BIOSPECTRA

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

Effective Date:	07-Feb-2024	07-Feb-2027	: Date of Next Review
Prepared By:	Taylor Yurick	BSI-COA-0200 v 2.0	: Supersedes
QA/QC Approval:	Jessica DeMaio	Hannah Kuchmas	: Management Approval
Reason for Revision:	See Revision History in MasterControl.		

CERTIFICATE OF ANALYSIS

MES MONOHYDRATE

BIO EXCIPIENT GRADE / NEW CODE MESM-3222-03

(HISTORICAL CODE ME3222-K003)

LOT: MESM-0124-00047

$C_6H_{13}NO_4S \cdot H_2O$ ⅄ F.W. 213.3 g/mol. ⅄ CAS# 145224-94-8

Manufacturing Date: 10/24/23 Retest Date: 10/31/25

Manufacturing Site: 100 Majestic Way, Bangor PA, 18013

Packaging Date: 05/10/24 Packaging Site: 100 Majestic Way, Bangor PA, 18013

ANALYSIS		SPECIFICATION	TEST RESULT
Absorbance (1M)	260 nm	0.1000 a.u. max.	0.0037 a.u.
	280 nm	0.1000 a.u. max.	0.0028 a.u.
Appearance and Color		White Crystalline Powder	White Crystalline Powder
Assay		99.5% min.	100.3%
Chloride		0.005% max.	<0.005%
Color (1M, Alkaline)		Colorless	Colorless
Enzymes	DNase	None Detected	None Detected
	RNase	None Detected	None Detected
	Protease	None Detected	None Detected
Heavy Metals (as Pb)		2 ppm max.	< 2 ppm
Identification (IR)		Conforms to Reference	Conforms to Reference
Loss on Drying @ 130°C		7 – 10%	9%
pH (5% Soln.)		3.1 – 3.5	3.4
pH (1.0M)		2.7 – 3.7	3.2
pH (0.5M)		2.5 – 4.5	3.3
pK_a		5.9 – 6.3	6.1
Turbidimetry/PVS Limit Test		≤ 1 ppm	<1 ppm
Residue on Ignition		0.05% max.	<0.01%
Solubility (5%)		Passes Test	Passes Test
Sulfate		0.005% max.	<0.005%

ANALYSIS		SPECIFICATION	TEST RESULT
Trace Elements	Arsenic (As)	2 ppm max.	< 2 ppm
	Copper (Cu)	2 ppm max.	< 2 ppm
	Iron (Fe)	2 ppm max.	< 2 ppm
	Lead (Pb)	2 ppm max.	< 2 ppm
Water (by Karl Fischer)		7.9 – 8.9%	8.7%

COUNTRY OF ORIGIN: U.S.A.

TEST METHOD REFERENCE: DCN: BSI-ATM-0009

INTENDED USE: Material represented by this Certificate of Analysis is suitable for use as an excipient. It is manufactured in accordance with the ICH Q7 Good Manufacturing Practice Guide. The material represented by this Certificate of Analysis is not suitable to be used as an Active Pharmaceutical Ingredient, Drug Product or Household Item.

RESIDUAL SOLVENT STATEMENT: Based on the manufacturing process and the controlled handling, storage and analysis of this product, this product complies with the requirements and specifications listed in the current USP method <467> Tables 1, 2, 3, or 4.

Prepared by: Dani McCall Date: 5/14/24 Job Title: QA Tech I

Reviewed by: John Bingham Date: 5/14/24 Job Title: QA Supervisor