

PRODUCT IDENTIFICATION



Product Name: Phosphoric Acid 75% USP Food Grade

CAS Number: 7664-38-2

Molecular Formula: $\text{H}_3\text{O}_4\text{P}$

Molecular Weight: 97.995 g/mol

Grade: Food Grade

Purity / Concentration: 75%

Synonyms: Orthophosphoric Acid, Phosphoric Acid 75%

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Phosphoric Acid 75% USP Food Grade, a versatile acidulant known for its exceptional clarity and strict quality standards. With trace heavy metals like lead and cadmium maintained at or below 0.88 ppm, this product ensures safety and consistency for sensitive food and beverage applications.

Grade Significance: Food Grade designation confirms that this phosphoric acid meets rigorous USP standards for purity and heavy metal limits, ensuring it is safe for direct consumption or food-contact manufacturing.

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 %	—	—	Residue on Ignition
Arsenic Antimony As As	ppm	0.5	0	1	ICP-MS
Heavy Metals As Pb	ppm	2	—	4	ICP-MS (as Pb)
Iron (Fe)	ppm	3	0	9	ICP-MS
Lead Pb	ppm	≤ 0.88 ppm	—	—	ICP-MS
Chloride Cl	ppm	8.82	—	17.65	ICP
Nitrate No3	ppm	≤ 4.41 ppm	—	—	ICP
Sulfate So4	ppm	≤ 44.12 ppm	—	—	ICP
Cadmium Cd	ppm	≤ 0.88 ppm	—	—	ICP-MS
Fluoride F	ppm	5	0	10	Ion Chromatography
Mercury Hg	ppm	≤ 0.88 ppm	—	—	ICP-MS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, pale yellow liquid, translucent viscous	Odor	Odorless
Form	Liquid	Boiling Point	~135–158 °C
Melting / Freezing Point	~ -17 to 21 °C (freezing point)	Flash Point	Non-flammable
Solubility	Completely miscible with water, excellent solvent compatibility	Molecular Formula	H ₃ O ₄ P
Molecular Weight	97.995 g/mol	Vapor Pressure (20°C)	0.1 mmHg
Viscosity (25°C)	1.5 cP	Refractive Index (20°C)	1.334
Density (25°C)	1.685 g/mL		

APPLICATIONS

- Food and Beverage** — Functions as a primary acidulant in soft drinks and carbonated beverages to provide a characteristic tangy flavor profile.
- Food Processing** — Used to precisely adjust the pH levels of food products, which enhances overall flavor balance and improves shelf-life stability.
- Agriculture** — Serves as an effective, high-purity source of phosphorus in specialized fertilizers to promote healthy plant growth and root development.
- Industrial Cleaning** — Utilized in heavy-duty cleaning formulations for its potent ability to dissolve rust and remove stubborn mineral deposits from equipment.

STORAGE & HANDLING

Due to its corrosive nature, this acid must be stored in approved, corrosion-resistant containers to prevent structural failure and potential leaks. Proper segregation is essential to avoid contact with incompatible materials, ensuring safety and mitigating the risk of severe skin or eye damage.

- Store in a cool, dry place away from incompatible materials.
- Use containers made of HDPE or glass to prevent reactions.
- Avoid exposure to light and heat to maintain product integrity.
- Wear appropriate personal protective equipment (PPE) such as gloves and goggles when handling.
- Ensure adequate ventilation in storage areas to prevent accumulation of vapors.

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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