

## Certificate of Analysis

Date of Testing: 2023-04-25 14:17:41  
 Date of Next Testing: 2027-04-24 14:17:41  
 Product Name: **L(+)-Glutamic acid**  
 CAS Number: 56-86-0  
 Specifications & Purity: 99%  
 Lot #: D2319517  
 SKU #: **G103978**  
 Analysis: **215900**

Parameter	Limit Values	Result
Loss on drying	0-0.5 (%)	0.05 %
Specific Rotation [α] <sub>D</sub> <sup>20</sup> /D(c=10 in 2N HCl)	30.5-32.5 (°)	32.00°
As <sub>2</sub> O <sub>3</sub>	0-1 (ppm)	0.85 ppm
Iron(Fe)	0-30 (ppm)	0.00 ppm
Purity(as dry basis)	99-100 (%)	99.90 %
Sulfate(SO <sub>4</sub> <sup>2-</sup> )	0-300 (ppm)	2.08 ppm
Sulfate Ash	0-0.1 (%)	0.00 %
Ammonia (NH <sub>4</sub> )	0-200 (ppm)	120.00 ppm
Chloride (Cl <sup>-</sup> )	0-200 (ppm)	120.00 ppm
Heavy metal (as Pb)	0-10 (ppm)	5.80 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