CALCIUM DI-L-GLUTAMATE

Prepared at the 31st JECFA (1987), published in FNP 38 (1988) and in FNP 52 (1992). Metals and arsenic specifications revised at the 57th JECFA (2001)
A group ADI 'not specified' for glutamic acid and its Ammonium, Ca, K, Mg & Na salts, was established at the 31st JECFA (1987)

SYNONYMS Calcium glutamate, INS No. 623

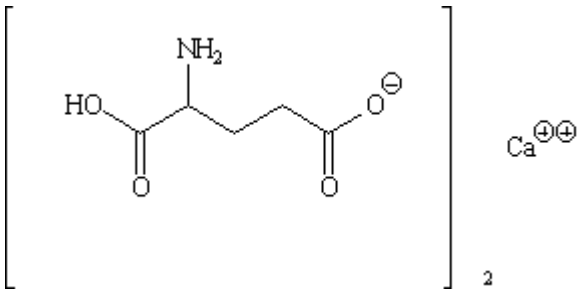
DEFINITION

Chemical names: Monocalcium di-L-glutamate

C.A.S. number: 19238-49-4

Chemical formula: $C_{10}H_{16}CaN_2O_8 \cdot xH_2O$ (x = 0, 1, 2 or 4)

Structural formula:



Formula weight: 332.32 (anhydrous)

Assay: Not less than 98.0% and not more than 102.0 % on the anhydrous basis

DESCRIPTION White, practically odourless crystals or crystalline powder

FUNCTIONAL USES Flavour enhancer, salt substitute

CHARACTERISTICS

IDENTIFICATION

Solubility (Vol. 4): Freely soluble in water

Test for glutamate (Vol. 4): Passes test

Test for calcium (Vol. 4): Passes test

PURITY

Water (Vol. 4): Not more than 19% (Karl Fischer Method)

Specific rotation (Vol. 4): [alpha] 20, D: Between +27.4 and +29.2° (10% w/v solution in 2N hydrochloric acid)

Chlorides (Vol. 4) — Not more than 0.2%
Test 0.07 g of the sample as directed in the Limit Test using 0.4 ml of 0.01 N hydrochloric acid in the control

Pyrrolidone carboxylic acid (Vol. 4) — Passes test

Lead (Vol. 4) — Not more than 1 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 250 mg of the sample, previously dried and weighed accurately, in 6 ml of formic acid, and add 100 ml of glacial acetic acid. Titrate with 0.1 N perchloric acid determining the end-point potentiometrically. Run a blank determination in the same manner and correct for the blank. Each ml of 0.1 N perchloric acid is equivalent to 8.308 mg of $C_{10}H_{16}CaN_2O_8$. Calculate the content on the anhydrous basis.