

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-07-08 16:29:35

Date of Next Testing: 2027-07-07 16:29:35

Product Name: **L(+)-Glutamic acid**

CAS Number: 56-86-0

Specifications & Purity: 99%

Lot #: F2329156

SKU #: **G103978****Analysis: 249803**

| Parameter | Limit Values | Result |
|---|-----------------------|-----------------------|
| Loss on drying | 0-0.5 (%) | 0.05 % |
| Specific Rotation [α] _D ²⁰ /D(c=10 in 2N HCl) | 30.5-32.5 (°) | 32.10° |
| As ₂ O ₃ | 0-1 (ppm) | 0.00 ppm |
| Iron(Fe) | 0-30 (ppm) | 2.01 ppm |
| Purity(as dry basis) | 99-100 (%) | 99.60 % |
| Sulfate(SO ₄ ²⁻) | 0-300 (ppm) | 100.00 ppm |
| Sulfate Ash | 0-0.1 (%) | 0.01 % |
| Ammonia (NH ₄) | 0-200 (ppm) | 0.01 ppm |
| Chloride (Cl ⁻) | 0-200 (ppm) | 0.00 ppm |
| Heavy metal (as Pb) | 0-10 (ppm) | 0.00 ppm |
| Appearance (G103978) | white powder | White powder |
| Infrared spectrum | Conforms to Structure | Conforms to Structure |
| Other amino acids | Not detected | Not detected |

John Su
QA & QC Manager