

Citric Acid

CAS 5949-29-1 · $C_6H_8O_7 \cdot H_2O$ · Monohydrate & anhydrous

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1. Product identity

Product name	Citric Acid
Synonyms	citric acid monohydrate, citric acid anhydrous, nimbu sat, E330
C.A.S. number	5949-29-1 (citric acid MONOHYDRATE - the grade most commonly traded). ANHYDROUS citric acid is CAS 77-92-9. Both share EC number 201-069-1.
Molecular formula	$C_6H_8O_7 \cdot H_2O$ (monohydrate); $C_6H_8O_7$ (anhydrous) - $HOOC-CH_2-C(OH)(COOH)-CH_2-COOH$
Molecular weight	210.14 (monohydrate); 192.1 (anhydrous, ILO ICSC 0855). The 9.4% difference matters for dosing and for stoichiometric calculations - a formula written for anhydrous will be under-strength if monohydrate is substituted weight-for-weight.
Grade supplied against	Monohydrate & anhydrous
Appearance	Colourless to white, odourless translucent crystals, granules or crystalline powder with a strongly acidic taste. The monohydrate is slightly deliquescent; the anhydrous grade is the more hygroscopic in use.
Product group	Mineral & Organic Acids
HSN code	2918 14 00
Country of origin	As stated on the producer's documents for the lot supplied; confirmed at offer stage
Packing	25 kg bag · 1 MT jumbo
Storage	Store in closed original bags or containers in a dry, cool (about 10-30 C), well-ventilated place away from moisture, heat and direct sunlight. The monohydrate is slightly deliquescent and will cake in a humid store; the anhydrous grade will pick up moisture and convert. Keep off damp floors and do not stack where bags can absorb condensation. Segregate from strong bases, strong oxidisers, metal nitrates and reactive metals. Use stainless steel, plastic or lined handling equipment. Keep away from strong-smelling materials - the crystals pick up odour.

2. Analytical specification

S. No.	Test parameter	Specification	Method
1	Description	Colourless to white, odourless translucent crystals, granules or crystalline powder with a strongly acidic taste. The monohydrate is slightly deliquescent; the anhydrous grade is the more hygroscopic in use.	Visual
2	Identification	Conforms to the substance supplied	Instrumental or chemical test, per method agreed
3	Assay / grade	Monohydrate & anhydrous	Titrimetry or instrumental, per method agreed
4	Physical state	Solid	Visual

S. No.	Test parameter	Specification	Method
5	Solubility in water	Very soluble. Monohydrate 59.2 g/100 mL at 20 C (ILO ICSC 0704); anhydrous 59 g/100 mL at 20 C (ILO ICSC 0855); producer data 776 g/L at 25 C. Also soluble in ethanol, sparingly in diethyl ether.	Per the test method agreed
6	pH	1.8 in a 50 g/L (5% w/v) aqueous solution at 20-25 C (producer data). A 1% w/v solution is about pH 2.2. The solid has no pH. Quote the concentration whenever this figure is published - an unqualified 'pH 1.8' is meaningless.	Potentiometry on an aqueous suspension
7	Relative density	1.54 g/cm ³ (monohydrate, producer data); ILO ICSC 0704 gives 1.5 g/cm ³ . Bulk density depends on granulation and is typically quoted per grade by the producer. Anhydrous density: Not available from the sources consulted.	Pyknometry or gas displacement
8	Melting / freezing point	Monohydrate 135 C (ILO ICSC 0704); anhydrous 153 C (ILO ICSC 0855). Note that some producer sheets quote 153 C for the monohydrate as well, because on heating it first loses its water of crystallisation (from about 70-75 C) and then melts as the anhydrous acid - see notes.	Thermal analysis
9	Boiling point	Not applicable - decomposes before boiling. Decomposition above 175 C (ILO ICSC 0855 and producer data).	Distillation range
10	Flash point	Not flammable as supplied. Producer sheets state 'not applicable / non-flammable'. ILO ICSC 0855 does record a flash point of 100 C for anhydrous citric acid, which reflects the combustibility of the dry solid rather than a flammable vapour. The dust is combustible and can form an explosible dust cloud, so treat grinding, sieving, conveying and bagging as dust-explosion duties.	Not applicable — the substance is not combustible
11	Additional parameters	To the specification agreed before order	As agreed

3. Transport classification

Not regulated for transport · Class Not applicable - not a dangerous good under ADR, IMDG or IATA · Packing group Not applicable

Proper shipping name: Not applicable - not regulated for transport

What this document is. This is a product specification sheet. It states the grade this material is supplied against, its packing and its identity. **It is not a certificate of analysis, it carries no test results, and it certifies no batch.** Tested values for the consignment actually loaded appear on the batch certificate of analysis issued against that batch, which travels with the despatch documents. Identity and physical data are drawn from PubChem, the ECHA CLP inventory and ILO safety cards; the producer's documents for the grade quoted govern. Velora Chemicals Private Limited is a bulk supplier and trader, not a manufacturer.