

Product Information

Trisodium Citrate Dihydrate

General Information

Trisodium citrate dihydrate is a tribasic salt of citric acid. It is produced by complete neutralisation of citric acid with high purity sodium hydroxide or carbonate and subsequent crystallisation. Citric acid is the product of a microbial fermentation using carbohydrate substrates.

Trisodium citrate dihydrate is widely used in foods, beverages and various technical applications mainly as buffering, sequestering or emulsifying agent.

Chemical Data

Chemical Name	Trisodium 2-hydroxypropane-1,2,3-tricarboxylate dihydrate
Chem. Formula	$C_6H_5O_7Na_3 \cdot 2H_2O$
Molecular Weight	294.1
pH (5% solution)	7.5 – 9.0
Bulk Density	750 - 1100 kg/m ³
REACH Nr.	01-2119457027-40-0000
EC No.	200-675-3
CAS No.	6132-04-3
E-No.	E 331

Specification

Jungbunzlauer trisodium citrate dihydrate is specified according to the latest editions of the European Pharmacopoeia (Ph. Eur.), the United States Pharmacopeia (USP), the Food Chemicals Codex (FCC), and of Commission Regulation (EU) No 231/2012.

Parameters	Jungbunzlauer Limits
Odour	typical, practically odourless
Identification	conforms
Appearance of solution	clear and colourless
Acidity or alkalinity	conforms
pH-value (5% solution)	7.5 - 9.0
Readily carbonisable substances	conforms
Chloride	max. 50 mg/kg
Oxalic acid / oxalate	max. 100 mg/kg
Sulphate	max. 100 mg/kg
Tartrate	conforms
Arsenic	max. 1 mg/kg
Lead	max. 0.5 mg/kg
Mercury	max. 0.5 mg/kg
Water (Loss on drying)	11.0 – 13.0 %
Assay	99.0 – 100.5 %

Characteristics

Trisodium citrate dihydrate occurs as white, granular crystals or as white, crystalline powder with a pleasant, salty taste. It is slightly deliquescent in moist air, freely soluble in water and practically insoluble in ethanol (96%).

Trisodium citrate dihydrate is a non-toxic, neutral salt with low reactivity. It is chemically stable if stored at ambient temperatures.

Trisodium citrate dihydrate is fully biodegradable and can be disposed of with regular waste or sewage.

Standard Granulations

Type	Particle size	Limits
N1560	> 1.25 mm	max. 5%
	< 0.40 mm	max. 20%
N1500	> 1.25 mm	max. 5%
	< 0.20 mm	max. 15%
F6000	> 0.63 mm	max. 10%
	< 0.20 mm	max. 15%
F3500	> 0.355 mm	max. 5%

Legal Aspects

In Europe, trisodium citrate is listed as generally permitted food additive (E 331) and may be added to all food, following the "quantum satis" principle, as long as no special regulations restrict the use.

The US Food and Drug Administration (FDA) affirmed trisodium citrate as GRAS (generally recognized as safe) and permitted the use in food according to current GMP (CFR § 184.1751), without setting an upper limit.

Standard Packaging and Storage

Jungbunzlauer trisodium citrate dihydrate is available in 25 kg net PE bags, or in 1000 kg net big bags with inner PE lining.

Trisodium citrate may be stored for at least 3 years in original or tightly closed containers. Prolonged storage at temperatures higher than 30°C and/or humidity higher than 70% should be avoided in order to prevent caking.

The information contained herein has been compiled carefully to the best of our knowledge. We do not accept any responsibility or liability for the information given in respect to the described product. Our product has to be applied under full and own responsibility of the user, especially in respect to any patent rights of others and any law or government regulation.
