

Certificate of Analysis

Date of Testing: 2023-02-22 11:54:20
 Date of Next Testing: 2027-02-21 11:54:20
 Product Name: **L-Cystine**
 CAS Number: 56-89-3
 Specifications & Purity: Ultra pure , 99.5%
 Lot #: B2315187
 SKU #: **C108227**
Analysis: **159571**
 Storage Temperature: Protected from light, Desiccated

Parameter	Limit Values	Result
Zinc(Zn)	0-5 (ppm)	2.10 ppm
Potassium(K)	0-50 (ppm)	1.20 ppm
Calcium(Ca)	0-50 (ppm)	12.30 ppm
Cadmium(Cd)	0-5 (ppm)	0.24 ppm
Sodium(Na)	0-150 (ppm)	33.00 ppm
Purity(HPLC)	99.5-100 (%)	99.53600 %
(Pb)Lead	0-5 (ppm)	0.15 ppm
Chloride (Cl-)	0-500 (ppm)	200.00 ppm
Iron(Fe)	0-10 (ppm)	3.20 ppm
Magnesium(Mg)	0-5 (ppm)	0.16 ppm
Chromium(Cr)	0-5 (ppm)	0.00 ppm
Specific Rotation [α] ₂₀ /D(c=2 in 1 M HCl)	-224--214 (°)	-214.01 °
Nickel(Ni)	0-5 (ppm)	0.21 ppm
Loss on drying	0-0.1 (%)	0.01 %
Manganese(Mn)	0-5	0.51
Cobalt(Co)	0-5 (ppm)	0.46 ppm
Sulfate(SO ₄ ²⁻)	0-100 (ppm)	22.60 ppm
Copper(Cu)	0-6 (ppm)	1.77 ppm
Sulfate Ash	0-0.1 (%)	0.02 %
Infrared spectrum	Conforms to Structure	Conforms to Structure
Insoluble matter	pass	Pass
Appearance(C108227)	Colorless or White Powder to Crystals	Colorless or White Powder to Crystals



ALADDIN SCIENTIFIC CORPORATION

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A handwritten signature in black ink that reads "John Su". The signature is written in a cursive, flowing style.

John Su
QA & QC Manager