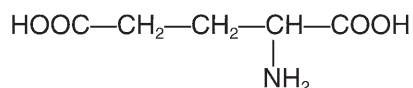


L-GLUTAMIC ACID

CAS NO. 56-86-0

Specification meets or exceeds the current EP and FCC.

MOLECULAR STRUCTURE AND FORMULA



$\text{C}_5\text{H}_9\text{NO}_4$: 147.13
N : 9.52%

DESCRIPTION

White crystals or crystalline powder
Odorless

IDENTIFICATION

Compare the infrared absorption spectrum of sample with that of the standard by ATR method.

SPECIFICATION AND PROCEDURE

State of solution (transmittance)	Not Less Than 98.0%	Sec.-1 10%, 2 mol/l HCl
pH	3.0 ~ 3.5	Sec.-26, Saturated solution
Specific rotation $[\alpha]_D^{20}$	+31.5 ~ +32.2°	Sec.-2, dry, 10%, 2 mol/l HCl
Ammonium (NH_4)	Not More Than 0.020%	Sec.-43, 0.20 g 0.1 mol/l HCl
Chloride (Cl)	Not More Than 0.020%	Sec.-4-(1), 0.5 g 0.24 ml of 0.01 mol/l HCl
Sulfate (SO_4)	Not More Than 0.020%	Sec.-5, 0.6 g + 5 ml dil. HCl + H_2O → 45 ml 0.25 ml of 0.005 mol/l H_2SO_4 + H_2O → 45 ml (5 ml of BaCl_2)
Iron (Fe)	Not More Than 10 ppm	Sec.-33
Heavy metals (Pb)**	Not More Than 10 ppm	Sec.-7-(2), 1.0 g 1.0 ml of Standard solution
Arsenic (As_2O_3)	Not More Than 1ppm	Sec.-8-(2), 1.0 g 1.0 ml of Standard solution
Loss on drying	Not More Than 0.10%	Sec.-9-(1) 105°C, 3hr
Residue on ignition	Not More Than 0.10%	Sec.-10, 1 g
Related substances	Not More Than 0.4%	Sec.-43, 0.20 g 0.1 mol/l HCl
Endotoxin*	Less Than 6.0 EU/g	Sec.-34-(2), 1.0 g/100 ml
Assay (dry basis)	99.0 ~ 101.0%	Sec.-16-(1), dry 0.3 g 0.1 mol/l NaOH 1 ml = 14.713 mg $\text{C}_5\text{H}_9\text{NO}_4$

* The endotoxin-certified grade will be supplied on request.

**FCC grade (Lead : Not More Than 5 mg/kg) will be supplied on request.

STORAGE

Controlled room temperature in tight container

This product meets requirements of residual solvents listed in the current JP, USP and EP.