

# BIOBUFFER SOLUTIONS

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

Effective Date:	10-Feb-2025	10-Feb-2028	: Date of Next Review
Prepared By:	Carissa Albert	BSI-COA-0131 v.6.5	: Supersedes
QA/QC Approval:	Jaron Hughes	Jessica DeMaio	: Management Approval
Reason for Revision:	See Revision History in MasterControl.		

**CERTIFICATE OF ANALYSIS**  
**L-CYSTINE diHCl**  
**BIO PHARMA GRADE / LCYS-4250**  
**LOT: LCYS-L02-0325-0007**  
 $C_6H_{12}N_2O_4S_2 \cdot 2HCl$  \* F.W. 313.22 g/mol. \* CAS# 30925-07-6  
 Manufacturing Date: 6/30/24  
 Packaging Site: 100 Majestic Way, Bangor PA, 18013

ANALYSIS	SPECIFICATION	TEST RESULT
Appearance and Color	White to Slightly Yellow Crystalline Powder	White Crystalline Powder
Assay (Dried Basis)	98.0% - 102.0%	99.7%
Bioburden	$\leq 100$ CFU/g	< 100 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 Spectrum)	Passes Test	Passes Test
Loss on Drying @ 105°C	$\leq 0.5\%$	< 0.5%
pH (0.1% soln.)	Report	2.26 @ 26.7°C
Residue on Ignition	$\leq 0.1\%$	< 0.1%
Specific Rotation (Free Basis) @ 20°C	-225.0° to -215.0°	-222.0°
Solubility	Passes Test	Passes Test

COUNTRY OF ORIGIN: IndiaTEST METHOD REFERENCE: DCN: BSI-ATM-0024

INTENDED USE: Material represented by this Certificate of Analysis is suitable for use as a process chemical. It is GMP manufactured by the 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.

Prepared by: Emily Lu Date: 3/20/25 Job Title: QA Tech I  
 Reviewed by: Shirley McCall Date: 3/20/25 Job Title: QA Tech III