SODIUM ERYTHORBATE

Prepared at the 17th JECFA (1973), published in FNP 4 (1978) and in FNP 52 (1992). Metals and arsenic specifications revised at the 61st JECFA (2003). An ADI 'not specified' was established at the 37th JECFA (1990)

SYNONYMS Sodium isoascorbate

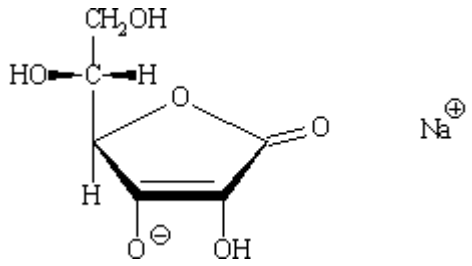
DEFINITION

Chemical names: Sodium isoascorbate, sodium D-isoascorbic acid, sodium salt of 2,3-didehydro-D-erythro-hexono-1,4-lactone, 3-keto-D-gulofurano-lactone sodium enolate monohydrate

C.A.S. number: 6381-77-7

Chemical formula: $C_6H_7O_6Na \cdot H_2O$

Structural formula:



Formula weight: 216.13

Assay: Not less than 98% after drying

DESCRIPTION White, almost odourless crystalline powder

FUNCTIONAL USES Antioxidant

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4): Freely soluble in water, very slightly soluble in ethanol

Reducing activity: A solution of the sample will decolourize a solution of 2,6-dichloro-phenolindophenol TS

Test for ascorbate (Vol. 4): Passes test

Test for sodium (Vol. 4): Passes test
Test a solution of previously ignited sample, acidified with dilute acetic acid TS, filtered if necessary

PURITY

Loss on drying (Vol. 4)	Not more than 0.25% (in vacuum over sulfuric acid, 24 h)
Specific rotation (Vol. 4)	[alpha] 25, D: Between +95.5° and +98.0° (10% (w/v) solution)
pH (Vol. 4)	5.5 - 8.0 (1 in 10 soln)
Oxalate	To a solution of 1 g in 10 ml of water add 2 drops of glacial acetic acid and 5 ml of 10% calcium acetate solution. The solution should remain clear.
Lead (Vol. 4)	Not more than 2 mg/kg Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, “Instrumental Methods.”

METHOD OF ASSAY

Dissolve about 0.400 g of the dried sample in a mixture of 100 ml of carbon dioxide-free water and 25 ml of dilute sulfuric acid TS. Titrate the solution at once with 0.1 N iodine, adding a few drops of starch TS as indicator as the end point is approached. Each ml of 0.1 N iodine is equivalent to 10.807 mg of $C_6H_7O_6Na \cdot H_2O$.