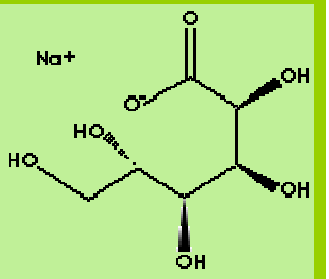
SODIUM GLUCONATE



PRODUCT IDENTIFICATION

CAS NO.	527-07-1; 15537-84-5; 22808-65-7; 24551-74-4; 252255-37-1, 526-95-4 (Parent)
EINECS NO.	208-407-7
FORMULA	$HOCH_2[CH(OH)]_4COONa$
MOL WT.	218.14
H.S. CODE	2918.16.2000
TOXICITY	Rabbit LDLo (intravenous): 7630mg/kg
SYNONYMS	D-Gluconic acid, sodium salt; D-Gluconic acid monosodium salt; Glonsen; Gluconato di sodio; Monosodium D-gluconate; Sodium (2R,3S,4R,5R')-2,3,4,5,6-pentahydroxyhexanoate; 2,3,4,5,6-Pentahydroxycaproic acid sodium salt;
SMILES	O[C@@H]([C@@H]([C@@H](CO)O)O)[C@@H](C(=O)[O-])O.[Na+]
CLASSIFICATION	Gluconate, Replenisher, UNII-R6Q3791S76. Carbohydrate, Monosaccharide, Sequestering agent

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	white to slightly yellow crystalline powder
MELTING POINT	170 - 175 (Decomposes)
BOILING POINT	
SPECIFIC GRAVITY	
SOLUBILITY IN WATER	Soluble (5.90E+05 mg/l at 25 C)
SOLVENT SOLUBILITY	Insoluble in alcohol, benzene
pH	6.5 - 8.0 (10% Sol.)
VAPOR DENSITY	
log Pow	-5.99 (Octanol-water)
OH RATE	3.81E-11 (cm3/molecule-sec at 25 C Atmospheric)
AUTOIGNITION	
NFPA RATINGS	Health: 1; Flammability: 0; Instability: 0
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions

GENERAL DESCRIPTION & EXTERNAL LINKS

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.

LIST OF ADDITIVES CURRENTLY PERMITTED IN FOOD IN THE EUROPEAN UNION AND THEIR E NUMBERS.

SALES SPECIFICATION	
USP/FCC/EP	
APPEARANCE	white to off-white powder
IDENTIFICATION	pass (Test A, Test B)
ASSAY	98.0 - 102.0%
SPECIFIC ROTATION	11.5 - 12.5°
ARSENIC	3ppm max
LEAD	10ppm max
WATER	11.6% max
REDUCING MATTERS	0.5% max
LOSS ON DRYING	3.0% max
OVI	pass test (Organic Volatile Impurities)
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	