



Zinc Citrate

Zinc citrate acts as a plaque reducing agent in oral care products. It has also anti-bacterial and anti-inflammatory effects and helps to reduce skin irritations, which is why it is also used in skin care applications. The solubility and dissolution time of zinc citrate is relatively low but can be easily increased by the addition of tripotassium citrate or trisodium citrate.

Presentation

Zinc citrate is the zinc salt of citric acid and is mainly used in oral care products to reduce plaque, tartar and bad breath. Because of its mild taste profile it is a preferred choice compared to inorganic zinc sources. With approximately 31% zinc content it offers the highest zinc content among the organic zinc salts.

Production

Zinc citrate is produced by complete neutralisation of citric acid with a zinc source and subsequent precipitation. 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

Zinc citrate is a white to almost white powder, practically odourless and hygroscopic. It is slightly soluble in water and insoluble in ethanol (96%).

INCI name

Zinc Citrate

INCI functions

Antimicrobial, antiplaque, oral care

Applications

Deodorants, hair care, oral care, skin care, soap and bath products

Functions and typical dosage

	Minimum recommended amount	Maximum recommended amount
■ Anti-plaque and anti-bacterial (toothpaste)	0.5%	2.0%
■ Anti-plaque and anti-bacterial (mouthwash)	0.1%	0.2%



Related documents

Formulation examples

-  Anti-plaque mouthwash
-  Antibacterial mouthwash
-  48h Deo roll-on

Articles

-  A highly bioavailable zinc source in support of human health
-  Anti-plaque effect of Zinc Citrate