

PRODUCT IDENTIFICATION



Product Name: Citric Acid Monohydrate - USP Food Grade

CAS Number: 5949-29-1

Molecular Formula: $C_6H_{10}O_8$

Molecular Weight: 210.14 g/mol

Grade: Food Grade

Purity / Concentration: 99.5%

Synonyms: Citric Acid, 2-Hydroxypropane-1,2,3-tricarboxylic acid

PRODUCT OVERVIEW

Citric Acid Monohydrate is a high-purity, food-grade crystalline acid widely utilized for flavor enhancement and pH regulation. With an assay concentration of 99.9% and strictly controlled impurity levels, it provides consistent performance for food, pharmaceutical, and cosmetic applications.

Grade Significance: Food Grade certification ensures that the product meets stringent purity standards suitable for human consumption and sensitive applications, guaranteeing that impurities like heavy metals remain well below safety thresholds.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay Gc Density	%	99.9	99.5	100.5	GC or density
Water Karl Fischer	%	0.3	0	0.5	Karl Fischer
Arsenic (As)	ppm	1	—	1	Per specification
Heavy Metals (as Pb)	ppm	2.6	0	5	ICP
Sulfates	ppm	64	0	150.0	Ion chromatography

Values based on 2 batches tested. ND = Not Detected.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Translucent	Odor	Slightly sour odor
Form	Crystal	Boiling Point	175°C (347°F)
Melting / Freezing Point	135°C (275°F)	Flash Point	385°C (725°F)
Solubility	Highly soluble in water, moderate in alcohol	Molecular Formula	$C_6H_{10}O_8$
Molecular Weight	210.14 g/mol	Vapor Pressure (20°C)	0.0001 mmHg
Refractive Index (20°C)	1.542	Density (25°C)	1.665 g/mL
Partition Coefficient (log P)	-0.7	Decomposition Temp.	175

APPLICATIONS

1. **Food and Beverage** — Used as a primary acidulant to enhance flavor profiles and act as a natural preservative to maintain product freshness.
2. **Pharmaceuticals** — Acts as a reliable chelating agent to stabilize metal ions within complex medicinal formulations.
3. **Cosmetics** — Serves as an effective buffering agent to maintain optimal pH balance in skin care and personal hygiene products.
4. **Food Production** — Utilized by manufacturers to adjust acidity levels precisely, ensuring both safety and shelf-life stability.

STORAGE & HANDLING

Proper storage in a cool, dry, and well-ventilated area is essential to prevent clumping and maintain the integrity of the crystalline form. Because the material can cause skin, eye, and respiratory irritation, it must be kept in tightly sealed containers to prevent accidental exposure or dust inhalation.

- Store in a cool, dry place away from direct sunlight.
- Use appropriate personal protective equipment (PPE) when handling.
- Ensure containers are tightly sealed to prevent moisture ingress.
- Compatible with HDPE and glass containers; avoid metal containers.
- Keep away from strong oxidizing agents.

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 55 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Warning**



Hazard Statements:

- H315: Causes skin irritation
- 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.

Alliance Chemical | 204 South Edmond St, Taylor, Texas 76574 | 512-365-6838 | www.alliancechemical.com

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.