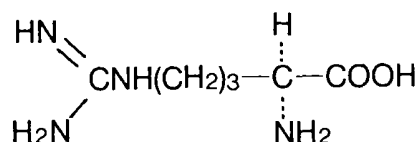


D. MONOGRAPHS

L-Arginine



C₆H₁₄N₄O₂

Mol.Wt.174.20

L-2-amino-5-guanidinovaleric acid

[74-79-3]

Content L-Arginine, when calculated on the dried basis, contains 98.0 - 120.0% of L-arginine(C₆H₁₄N₄O₂).

Description L-Arginine occurs as white crystals or crystalline powder. It has a characteristic odor and has a characteristic taste.

Identification (1) To 5 ml of L-Arginine 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) A solution of L-Arginine is alkaline.

Purity (1) Specific rotation [α]_D²⁰ : +25.0 - +27.9 °

Weigh accurately about 8 g of L-Arginine 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 20 ml).

(3) pH 10.5 - 12.5 (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 0.02 ml)

(5) Heavy metals Not more than 20 µg/g as Pb.

Test Solution Weigh 1.0 g of L-Arginine, dissolve in about 30 ml of water, add 1 drop of Phenolphthalein TS, and neutralize with diluted hydrochloride (1 : 4). Add 2 ml of diluted acetic acid (1 : 20) and water to make 50 ml.

Control Solution Use 2.0 ml of Lead Standard Solution.

(6) **Arsenic** Not more than 4.0 µg/g as As₂O₃ (0.5 g, Method 1, Apparatus B).

Loss on Drying Not more than 1.0% (105 °C, 3 hours).

Residue on Ignition Not more than 0.20%

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

1 ml of 0.1 mol/l perchloric acid = 8.710 mg C₆H₁₄N₄O₂