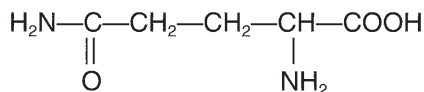


L-GLUTAMINE

CAS NO. 56-85-9

Specification meets or exceeds the current JP USP and FCC.

MOLECULAR STRUCTURE AND FORMULA



$\text{C}_5\text{H}_{10}\text{N}_2\text{O}_3$: 146.14
N : 19.17%

DESCRIPTION

White crystals or crystalline powder
Odorless
Slightly characteristic taste

IDENTIFICATION

Compare the infrared absorption spectrum of sample (dry, 1-2 mg) with that of the standard by diffuse reflection method.

SPECIFICATION AND PROCEDURE

State of solution (Transmittance)	Not Less Than 98.0%	Sec.-1 2.5%, H ₂ O
pH	4.0 ~ 6.0	Sec.26, 2%
Specific rotation $[\alpha]_D^{20}$	+6.3 ~ +7.3°	Sec.-2, dry 4%, H ₂ O
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 0.25 ml of 0.005 mol/l H ₂ SO ₄
Iron (Fe)	Not More Than 10 ppm	Sec.-6-(2), 1.0 g 1.0 ml of Standard solution
Heavy metals (Pb)**	Not More Than 10 ppm	Sec.-7-(1), 1.0 g 1.0 ml of Standard solution
Arsenic (As ₂ O ₃)	Not More Than 1 ppm	Sec.-8-(1), 2.0 g 2.0 ml of Standard solution
Loss on drying	Not More Than 0.20%	Sec.-9-(1) 105°C, 3hr
Residue on ignition	Not More Than 0.10%	Sec.-10, 2 g
Related substances	Not More Than 0.5%	Sec.-43, 0.20 g, H ₂ O
Endotoxin*	Less Than 6.0 EU/g	Sec.-34-(2), 0.25 g/100 ml
Assay (dry basis)	99.0 ~ 101.0%	Sec.-15-(1), dry → 0.15 g 0.1 mol/l HClO ₄ 1 ml = 14.61 mg C ₅ H ₁₀ N ₂ O ₃

* 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.