

Jungbunzlauer From nature to ingredients

Tripotassium Citrate

Tripotassium citrate is widely used in personal care applications to adjust pH level and to chelate metal ions. Furthermore, it is often used in oral care products because of its ability to treat dentine hypersensitivity. It diffuses the exposed dentin tubules to the pulp and blocks the mechanism of pain transmission between nerve cells. Tripotassium citrate can also be used as a processing aid to help to dissolve zinc citrate.

Presentation

Tripotassium citrate monohydrate is the common tribasic potassium salt of citric acid, also known as potassium citrate.

Production

Tripotassium citrate is produced by complete neutralisation of citric acid with a high purity potassium source and subsequent crystallisation.

Citric acid itself is produced by a submerged fermentation process which employs a strain of the microorganism *Aspergillus niger* to convert sugar into citric acid.

Characteristics

Tripotassium citrate occurs as transparent crystals or a white, granular powder. It is an odourless substance with a cooling, salty taste. It is slightly deliquescent when exposed to moist air, freely soluble in water and almost insoluble in ethanol (96%). In contrary to other potassium salts, it is less bitter and thus can be used at higher concentration levels. Tripotassium citrate is a non-toxic, slightly alkaline salt with low reactivity.

INCI name Potassium Citrate

INCI functions Buffering, chelating

Applications

Colour cosmetics, deodorants, hair care, oral care, skin care, soap and bath products

Functions and typical dosage

	Minimum recommended amount	Maximum recommended amount
 Buffering 	0.1%	1.0%
 Reduction of hypersensitivity 	3.0%	6.0%

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Formulation examples

- 占 Toothpaste
- Toothpaste for gentle cleansing
- Toothpaste with cooling crystals
- Anti-plaque mouthwash
- Antibacterial mouthwash



