

## Certificate of Analysis

Date of Testing: 2023-11-07 11:40:49  
Date of Next Testing: 2027-11-06 11:40:49  
Product Name: **L-Cystine**  
CAS Number: 56-89-3  
Specifications & Purity: 99%  
Lot #: J2326104  
SKU #: **C108225**  
**Analysis: 078177**  
Storage Temperature: Protected from light, Desiccated

Parameter	Limit Values	Result
Carbon by Elemental Analysis	29.4-30.6 (%)	30.12 %
Purity(HPLC)	98-100 (%)	99.86500 %
Nitrogen by Elemental Analysis	11.4-11.9 (%)	11.53 %
Sulfate Ash	0-0.1 (%)	0.05 %
Heavy metal (as Pb)	0-10 (ppm)	5.00 ppm
Loss on drying(105°C, 3h)	0-0.5 (%)	0.25 %
Specific Rotation [a] <sub>D</sub> 20/D(c=1 in 1mol/L HCl)	-230--215 (°)	-215.01 °
Appearance (C108225)	White to Off-White Powder	White to Off-White Powder
Infrared spectrum	Conforms to Structure	Conforms to Structure
Solubility in 1 M HCl , Colorless to Light Yellow,Clear,50 mg/mlpass		Pass



John Su  
QA & QC Manager