

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2024-03-05 15:16:25  
 Date of Next Testing: 2027-03-05 15:16:25  
 Product Name: **L-Proline**  
 CAS Number: 147-85-3  
 Specifications & Purity: Ultra pure biological reagent grade, 99.5%  
 Lot #: B2421603  
 SKU #: **L476193**  
**Analysis:** **327165**  
 Storage Temperature: Protected from light

Parameter	Limit Values	Result
Purity(HPLC area)	99.5-100 (%)	99.90 %
Specific Rotation [α] <sub>20</sub> /D(c=4 in H <sub>2</sub> O)	-86~-84 (°)	-84.57 °
Chloride(Cl <sup>-</sup> )	0-100 (ppm)	0.00 ppm
Sulfate(SO <sub>4</sub> <sup>2-</sup> )	0-100 (ppm)	0.00 ppm
Ammonium(NH <sub>4</sub> )	0-20 (ppm)	0.00000 ppm
Aluminum(Al)	0-5 (ppm)	0.00 ppm
Arsenic(As)	0-0.1 (ppm)	0.00000 ppm
Barium(Ba)	0-5 (ppm)	0.00 ppm
Bismuth(Bi)	0-5 (ppm)	0.00 ppm
Calcium(Ca)	0-10 (ppm)	0.00 ppm
Cadmium(Cd)	0-5 (ppm)	0.00 ppm
Cobalt(Co)	0-5 (ppm)	0.00 ppm
Chromium(Cr)	0-5 (ppm)	0.00 ppm
Copper(Cu)	0-5 (ppm)	0.00 ppm
Iron(Fe)	0-5 (ppm)	0.00 ppm
Potassium(K)	0-50 (ppm)	0.00 ppm
Lithium(Li)	0-5 (ppm)	0.00 ppm
Magnesium(Mg)	0-5 (ppm)	0.00 ppm
Manganese(Mn)	0-5 (ppm)	0.00 ppm
Molybdenum(Mo)	0-5 (ppm)	0.00 ppm
Sodium(Na)	0-50 (ppm)	0.00 ppm
Nickel(Ni)	0-5 (ppm)	0.00 ppm
Lead(Pb)	0-5 (ppm)	0.00 ppm
Strontium(Sr)	0-5 (ppm)	0.00 ppm
Zinc(Zn)	0-5 (ppm)	0.00 ppm
Ignition Residue	0-0.1 (%)	0.00 %

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Parameter	Limit Values	Result
Appearance(L476193)	White powder to crystal	White powder to crystal
Infrared spectrum	Conforms to Structure	Conforms to Structure
Solubility in H2O,clear colorless,1g/10 ml in water	Pass	Pass

A handwritten signature in black ink that reads "John Su".

John Su  
QA & QC Manager