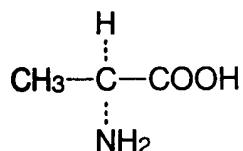


D. MONOGRAPHS

L-Alanine



C₃H₇NO₂

Mol.Wt.89.09

(S)-2-aminopropanoic acid

[56-41-7]

Content L-Alanine, when calculated on the dried basis, contains 98.0 - 102.0% of L-alanine (C₃H₇NO₂).

Description L-Alanine occurs as white crystals or crystalline powder. It is odorless, and has a sweetish taste.

Identification (1) To 5 ml of L-Alanine 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) Dissolve 0.2 g of L-Alanine in 10 ml of diluted sulfuric acid (1 : 20), add 0.1 g of potassium permanganate, and heat to boil. The odor of acetaldehyde is evolved.

Purity (1) Specific rotation [α]_D²⁰ : + 13.5 - +15.5 ° .

Weigh accurately about 10 g of L-Alanine, 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, water 10 ml).

(3) pH 5.7 - 6.7 (1.0 g, water 20 ml).

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

(5) Heavy metals Not more than 20 µg/g as Pb (1.0 g, Method1, Control solution Lead Standard Solution 2.0 ml).

(6) Arsenic Not more than 4.0 µg/g as As₂O₃ (0.50 g, Method 1, Apparatus B).

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

Residue on Ignition Not more than 0.20%

Assay Weigh accurately about 0.2 g of L-Alanine, and proceed as directed under the Assay in L-Asparagine.

1 ml of 0.1 mol/l perchloric acid = 8.909 mg C₃H₇NO₂