

PRODUCT IDENTIFICATION



Product Name: Citric Acid 25% Solution

CAS Number: 77-92-9

Molecular Formula: $C_6H_8O_7$

Molecular Weight: 192.12 g/mol

Grade: Technical Grade

Purity / Concentration: 25%

Synonyms: Citric Acid Liquid, Citric Acid Aqueous Solution

PRODUCT OVERVIEW

Alliance Chemical offers a high-quality 25% Citric Acid aqueous solution, a versatile technical-grade liquid characterized by its precise 24.98% assay and low impurity profile. This clear, colorless solution is engineered for consistent performance in industrial applications requiring reliable pH adjustment and metal chelation.

Grade Significance: Technical grade indicates that this product is manufactured for industrial and commercial utility, prioritizing functional performance and cost-effectiveness over food or pharmaceutical-grade certification.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc Density	%	24.98	24	26	GC or density
Residue On Ignition	%	0.01	—	0.05	Ignition
Arsenic As	ppm	≤ 1 ppm	—	—	ICP-MS
Heavy Metals (as Pb)	ppm	≤ 10 ppm	—	—	ICP
Lead Pb	ppm	≤ 0.5 ppm	—	—	ICP-MS
Chlorides	ppm	≤ 50 ppm	—	—	Ion chromatography
Sulfates	ppm	≤ 150 ppm	—	—	Ion chromatography
Oxalate	ppm	30	—	100.0	Per specification

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	Not characterized for the 25% solution
Melting / Freezing Point	Not characterized for the 25% solution	Flash Point	100°C (212°F)
Specific Gravity	1.1	Solubility	Soluble in water, alcohol, and ether
Molecular Formula	$C_6H_8O_7$	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** — Used as a precise acidity regulator to enhance flavor profiles and improve the shelf-life stability of various food products.
2. **Pharmaceuticals** — Acts as an essential buffering agent in drug formulations, ensuring that optimal pH levels are maintained for product efficacy.
3. **Industrial Cleaning** — Utilized for its potent chelating properties, which effectively dissolve mineral scale and remove metallic deposits from equipment surfaces.
4. **Nutraceuticals** — Incorporate this solution into dietary supplements to leverage its antioxidant properties and support metabolic processes.

STORAGE & HANDLING

Store this solution in a cool, well-ventilated area to maintain chemical integrity and prevent degradation. Proper storage is critical to mitigate potential respiratory irritation and eye contact hazards, ensuring the safety of personnel handling the product.

- 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
- H335: May cause respiratory 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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