

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2025-09-11 11:06:27
 Date of Next Testing: 2028-09-10 11:06:27
 Product Name: **L-Cysteine hydrochloride monohydrate**
 CAS Number: 7048-04-6
 Specifications & Purity: UltraBio™, Ultra pure, ≥99%(T)
 Lot #: I2510623
 SKU #: **L433360**
 Version: **2**
 Analysis #: **570233**
 Storage Temperature: Protected from light, Room temperature, Argon charged

Parameter	Limit Values	Result
Specific Rotation [α] _{20/D} (c=5 in 5 M HCl)	5.3-5.9 (°)	5.50000 °
Sulfated Ash	0-0.05 (%)	0.02000 %
PH(1M Water)	0.8-1.0	0.90000
UV-ABS.at 260 nm	0-1	1.00000
UV-ABS.at 280 nm	0-0.3	0.20000
Aluminium(Al)	0-10 (ppm)	5.00000 ppm
Barium(Ba)	0-5 (ppm)	2.10000 ppm
Bismuth(Bi)	0-5 (ppm)	2.90000 ppm
Calcium(Ca)	0-10 (ppm)	6.10000 ppm
Cadmium(Cd)	0-5 (ppm)	2.70000 ppm
Cobalt(Co)	0-5 (ppm)	1.60000 ppm
Chromium(Cr)	0-5 (ppm)	2.40000 ppm
Copper(Cu)	0-5 (ppm)	2.40000 ppm
Iron(Fe)	0-5 (ppm)	3.40000 ppm
Potassium(K)	0-50 (ppm)	25.10000 ppm
Lithium(Li)	0-5 (ppm)	2.90000 ppm
Magnesium(Mg)	0-5 (ppm)	1.90000 ppm
Manganese(Mn)	0-5 (ppm)	4.52000 ppm
Molybdenum(Mo)	0-5 (ppm)	3.54000 ppm
Sodium(Na)	0-100 (ppm)	2.84000 ppm
Nickel(Ni)	0-5 (ppm)	3.32000 ppm
Lead(Pb)	0-5 (ppm)	2.41900 ppm
Strontium(Sr)	0-5 (ppm)	2.95000 ppm
Zinc(Zn)	0-5 (ppm)	2.70000 ppm
Arsenic traces(MHS-AAS)	0-0.5 (ppm)	0.30000 ppm

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Parameter	Limit Values	Result
Sulfate(SO42-)	0-200 (ppm)	50.95000 ppm
Ion chromatography(NH4+)	0-500 (ppm)	250.20000 ppm
Purity(redox titration)	99-101.5 (%)	101.48000 %
Appearance(L433360)	Colorless or White Crystals	Colorless or White Crystals
NMR Spectrum 1H	Conforms to structure	Conforms to Structure

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

John Su
QA & QC Manager