TECHNICAL DATA SHEET

Phosphoric Acid 75 ACS Grade

Revised: 04/27/2026

PRODUCT IDENTIFICATION

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

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Phosphoric Acid 75% in ACS Grade, a clear and mobile liquid essential for precision-sensitive applications. With a verified assay of 75.3% and exceptionally low trace metal levels, this product is engineered for consistent chemical performance and reliability.

Grade Significance: ACS Grade signifies that this product meets the rigorous purity standards set by the American Chemical Society, ensuring it is suitable for demanding laboratory and analytical applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	75.3	75	88	Titration
Color (APHA)	APHA	5	—	10	ASTM D1209
Specific Gravity (20°C)	g/mL	1.578	—	—	USP <841>
Residue After Ignition	%	0.0020	—	0.0050	ACS
Arsenic (As)	ppm	0.02	—	0.5	ICP-MS
Heavy Metals (as Pb)	ppm	0.05	—	1	ICP-MS
Iron (Fe)	ppm	0.1	—	1	ICP-MS
Chloride (Cl^-)	ppm	0.1	—	5	ISE
Nitrate (NO_3^-)	ppm	0.2	—	5	Ion Chromatography
Sulfate (SO_4^{2-})	ppm	0.5	—	20	Turbidimetry
Reducing Substances	—	Passes Test	—	—	ACS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Transparent, mobile liquid with water-like clarity	**Odor**	Odorless
Form	Liquid	**Boiling Point**	158°C (316.4°F)
Melting / Freezing Point	42°C (107.6°F)	**Flash Point**	Non-flammable
Specific Gravity	1.57	**Solubility**	High water solubility, miscible with polar solvents, excellent aqueous dispersibility
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)	1.333	**Density (25°C)**	1.685 g/mL
Partition Coefficient (log P)	-3.0	**Decomposition Temp.**	Not defined for simple inorganic acid; stable under recommended storage

APPLICATIONS

1. **Water Treatment** — Used as a pH adjuster to maintain optimal chemical balance and prevent corrosion within water distribution systems.
2. **Agriculture** — Functions as a critical raw material in the production of high-grade phosphate fertilizers that support crop health.
3. **Food and Beverage** — Serves as an acidity regulator and flavor enhancer in various food manufacturing processes, meeting stringent purity standards.
4. **Chemical Manufacturing** — Acts as a foundational reagent in the synthesis of specialized chemical compounds where impurity control is paramount.

STORAGE & HANDLING

Proper storage is essential to prevent degradation and ensure the safety of your facility, as this acid is highly corrosive and causes severe skin burns. Containers must be kept tightly sealed in a cool, well-ventilated area to maintain chemical integrity and minimize vapor exposure risks.

- Store in a cool, dry, well-ventilated area away from incompatible materials.
- Use containers made of HDPE or glass to prevent reactions.
- Avoid contact with strong bases and oxidizing agents.
- Ensure proper personal protective equipment (PPE) is worn when handling.
- Keep container tightly closed when not in use to prevent moisture absorption.

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:

- H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]

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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