

Specification and Technical Data Sheet

Sodium Citrate Dihydrate

Formula: C₆H₅Na₃O₇ •2H₂O**M.W. 294.10**

Description: Sodium Citrate Dihydrate is the trisodium salt of citric acid and contains two molecules of water of crystallization. It is available as colorless crystals or as a white, crystalline powder.

Sodium Citrate Dihydrate is odorless and has a cool, saline taste. One gram is soluble in 1.5 ml of water at 25°C and in 0.6ml of boiling water. It is insoluble in alcohol. The aqueous solution is slightly alkaline, with a pH about 8.2. Sodium Citrate Dihydrate becomes anhydrous at 150°C.

Sodium Citrate Dihydrate complies with: FDA Regulation 21 CFR 184.1751; EINECS-No 2006753; CAS No 6132-04-3/68-04-2.

Specifications

Sodium Citrate Dihydrate is produced to meet the specifications of the European Food Additive, the European Pharmacopoeia, the US Pharmacopoeia, the Food Chemicals Codex, the Japanese Pharmacopoeia, the British Pharmacopoeia, and the Japanese Standards for Food Additives. Test methods are listed in the current E-331, EP, USP, FCC, JP, FB and JPFA.

Assay	Not less than 99% and not more than 100.5% of C ₆ H ₅ Na ₃ O ₇ , calculated on the anhydrous basis.
Water	Between 11% and 13% of its weight
Identification	A 1-in-20 solution gives positive tests for sodium and for citrate.
Alkalinity	Passes test
Arsenic (as As)	Not more than 1 part per million
Heavy Metals (as Pb)	Not more than 5 parts per million
Lead	Not more than 2 parts per million
Tartrate	Passes test – no crystalline precipitate is formed
pH solution 5% v/w at 77°F (25°C)	8.0 – 8.7
Iron	Not more than 5 parts per million
Oxalate	Not more than 100 parts per million
Sulfate	Not more than 100 parts per million
Chlorides	Not more than 50 parts per million
Clarity and color solution	Meets the requirements
Readily Carbonizable Substances	Meets the requirements

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Particle Size Specifications

Sodium Citrate Dihydrate is available in two sieve sizes:

	U.S. Sieves	Metric Sieves
Granular	Max. 2% on No. 16 U.S. Standard Sieve	Max. 2% on 1.180 mm
	Max. 2% through No. 80 U.S. Standard Sieve	Max. 2% through 0.180 mm
Fine	Max. 1% on No. 30 U.S. Standard Sieve	Max. 1% on 0.600 mm
	Max. 10% through No. 100 U.S. Standard Sieve	Max. 10% through 0.150 mm
	Max. 2% on No. 100 U.S. Standard Sieve	Max. 2% on 0.150 mm
Powder	Approximately 90% through on No. 200 U.S. Standard Sieve.	Approx. 90% through on 0.075 mm

Typical Bulk Density

The bulk densities listed below are typical loose bulk density values of Sodium Citrate Dihydrate and are not specification values.

LOOSE BULK DENSITY	(LB/FT ³)
Granular	64
Fine	63
Powder	31

Storage Conditions

Sodium Citrate Dihydrate is stable in air and can be stored in dry form without difficulty, although conditions of high humidity and elevated temperatures should be avoided to prevent caking. Shelf life is 5 years.

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Availability & Packaging

Sodium Citrate Dihydrate is available in various package sizes. For additional packaging information, samples, or assistance in using Sodium Citrate Dihydrate, please contact your local Tate & Lyle sales representative or one of our offices in the following regions:

Brazil	(55 11) 5090 3950	United Kingdom	++44 (0) 2030 432401
Colombia	(57 2) 431 0627	United States	1 (800) 348 7414
Mexico	(52) 33 3668 4693	Europe	+49 (0) 6922 222 832 or +39 0236 003676