP
Refractive Index (20°C)	1.336	**Density (25°C)**	1.685 g/mL

APPLICATIONS

1. **Water Treatment** — Used as an effective agent to adjust pH levels in municipal and industrial water systems to prevent corrosion.
2. **Agriculture** — Serves as a vital raw material in the manufacturing of phosphate-based fertilizers to support crop growth.
3. **Food Processing** — Utilized as a precise acidity regulator to enhance shelf stability and flavor profiles in various food products.
4. **Chemical Manufacturing** — Acts as a foundational reagent in the synthesis of complex chemicals and industrial cleaners.
5. **Metal Finishing** — Applied in metal treatment processes to remove rust and prepare surfaces for specialized coatings.

STORAGE & HANDLING

Proper storage is critical because this acid is corrosive to metals and poses severe burn risks to skin and eyes. Containers must be kept in a cool, well-ventilated area, away from incompatible materials, to maintain chemical integrity and prevent hazardous reactions.

- Store in a cool, dry place away from incompatible materials.
- Use materials compatible with phosphoric acid, such as HDPE or glass containers.
- Avoid contact with strong bases and oxidizing agents.
- Ensure proper ventilation in storage areas to minimize vapor accumulation.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Danger

Hazard Statements:

- H290: May be corrosive to metals
- H314: Causes severe skin burns and eye damage

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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