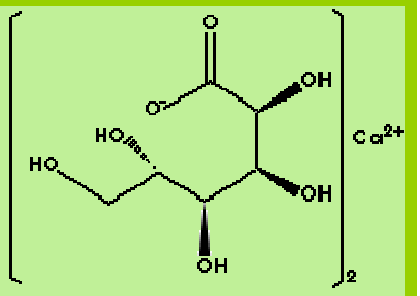
CALCIUM GLUCONATE



PRODUCT IDENTIFICATION	
CAS NO.	299-28-5 (Anhydrous) 18016-24-5 (Hydrate)
EINECS NO.	206-075-8
FORMULA	$[HOCH_2[CH(OH)]_4COO]_2Ca$
MOL WT.	430.38
H.S. CODE	2918.16
TOXICITY	
SYNONYMS	D-gluconic acid, Calcium salt; D-Gluconic acid, monoscalcium salt; Calciofon; D-Gluconic acid, calcium salt (2:1); Glucobiogen; Neocalglucon; Gluconato de calcio; Gluconate de calcium;
DERIVATION	glucose fermentation
CLASSIFICATION	GLUCONATES /

PHYSICAL AND CHEMICAL PROPERTIES	
PHYSICAL STATE	white crystalline powder or granule
MELTING POINT	
BOILING POINT	
SPECIFIC GRAVITY	
SOLUBILITY IN WATER	Soluble (Insoluble in alcohol, benzene)
pH	6.0 - 8.5 (10% Sol.)
VAPOR DENSITY	
AUTOIGNITION	
NFPA RATINGS	Health: 1; Flammability: 0; Instability: 0
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions

APPLICATIONS

Gluconic acid is a polyhydroxycarboxylic acid with six carbon length. It is derived from glucose by oxidation of the aldehyde group on the C-1 to a carboxyl group. It is abundant in plants, fruits and other foodstuffs. Commercially the physiological d-form gluconic acid is prepared by fermentation process. It has a carboxylic group and five hydroxy groups, and thus is a good chelator particularly in alkaline conditions. Chelation is a chemical combination with a metal in complexes in which the metal is part of a ring. Organic ligand is called chelator or chelating agent, the chelate is a metal complex. The larger number of ring closures to a metal atom is the more stable the compound. Chelation is applied in metal complex chemistry, organic and inorganic chemistry, biochemistry, and environment protection. It is used in chemotherapeutic treatments for metal poisoning. Chelating agents offers a wide range of sequestrants to control metal ions in aqueous systems. By forming stable water soluble complexes with multivalent metal ions, chelating agents prevent undesired interaction by blocking normal reactivity of metal ions. Heavy metals are chelated in alkaline solution and their interferences are eliminated gluconic acid. Concentrated gluconic acid solution contains certain lactone structure, a neutral cyclic ester, showing antiseptic property. Gluconic acid and its derivatives (salts or esters) are used in the formulation of pharmaceuticals, foods, and cosmetics as mineral supplements to prevent the deficiency and as buffer salts. They are used as ingredients in various hygienic products. In industrial applications, they are used for scale removal in metal cleanings, industrial and household cleaning compounds including mouth washer, metal finishing, water treatments, and as paper and textile auxiliaries.

SALES SPECIFICATION

USP/FCC/EP	
APPEARANCE	white crystalline powder or granule
IDENTIFICATION	pass (Test A, Test B)
ASSAY	98.5 - 102.0%
CA CONTENT	8.8 - 9.1%
ARSENIC	3ppm max
LEAD	10ppm max
CHLORIDE	50ppm max
SULFATE	50ppm max
PHOSPHATE	100ppm max
OXALATE	100ppm max
ALKALI SALTS	0.5% max
REDUCING MATTERS	1.0% max
LOSS ON DRYING	1.0% max
TOTAL AEROBIC VIABLE COUNT	1000 CFU/g^3 max
MOULDS	50 CFU/g^3 max
YEASTS	10 CFU/g^3 max
ENTEROBACTERIACEAE	absent in 1g^3 max
SALMONELLA	absent in 50g^3 max
ENDOTOXINS	170 IU/g max
TRANSPORTATION	
PACKING	50kgs in fiber drum
HAZARD CLASS	Not regulated
UN NO.	
OTHER INFORMATION	
Hazard Symbols: n/a, Risk Phrases: n/a, Safety Phrases: 24/25-26-36/37/39	