

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing:	2025-06-27 10:38:28
Date of Next Testing:	2029-06-26 10:38:28
Product Name:	L(+)-Glutamic acid
CAS Number:	56-86-0
Specifications & Purity:	Ultra pure, ≥99.5%(NT)
Lot #:	F2519269
SKU #	G103979
Version	1
Analysis #:	518237
Storage Temperature:	Argon charged

Parameter	Limit Values	Result
Ammonia (NH ₄)	0-0.02 (%)	0.00 %
Chloride (Cl ⁻)	0-0.02 (%)	0.00 %
Ignition Residue (as sulfate)	0-0.05 (%)	0.02 %
Sulfate(SO ₄ ²⁻)	0-200 (ppm)	10.00 ppm
Loss on drying	0-0.5 (%)	0.06 %
foreign amino acids	0-0.5 (%)	0.10 %
Nickel(Ni)	0-5 (ppm)	1.80 ppm
Calcium(Ca)	0-200 (ppm)	135.00 ppm
Cadmium(Cd)	0-5 (ppm)	3.20 ppm
Zinc(Zn)	0-5 (ppm)	2.90 ppm
Iron(Fe)	0-5 (ppm)	1.90 ppm
Potassium(K)	0-50 (ppm)	29.00 ppm
Bismuth(Bi)	0-5 (ppm)	3.10 ppm
Magnesium(Mg)	0-5 (ppm)	2.60 ppm
Lithium(Li)	0-5 (ppm)	2.00 ppm
Barium(Ba)	0-5 (ppm)	3.00 ppm
Sodium(Na)	0-200 (ppm)	130.00 ppm
Aluminum(Al)	0-5 (ppm)	3.50 ppm
Cobalt(Co)	0-5 (ppm)	2.00 ppm
(Pb)Lead	0-5 (ppm)	2.00 ppm
Molybdenum(Mo)	0-5 (ppm)	1.00 ppm
Chromium(Cr)	0-5 (ppm)	2.00 ppm
Strontium(Sr)	0-5 (ppm)	3.00 ppm
Copper(Cu)	0-5 (ppm)	2.00 ppm
Specific Rotation [α] _D ²⁰ (c=5 in 5 M HCl)	30.5-32.5 (°)	30.60°

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Parameter	Limit Values	Result
Manganese(Mn)	0-5	3.50
Purity(NonaqueousTitration)(As drybase)	99-101 (%)	99.40%
UV Absorbance 260nm	0-0.15	0.12
UV Absorbance 280nm	0-0.15	0.08
Appearance (G103979)	white powder to crystal	White powder to crystal
Infrared spectrum	Conforms to Structure	Conforms to Structure
λ ,1 M in 1 M HCl	Pass	Pass
Insoluble matter	pass	Pass
Solubility1M HCl , soluble1 M at20°C, clear, colorless	pass	Pass

John Su
QA & QC Manager