

BIOBUFFER SOLUTIONS

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

Effective Date:	13-Mar-2026	13-Mar-2029	: Date of Next Review
Prepared By:	Amy Yenko	Not Applicable	: Supersedes
QA/QC Approval:	Krista Rehrig	Hannah Kuchmas	: Management Approval
Reason for Revision:	See Revision History in MasterControl.		

CERTIFICATE OF ANALYSIS

L-GLUTAMINE

BIO ULTRA GRADE / LGLM-5201

LOT: LGLM-L02-0326-0000

$C_5H_{10}N_2O_3$ * F.W. 146.14 g/mol. * CAS# 56-85-9

Manufacturing Date: MM/DD/YY Retest Date: MM/DD/YY

Packaging Site: 100 Majestic Way, Bangor PA, 18013

Meets USP Specifications

ANALYSIS	SPECIFICATIONS	RESULT
Appearance and Color	White Crystals or Crystalline Powder	Passes Test
Assay, Dried Basis	98.5 – 101.5 %	100.1 %
Chloride	< = 500 ppm	<500 ppm
Identification A, IR	Conforms to Reference Standard	Passes Test
Iron (Fe)	< = 10 ppm	<1.5 ppm
Loss on Drying	< = 0.3 %	<0.3 %
Specific Optical Rotation, 20°C	+6.3° to +7.3°	+6.8 °
Residue on Ignition	< = 0.1 %	<0.1 %
Related Compounds	< = 0.5 %	<0.5 %
Sulfate	< = 300 ppm	<0.03 ppm

COUNTRY OF ORIGIN: India

TEST METHOD REFERENCE: DCN: BSI-ATM-0067

MANUFACTURING 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. The material represented by this Certificate of Analysis is not suitable to be used as an Excipient, Active Pharmaceutical Ingredient, Drug, Drug Product or Household Item.

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

Prepared by: Jason Bungle Date: 3/29/26 Job Title: QA Supervisor

Reviewed by: Amil McCall Date: 3/20/26 Job Title: QA Tech III