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L-Glutamine oral grade	AOC product code B35053-25		
Mnftg site: Ajinomoto do Brazil Ind. E Com. De Alimentos Ltda.	Issued date: 24 Jul 2015		

L-Glutamine¹

C₅H₁₀N₂O₃: 146.14

L-Glutamine, when dried, contains not less than 99.0 percent and not more than 101.0 percent of L-Glutamine (C₅H₁₀N₂O₃).

Description

White crystals or crystalline powder; slightly characteristic taste.

Freely soluble in formic acid, soluble in water, practically insoluble in ethanol (99.5).

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 [α] _D ²⁰	+31.5 to +33.0°	AJI TEST 1 [Dried sample, C=10, 2mol/L HCl] ²
	+6.3 to +7.3°	AJI TEST 1 [Dried sample, C=4, H ₂ O, Warming at 40°C] ³
State of solution (Transmittance)	Clear and colorless Not less than 98.0%	AJI TEST 2 [0.5g in 20mL of H ₂ O, spectrophotometer, 430nm, 10mm cell thickness]
Chloride (Cl)	Not more than 0.020%	AJI TEST 3 [0.5g, A-1, ref. 0.28mL of 0.01mol/L HCl]
Ammonium (NH ₄)	Not more than 0.10%	AJI TEST 4 [45°C, A-Titrimetry]
Sulfate (SO ₄)	Not more than 0.020%	AJI TEST 5 [0.85g, (1), ref. 0.35mL of 0.005mol/L H ₂ SO ₄]
Iron (Fe)	Not more than 10ppm	AJI TEST 6 [1.0g, A-1, ref. 1.0mL of Iron Std. (0.01mg/mL)]
Heavy metals (Pb)	Not more than 10ppm	AJI TEST 7 [1.0g, (1), ref. 1.0mL of Pb Std. (0.01mg/mL)]
Arsenic (As ₂ O ₃)	Not more than 1ppm	AJI TEST 8 [2.0g, (1), ref. 2.0mL of As ₂ O ₃ Std.]
Related substances ⁴	Conforms	AJI TEST 9 [Test sample: 50µg, B-6-a, control; L-Glu (NH ₄) 0.25µg]
Loss on drying	Not more than 0.30%	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	99.0 to 101.0%	AJI TEST 14 [Dried sample, 150mg, (1), 3mL of formic acid, 50mL of acetic acid (100), 0.1mol/L HClO ₄ , 1mL=14.61mg C ₅ H ₁₀ N ₂ O ₃]
pH	4.5 to 6.0	AJI TEST 33 [1.0g in 50mL of H ₂ O]

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Item	Limit	Test
Total viable aerobic count	NMT 500cfu/g	AJI Test 28
Yeast & Mould	NMT 100 cfu/g	AJI Test 28
<i>E. Coli</i>	Absent / g	AJI Test 28
Salmonella	Absent / 30 g	AJI Test 28
<i>E. sakazakii</i>	0 cfu / 30 g	AJI Test 28
Enterobactereaceae	0 cfu / g	AJI Test 28

¹ This product in terms of actual quality conforms to USP and DAB

² To prevent the decomposition of L-Glutamine by hydrochloric acid, measure within 30 minutes after preparation of sample solution.

³ To prevent the decomposition of L-Glutamine by hydrochloric acid, measure within 60 minutes after preparation of sample solution.

⁴ Likely impurity: L-Glutamic acid

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