

## Certificate of Analysis

Date of Testing: 2023-02-18 12:30:42  
Date of Next Testing: 2027-02-17 12:30:42  
Product Name: **L-Proline**  
CAS Number: 147-85-3  
Specifications & Purity: 99%  
Lot #: B2310806  
SKU #: **P108709**  
**Analysis:** **177381**  
Storage Temperature: Protected from light

Parameter	Limit Values	Result
Nitrogen by Elemental Analysis	11.9-12.5 (%)	12.32 %
Ignition Residue	0-0.1 (%)	0.04 %
Carbon by Elemental Analysis	51.1-53.2 (%)	52.41 %
PH	5.9-6.9	6.03
Purity(NonaqueousTitration)	98.5-101.5 (%)	99.99 %
Loss on drying	0-0.3 (%)	0.13 %
Purity(HPLC)(CAD)	99-100 (%)	99.40 %
Specific Rotation [a] <sub>D</sub> 20/D(c=4 in H <sub>2</sub> O)	-86--84 (°)	-84.41 °
Solubility in H <sub>2</sub> O , Colorless ,Clear ,50 mg/mL in H <sub>2</sub> O	pass	Pass
Appearance (P108709)	White powder	White powder
Infrared spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager