

PRODUCT IDENTIFICATION



Product Name: Phosphoric Acid 85% ACS Grade
CAS Number: 7664-38-2
Molecular Formula: $\text{H}_3\text{O}_4\text{P}$
Molecular Weight: 97.995 g/mol
Grade: ACS Grade
Purity / Concentration: 85%
Synonyms: Orthophosphoric Acid, Phosphoric Acid 85%

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Phosphoric Acid 85% in ACS Grade, a clear and colorless liquid essential for precise chemical processing. With a strictly controlled heavy metal profile, including arsenic and lead levels at or below 1 ppm, this reagent-grade acid is ideal for sensitive applications requiring high analytical standards.

Grade Significance: ACS Grade signifies that this product meets the rigorous purity standards established by the American Chemical Society, ensuring the consistency and low impurity levels required for analytical and laboratory work.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	85	84.5	85.5	Titration
Color (APHA/Hazen)	APHA	5	—	15	Spectrophotometry
Specific Gravity (20°C)	g/mL	1.689	1.687	1.691	Hydrometer @ 20°C
Non-Volatile Residue	%	ND	—	0.01	Residue on Ignition
Arsenic (As)	ppm	≤ 0.5 ppm	—	—	Per specification
Heavy Metals As Pb	ppm	2	—	5	ICP-MS (as Pb)
Iron (Fe)	ppm	5	0	10	ICP-MS
Lead Pb	ppm	≤ 1 ppm	—	—	ICP-MS
Chloride Cl	ppm	10	—	20	ICP
Nitrate (NO_3^-)	ppm	≤ 5 ppm	—	—	Per specification
Sulfate SO_4	ppm	≤ 50 ppm	—	—	ICP
Acidity	%	ND	—	0.01	Titration
Cadmium Cd	ppm	≤ 1 ppm	—	—	ICP-MS
Fluoride F	ppm	9	—	10	Ion Chromatography
Mercury Hg	ppm	≤ 1 ppm	—	—	ICP-MS

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Odorless
Form	Liquid	Boiling Point	158 °C (316 °F)
Melting / Freezing Point	21 °C (70 °F)	Flash Point	Non-flammable
Specific Gravity	1.685	Solubility	Soluble in water, alcohols, and polar organic solvents
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)	1.331	Density (25°C)	1.685 g/mL

APPLICATIONS

- 1. Water Treatment** — Phosphoric acid is utilized to effectively adjust pH levels, ensuring water stability and preventing corrosion in municipal and industrial systems.
- 2. Agriculture** — This chemical serves as a critical raw material in the production of high-efficiency phosphate fertilizers that support optimal crop nutrient uptake.
- 3. Food & Beverage** — It acts as a reliable acidity regulator, providing the desired tartness and pH balance in a variety of food processing applications.
- 4. Pharmaceuticals** — The high purity of our ACS grade makes it an ideal reagent for the complex synthesis of pharmaceutical compounds and active ingredients.

STORAGE & HANDLING

Due to its corrosive nature, Phosphoric Acid 85% must be stored in specialized, compatible containers to prevent structural degradation and potential leaks. Proper storage in a cool, well-ventilated area is essential to mitigate the risks associated with its severe skin and eye burn hazards.

- 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 moisture to maintain product integrity.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.
- 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.

Disclaimer: The information contained herein is believed to be accurate and represents the best information currently available to us. However, Alliance Chemical makes no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.