

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2026-04-13 11:39:57

Date of Next Testing: 2030-04-12 11:39:57

Product Name: **L-Proline**

CAS Number: 147-85-3

Specifications & Purity: PharmPure™,USP,JP,Ph.Eur.

Lot #: GMD2608624

SKU #: **L774647**

Version: **3**

Analysis #: **691587**

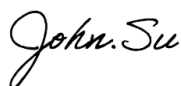
Storage Temperature: Protected from light,Room temperature

Parameter	Limit Values	Result
Assay(Perchloric acid titration, calc. on anhydrous substance)	99-101 (%)	99.61000 %
Spec.rotation (a 20/D,40 g/l, water, calc. on dried substance)	-86~-84 (°)	-84.82000 °
Spec.rotation(a 25/D,40 g/l, water, calc. on dried substance)	-86.3~-84.3 (°)	-85.00000 °
Chloride(Cl)	0-200 (ppm)	64.23500 ppm
Sulfate(SO ₄)	0-300 (ppm)	83.97632 ppm
Heavy metals(as Pb)	0-10 (ppm)	0.00000 ppm
Fe(iron)	0-10 (ppm)	0.00000 ppm
Manganese(Mn)	0-25 (ppm)	0.00000 ppm
Zinc(Zn)	0-130 (ppm)	0.00000 ppm
Ninhydrin-positive substances(LC)(any ninhydrin-positive impurity)	0-0.2 (%)	0.01300 %
Ninhydrin-positive substances(LC) (ammonium(570nm))	0-0.02 (%)	0.00400 %
Ninhydrin-positive substances(LC)(total impurities)	0-0.5 (%)	0.01800 %
Sulfated ash(600 °C)	0-0.1 (%)	0.02000 %
Loss on drying(105°C)	0-0.4 (%)	0.11000 %
Bacterial endotoxins	0-5 (IU/g OR u/g)	0.00000 IU/g OR u/g
Total aerobic microbial count (TAMC)	0-100 (cfu/g)	0.00000 cfu/g
Total combined yeasts/moulds count (TYMC)	0-100 (cfu/g)	0.00000 cfu/g
pH(100 g/l,CO ₂ -free water)	5.9-6.9	6.32500

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Parameter	Limit Values	Result
Related substances(LC)	0-0.1 (%)	0.00000 %
Ethanol	< 5000 (ppm)	609.00000 ppm
Appearance(L774647)	White or almost white, crystalline powder or colorless crystals	White or almost white, crystalline powder or colorless crystals
Solubility:very soluble in water,freely soluble in ethanol(96 per cent)	Pass	Pass
Identity (IR-spectrum)	conforms	Conforms
Identity(specific rotation)	passes test	Passes test
Identity(TLC)	Passes test	Passes test
Appearance of solution(50g/l;water),Clear and colorless	Pass	Pass
Residual solvents (ICH (Q3C))excluded by manufacturing process		Pass
Appearance of solution (100 g/l, water),clear and colorless	Pass	Pass



John Su
QA & QC Manager