DL-TARTARIC ACID

Prepared at the 53rd JECFA (1999) and published in FNP 52 Add 7 (1999), superseding specifications prepared at the 21st JECFA (1977), published in NMRS 57 (1977) and in FNP 52 (1992). No ADI was allocated at the 27th JECFA (1983)

SYNONYMS dl-Tartaric acid

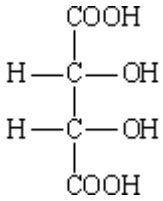
DEFINITION

Chemical names DL-Tartaric acid, 2,3-dihydroxybutanedioic acid; 2,3-dihydroxysuccinic acid

C.A.S. number 133-37-9

Chemical formula $C_4H_6O_6$

Structural formula



Formula weight 150.09

Assay Not less than 99.5% on the dried basis

DESCRIPTION Colourless or translucent crystals, or a white crystalline powder; odourless

FUNCTIONAL USES Synergist for antioxidants, acid, emulsifier, sequestrant, flavouring agent

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Freely soluble in water; sparingly soluble in ethanol

Optical rotation (Vol. 4) A 1 in 10 solution has no optical activity

Test for tartrate (Vol. 4) Passes test

PURITY

Loss on drying (Vol. 4) Not more than 0.5% (over P_2O_5, 3 h)

Melting range (Vol. 4) 200 - 206^{o} with decomposition when heated rapidly in a sealed capillary-tube

Sulfated ash (Vol. 4) Not more than 0.1%

Readily oxidizable Dissolve 1 g of the sample in 25 ml dilute sulfuric acid TS. Add 4 ml of 0.1

substances	N potassium permanganate while keeping the solution at 20°. The colour of the solution does not disappear within 3 min.
Sulfates (Vol. 4)	Not more than 0.05% 0.4 g of the sample meets the requirements of the Limit Test, using 0.5 ml of 0.01 N sulfuric acid in the control
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	Weigh accurately about 2 g of the dried sample, dissolve it in 40 ml of water, add phenolphthalein TS, and titrate with 1 N sodium hydroxide. Each ml of 1 N sodium hydroxide is equivalent to 75.04 mg of $C_4H_6O_6$.