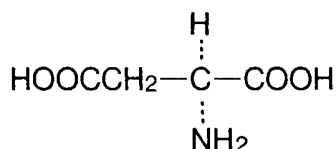


D. MONOGRAPHS

L-Aspartic Acid



$\text{C}_4\text{H}_7\text{NO}_4$

Mol.Wt.133.10

(S)-1-amino-1,2-ethanedicarboxylic acid

[56-84-8]

Content L-Aspartic Acid, when calculated on the dried basis, contains 98.0 - 102.0% of L-aspartic acid ($\text{C}_4\text{H}_7\text{NO}_4$).

Description L-Aspartic Acid occurs as white crystals or crystalline powder. It is odorless, and has a sour taste.

Identification (1) To 5 ml of L-Aspartic Acid solution (1 : 1,000), add 1 ml of ninhydrin solution (1 : 50), and heat for 3 minutes in a water bath. A bluish purple color develops.

(2) To 5 ml of 1 mol/l L-Aspartic Acid in diluted hydrochloric acid (1 : 25), add 1 ml of sodium nitrite solution (1 : 10). A colorless gas is evolved and effervescence occurs.

Purity (1) Specific rotation $[\alpha]_{\text{D}}^{20} : +24.0 - +26.0^\circ$

Weigh accurately about 8 g of L-Aspartic Acid, and dissolve in 6 mol/l hydrochloric acid to make exactly 100 ml. Measure the angular rotation of this solution and calculate on the dried basis.

(2) Clarity and color of solution Colorless, clear (1.0 g, 1 mol/l hydrochloric acid 20 ml).

(3) pH 2.5 - 3.5 (saturated solution).

(4) Chloride Not more than 0.10% as Cl (0.07 g, Control solution 0.01 mol/l hydrochloric acid 0.20ml)

(5) Heavy metals Not more than 20 $\mu\text{g/g}$ as Pb (1.0 g, Method 2, Control solution Lead Standard Solution 2.0 ml).

(6) Arsenic Not more than 4.0 $\mu\text{g/g}$ as As_2O_3 (0.50 g, Method 3, Apparatus B).

Loss on Drying Not more than 0.30% (105 °C, 3 hours).

Residue on Ignition Not more than 0.10%

Assay Weigh accurately about 0.3 g of L-Aspartic Acid, dissolve in 6 ml of formic acid, and proceed as directed under the Assay for L-Asparagine.

1 ml of 0.1 mol/l perchloric acid = 13.310 mg $\text{C}_4\text{H}_7\text{NO}_4$