

BIOBUFFER SOLUTIONS

100 Majestic Way, Bangor, PA 18013 / www.biospectra.us

Effective Date:	26-Jun-2025	26-Jun-2028	: Date of Next Review
Prepared By:	Taylor Yurick	BSI-COA-0312 v.1.0	: Supersedes
QA/QC Approval:	Jessica DeMaio	Hannah Kuchmas	: Management Approval
Reason for Revision:	See Revision History in MasterControl.		

CERTIFICATE OF ANALYSIS L-CYSTINE diHCl BIOTECH, LBLE, GMP BIO QUALIFIED GRADE / LCYS-6250 LOT: LCYS-L02-1025-0031

 $C_6H_{12}N_2O_4S_2 \cdot 2HCl$ * F.W. 313.22 g/mol. * CAS# 30925-07-6

Retest Date: 10/31/27

Manufacturing Date: 10/01/25

Packaging Site: 100 Majestic Way, Bangor PA, 18013

ANALYSIS	SPECIFICATION	TEST RESULT
Appearance and Color	White to Slightly Yellow Crystalline Powder	Slightly Yellow Crystalline Powder
Assay, Dried Basis	98.0 - 102.0 %	100.0 %
Bioburden	≤ 100 CFU/g	< 10 CFU/g
Chloride	22.2 - 23.5 %	22.6 %
Endotoxin	< 0.02 EU/mg	< 0.02 EU/mg
Heavy Metals (Pb)	< 10 ppm	< 0.15 ppm
Identification, IR	Conforms to Reference Standard	Conforms to Reference Standard
Loss on Drying @ 105°C	$\leq 0.5\%$	0.2 %
pH (0.1% solution)	Report	2.28
Residue on Ignition	≤ 0.1 %	0.1 %
Specific Rotation, Free Basis @ 20°C	-225.0° to -215.0°	-221.4 °
Solubility	Passes Test	Passes Test

COUNTRY OF ORIGIN: IndiaTEST METHOD REFERENCE: DCN: BSI-ATM-0024MANUFACTURING DATE: The manufacturing date is representative of the final packaging date at BioSpectra.

INTENDED USE: Material represented by this Certificate of Analysis is suitable for use as a process chemical. It is GMP manufactured by BioSpectra's approved supplier in accordance with the approved supplier's ISO 9001:2015 certified management system. The material represented by this Certificate of Analysis is not suitable to be used as an Active Pharmaceutical Ingredient, Drug, Drug Product or Household Item.

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RETEST DATE: The retest date is obtained from the approved supplier's certificate of analysis.

Prepared by: Shirley McCall Date: 10/2/25 Job Title: QA Tech III
 Reviewed by: John Abinger Date: 10/2/25 Job Title: QA Supervisor