

BIOBUFFER SOLUTIONS

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

Effective Date:	22-Jul-2026	22-Jul-2029	: Date of Next Review
Prepared By:	Amy Yenko	Not Applicable	: Supersedes
QA/QC Approval:	Krista Rehrig	Carissa Albert	: Management Approval
Reason for Revision:	See Revision History in MasterControl.		

CERTIFICATE OF ANALYSIS

HEPES

REAGENT

BIO ULTRA GRADE / HEPE-5251

LOT: HEPE-L03-0726-0090

C₈H₁₈N₂O₄S ▲ F.W. 238.30 g/mol. ▲ CAS# 7365-45-9

Manufacturing Date: 08/02/26 Retest Date: 01/31/27

Packaging Site: 100 Majestic Way, Bangor PA, 18013

ANALYSIS	SPECIFICATION	TEST RESULT
Absorbance (1M)	260 nm	<= 0.1 a.u.
	280 nm	<= 0.1 a.u.
Appearance and Color	White Crystalline Powder	Passes Test
Assay, Dried Basis	>= 99.0 %	100.2 %
Endotoxin (0.2% solution)	<= 0.10 EU/mL	< 0.01 EU/mL
Heavy Metals (Pb)	<= 5 ppm	< 0.30 ppm
Identification, IR	Conforms to Reference Standard	Passes Test
Iron (Fe)	<= 5 ppm	< 0.30 ppm
Loss on Drying	<= 1.0 %	< 1.0 %
pH (5%)	5.0 – 6.5	5.3
pKa, 20°C	7.35 – 7.69	7.56
pKa, 25°C	7.2 – 7.8	7.5
Residue on Ignition	<= 0.2 %	< 0.2 %
Solubility (1M)	Clear, Complete and Colorless	Passes Test
Sulfate	<= 500 ppm	< 500 ppm

TEST METHOD REFERENCE: DCN: BSI-ATM-0070

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.

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Prepared by: Ami McCall Date: 8/10/26 Job Title: QA Tech III

Reviewed by: Jonor Bingham Date: 8/10/26 Job Title: QA Supervisor