



Citric Acid TDS / Technical Data Sheet

Product Identification

Product Name: Citric Acid

Chemical Name: 2-Hydroxypropane-1,2,3-tricarboxylic acid

Chemical Formula: C₆H₈O₇

CAS Number: 77-92-9

EC Number: 201-069-1

Molecular Weight: 192.12 g/mol

Supplier: ATDM

Citric Acid is a white crystalline organic acid widely used in food processing, pharmaceuticals, cosmetics, detergents, cleaning products, water treatment, and industrial formulations.

Typical Technical Specifications

Property	Typical Specification
Appearance	White crystalline powder or crystals
Assay	99.5–100.5%
Identification	Conforms
Clarity of Solution	Clear
Color of Solution	Conforms
Moisture / Water	Grade dependent
Sulphated Ash	≤ 0.05%
Sulphate	≤ 150 ppm
Chloride	≤ 50 ppm
Oxalate	≤ 100 ppm
Calcium	≤ 200 ppm
Iron	≤ 5 ppm

Property	Typical Specification
Lead	$\leq 0.5-1$ ppm
Arsenic	≤ 1 ppm
Heavy Metals	Typically ≤ 10 ppm
Easily Carbonizable Substances	Pass
Solubility in Water	Freely soluble
Odor	Odorless
Taste	Sour / acidic
pH of Aqueous Solution	Acidic
Melting / Decomposition Point	Approx. 153°C
Relative Density	Approx. 1.66 for anhydrous grade

Available Grades

ATDM can supply different commercial grades according to customer requirements.

Citric Acid Anhydrous

Citric Acid Anhydrous contains very low moisture and suits applications where manufacturers require strict moisture control.

Typical applications include:

- Powdered beverages
- Food formulations
- Effervescent products
- Pharmaceuticals
- Detergents
- Industrial processing



Citric Acid Monohydrate

Citric Acid Monohydrate contains one molecule of crystallization water and remains widely used across food, beverage, pharmaceutical, cosmetic, and industrial markets.

The exact moisture specification depends on the selected grade and producer.

Physical Properties

Property	Information
Physical Form	Crystalline solid
Color	White
Odor	Odorless
Water Solubility	High
Hygroscopicity	Sensitive to moisture under certain conditions
Chemical Nature	Weak organic acid
Acidity	Strong sour character in solution
Stability	Stable under recommended storage conditions

Main Applications

Citric Acid serves several functions across different industries.

Common applications include:

- Food and beverage acidification
- pH adjustment
- Flavor enhancement
- Pharmaceutical formulations
- Cosmetic formulations
- Detergent production
- Industrial cleaning
- Descaling products
- Water treatment
- Metal cleaning
- Chelating applications
- Chemical processing



Its strong water solubility and chelating properties make it particularly useful where manufacturers require controlled acidity and metal-ion management.

Functional Properties

Citric Acid offers several important technical functions:

Acidity Regulation:

It helps manufacturers control and stabilize pH in liquid and solid formulations.

Chelating Action:

It can bind certain metal ions and support improved formulation stability.

High Solubility:

The material dissolves readily in water, which simplifies dosing and processing.

Buffering Support:

It works effectively with suitable salts in buffering systems.

Descaling Performance:

Citric solutions can help remove mineral deposits in selected industrial and cleaning applications.

Recommended Storage

Store Citric Acid in a cool, dry, and well-ventilated warehouse.

Recommended storage practices include:

- Keep packaging tightly sealed
- Protect the product from moisture
- Avoid direct exposure to excessive heat
- Keep away from strong oxidizing agents
- Prevent contamination during handling
- Store bags on clean pallets in dry areas

Proper storage helps maintain product purity, appearance, and free-flowing properties.

Packaging

Common commercial packaging options include:

- 25 kg multi-layer paper bags
- 25 kg PP woven bags with inner liner
- Palletized bags



- Jumbo bags for bulk orders where available

Packaging specifications can vary according to grade, producer, order quantity, and destination.

Shelf Life

Typical shelf life is approximately **24 to 36 months** from the manufacturing date when the product remains unopened and stored under suitable dry conditions.

Customers should follow the shelf-life information stated on the original producer documentation.

Quality Documentation

ATDM can provide technical and quality documents according to the supplied grade and shipment.

Available documentation may include:

- Technical Data Sheet (TDS)
- Safety Data Sheet (SDS/MSDS)
- Certificate of Analysis (COA)
- Product specification
- Packing list
- Commercial invoice
- Country-of-origin documentation where applicable

Supplier Information

ATDM supplies Citric Acid for food, pharmaceutical, cosmetic, detergent, cleaning, water-treatment, and industrial applications.

Customers should provide their required grade, quantity, packaging, destination, and technical specification when requesting a quotation.

Note: The values in this TDS represent typical commercial specifications. Final specifications can vary by grade, producer, batch, and applicable standard. Always use the official COA and supplier-issued TDS for contractual quality control.