

PRODUCT IDENTIFICATION



Product Name: Citric Acid 25% Solution

CAS Number: 77-92-9

Molecular Formula: C₆H₈O₇

Molecular Weight: 192.12 g/mol

Grade: Technical

Purity / Concentration: 25%

Synonyms: Citric Acid Liquid, Citric Acid Aqueous Solution

PRODUCT OVERVIEW

Alliance Chemical offers a high-quality Technical grade Citric Acid 25% solution, a clear and colorless aqueous blend designed for precision in industrial applications. With an assay of 25.1% and exceptional purity levels including iron content at only 1 ppm, this liquid provides consistent performance for pH adjustment and chemical processing.

Grade Significance: Technical grade indicates that this product is manufactured for industrial and commercial use where high-performance chemical properties are required, rather than for direct human consumption.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	25.1	24	26	Titration with NaOH
Color (APHA)	APHA	10	—	20	ASTM D1209
Specific Gravity (20°C)	g/mL	1.102	1.095	1.105	USP <841>
Residue After Ignition	%	0.01	—	0.05	USP <281>
Heavy Metals (as Pb)	ppm	0.1	—	2	ICP-OES
Iron (Fe)	ppm	1	—	5	ICP-OES
Chloride (Cl ⁻)	ppm	0.5	—	5	Ion Chromatography
Sulfate (SO ₄ ²⁻)	ppm	2	—	10	Ion Chromatography

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid	Odor	Slightly sour
Form	Liquid	Boiling Point	152°C (305.6°F)
Melting / Freezing Point	153°C (307.4°F)	Solubility	Soluble in water, alcohol, and ether
Molecular Formula	C ₆ H ₈ O ₇	Molecular Weight	192.12 g/mol
Vapor Pressure (20°C)	0.1 mmHg (approximate; low volatility)	Viscosity (25°C)	1.0 cP
Refractive Index (20°C)	1.334	Density (25°C)	1.05 g/mL

APPLICATIONS

1. **Food and Beverage** — This solution is used to adjust acidity levels in various food products, effectively enhancing flavor profiles and improving overall preservation.
2. **Pharmaceutical** — It serves as a critical buffering agent in pharmaceutical formulations, ensuring the maintenance of stable pH levels throughout the product shelf life.
3. **Industrial Cleaning** — The solution is utilized in cleaning formulations due to its superior ability to chelate metal ions and effectively remove mineral scale.
4. **Nutraceuticals** — It is incorporated into dietary supplements to leverage its antioxidant properties and support essential metabolic processes.

STORAGE & HANDLING

Proper storage is essential to maintain the concentration and purity of the Citric Acid solution while preventing degradation. Because the product is classified as a respiratory and eye irritant, it must be kept in a cool, well-ventilated area in tightly sealed containers to prevent accidental exposure and ensure workplace safety.

- Store in a cool, dry place away from direct sunlight.
- Use materials compatible with citric acid, such as HDPE or glass containers.
- Avoid contact with strong oxidizing agents.
- Ensure proper ventilation when handling to minimize inhalation exposure.
- Use personal protective equipment (PPE) such as 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: **Warning**



Hazard Statements:

- H319: Causes serious eye irritation [Warning Serious eye damage/eye irritation]
- H335: May cause respiratory irritation [Warning Specific target organ toxicity, single exposure; Respiratory tract 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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