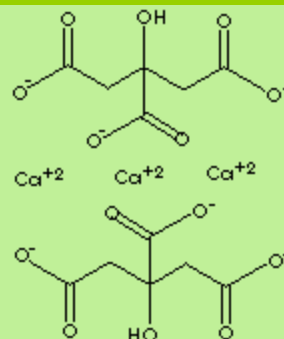


CALCIUM CITRATE

PRODUCT IDENTIFICATION

CAS NO.	813-94-5
EINECS NO.	212-391-7
FORMULA	$\text{Ca}_3(\text{C}_6\text{H}_5\text{O}_7)_2 \cdot 4\text{H}_2\text{O}$
MOL WT.	570.50
H.S. CODE	2918.15
DERIVATION	
CLASSIFICATION	
TOXICITY	very low



SYNONYMS Citric acid calcium salt; Tricalcium citrate; 2-Hydroxy-1,2,3-Propanetricarboxylic acid, calcium salt (2:3); Tricalcium dicitrate; Citrical; 柠檬酸钙 (Chinese); Calciumcitraat (Dutch); Citrate De Calcium (French); Kalziumzitat (German); Citrato Del Calcio (Italian); Citrato Do Calcio (Portuguese); Citrato Del Calcio (Spanish);

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	White crystalline powder
MELTING POINT	
BOILING POINT	
SPECIFIC GRAVITY	
SOLUBILITY IN WATER	almost insoluble
pH	5.6 - 5.8 (5% sol.)
VAPOR DENSITY	practically 0
AUTOIGNITION	
NFPA RATINGS	Health: 1; Flammability: 0; Reactivity: 0
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions

APPLICATIONS

Commonly called Calcium Citrate is chemically Tricalcium Dicitrate Tetrahydrate, the most commonly used calcium salt of citric acid. It is a white, odourless powder, generally permitted as a safe nutrient and food additive having functions of acidity regulator, sequestering and stabilizing agent, antioxidants synergist, firming agent, Calcium enrichment in foods and medicine. It is physiologically completely compatible like citric acid.

SALES SPECIFICATION

BIBLIOGRAPHY	FCC IV
APPEARANCE	White fine powder or granular
ASSAY	97.5 - 100.5%
CALCIUM CONTENT	23.5-24.2% (Anhydrous Basis), 20.5-21.2%(Tetrahydrate Basis)
ORGANIC VOLATILES	Complies
LOSS ON DRYING	10.0 - 13.3%
HEAVY METALS	0.002% max
ACID INSOLUBLES	0.2% max
FLUORIDE	0.003% max
LEAD (as Pb)	0.001% max
ARSENIC (as As)	0.0003% max

PARTICLE SIZE	90% min (80mesh) : powder 80% min (20 - 60mesh) granule
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TRANSPORTATION

PACKING	25kgs in Bag, 20mts in Container
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HAZARD CLASS	Not regulated
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GENERAL DESCRIPTION OF CITRIC ACID

Citric Acid (2-Hydroxy-1,2,3-propanetricarboxylic acid, in IUPAC naming) is a colourless crystalline organic compound belong to carboxylic acid family. It exists in all plants (especially in lemons and limes) and in many animal tissues and fluids. In biochemistry, it is involved in important metabolism of almost all living things; the Krebs cycle (also called citric acid cycle or tricarboxylic acid cycle), a part of the process by which animals convert food to energy. Citric acid works as a preservative (or as an antioxidant) and cleaning agent in nature. It is commercially obtained by fermentation process of glucose with the aid of the mold *Aspergillus niger* and can be obtained synthetically from acetone or glycerol. It can be used as an sour taste enhancer in foods and soft drinks. The three carboxy groups lose protons in solution; resulting in the excellent pH control as a buffer in acidic solutions. It is used as a flavouring, stabilizing agent and acidulant (to control acidity) in food industry, in metal-cleaning compositions as it chelates metals. Citric acid is available in forms of anhydrous primarily and in monohydrate, the crystallized form from water. The hydrated form will be converted to the anhydrous form above 74 C. Citrate is a salt or ester of citric acid. Citrates are formed by replacing the acidic one, two, or all three of the carboxylic hydrogens in citric acid by metals or organic radicals to produce an extensive series of salts, esters, and mixed (double) salts. Citrates are used in food, cosmetics, pharmaceutical and medicine industries as well as in plastic industry; nutrient or food additives having functions of acidity regulator, sequestering and stabilizing agent, antioxidants synergist, firming agent; anticoagulant for stored whole blood and red cells and also for blood specimens as citrates chelate metal ions and saline cathartics, effervescent medicines; high boiling solvent, plasticizer and resin for food contact plastics.