

dl-MALIC ACID

Prepared at the 67th JECFA (2006) and published in FAO JECFA Monographs 3 (2006), superseding specifications prepared at the 57th JECFA (1999) and published in FNP 52 Add 9 (2001) and the Combined Compendium of Food Additive specifications FAO JECFA Monographs 1 (2005). An ADI "not specified" was established at the 13th JECFA (1969).

SYNONYMS 2-Hydroxybutanedioic acid; INS No. 296

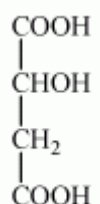
DEFINITION

Chemical names DL-Malic acid, 2-Hydroxybutanedioic acid, Hydroxysuccinic acid

C.A.S. number 6915-15-7

Chemical formula $C_4H_6O_5$

Structural formula



Formula weight 134.1

Assay Not less than 99.0%

DESCRIPTION White or nearly white crystalline powder or granules

FUNCTIONAL USES Acidity regulator

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4) Very soluble in water; freely soluble in ethanol

Melting range (Vol. 4) 127 - 132°

Test for malate (Vol. 4) Passes test
Test 5 ml of a 1 in 20 solution of the sample, neutralized with ammonia TS

PURITY

Fumaric and maleic acid (Vol. 4) Not more than 1.0% of fumaric acid and not more than 0.05% of maleic acid

Lead (Vol. 4) Not more than 2 mg/kg
Determine using an AAS/ICP-AES technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the methods described in Volume 4.

METHOD OF ASSAY Dissolve about 2 g of the sample, accurately weighed, in 40 ml of recently boiled and cooled water, add 2 drops of phenolphthalein TS and titrate with 1 N sodium hydroxide to the first appearance of a faint pink colour which persists for at least 30 sec. Each ml of 1 N sodium hydroxide is equivalent to 67.04 mg of $C_4H_6O_5$.