L-Cystine[1]

$C_6H_{12}N_2O_4S_2$: 240.30

L-Cystine, when dried, contains not less than 98.5 percent and not more than 101.0 percent of L-Cystine ($C_6H_{12}N_2O_4S_2$).

Description

White crystals or crystalline powder.
Practically insoluble in water and in ethanol (99.5).
Dissolves in 1mol/L hydrochloric acid.

Identification

Compare the infrared absorption spectrum of the sample with that of the standard by potassium bromide disc method.

Specifications

Item	Limit	Test
Specific rotation $[\alpha]_D^{20}$	-218 to -224°	AJI TEST 1 [Dried sample, C=2, 1mol/L HCl]
State of solution (Transmittance)	Clear and colorless Not less than 98.0%	AJI TEST 2 [1.0g in 10mL of 2mol/L HCl, spectrophotometer, 430nm, 10mm cell thickness]
Chloride (Cl)	Not more than 0.020%	AJI TEST 3 [0.5g, A-3, ref: 0.28mL of 0.01mol/L HCl]
Ammonium (NH_4)	Not more than 0.02%	AJI TEST 4 [A-2]
Sulfate (SO_4)	Not more than 0.020%	AJI TEST 5 [0.85g, (2), ref: 0.35mL of 0.005mol/L H_2SO_4]
Iron (Fe)	Not more than 10ppm	AJI TEST 6 [0.75g, B-2, ref: 0.75mL of Iron Std. (0.01mg/mL)]
Lead (Pb)	Not more than 5ppm	[FCC]
Heavy metals (Pb)	Not more than 10ppm	AJI TEST 7 [1.0g, (4), ref: 1.0mL of Pb Std. (0.01mg/mL)]
Arsenic (As_2O_3)	Not more than 1ppm	AJI TEST 8 [2.0g, (2), ref: 2.0mL of As_2O_3 Std.]
Related substances	Conforms	AJI TEST 9 [1mol/L HCl, test sample: 50μg, S-6-a, control; L-Cystine 0.1μg]
Loss on drying	Not more than 0.20%	AJI TEST 11 [1g, at 105°C for 3 hours]
Residue on ignition (Sulfated)	Not more than 0.10%	AJI TEST 13 [1g, at 550°C to 650°C for 3 hours]
Assay	98.5 to 101.0%	AJI TEST 15 [Dried sample, 260mg, B, SeO_2 0.2g, digestion for 4 hours, 0.05mol/L H_2SO_4 1mL=12.015mg $C_6H_{12}N_2O_4S_2$]

L-Cystine[1]

Specifications (cont'd)

Item	Limit	Test
pH	5.0 to 6.5	AJI TEST 33 [0.02g in 50mL (saturated aqueous solution)]

[1] This product, in terms of actual quality, conforms to EP, FCC

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