

BIOSPECTRA

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

Effective Date:	10-Jan-2018	10-Jan-2021	: Date of Next Review
Prepared By:	Jamie Storm	16-000105 v.2.0	: Supersedes
QA/QC Approval:	Crystal Hamelburg	Dora Meissner	: Management Approval
Reason for Revision:	See Revision History in ensur		

MES MONOHYDRATE

CERTIFICATE OF ANALYSIS

BIO PHARMA GRADE / ME4220-K025

LOT: ME4220-139-0119

C₆H₁₃NO₄S·H₂O ^ F.W. 213.25 g/mol. ^ CAS# 145224-94-8

Manufacturing Date: 11/10/2018

Retest Date: 11/30/2020

Manufacturing Site: 100 Majestic Way, Bangor PA, 18013 Packaging Date: 01/09/2019

Packaging Site: 100 Majestic Way, Bangor PA, 18013

ANALYSIS	SPECIFICATION	TEST RESULT	
Absorbance (1M)	260 nm	0.1000 a.u. max.	
	280 nm	0.1000 a.u. max.	
Appearance and Color	White / Crystals	White / Crystals	
Assay	99.0% min.	99.39%	
Chloride	0.005% max.	<0.005%	
Color (1M, Alkaline)	Colorless	Colorless	
Enzymes	DNase	None Detected	
	RNase	None Detected	
	Protease	None Detected	
Heavy Metals	2 ppm max.	< 2 ppm	
Identification (IR)	Passes Test	Passes Test	
pH (5% Soln.)	3.0 – 3.5	3.30 @ 23.0 °C	
pH (0.5M)	2.5 – 4.5	3.12 @ 25.2 °C	
pK _a	5.9 – 6.3	6.1	
Residue on Ignition	0.05% max.	<0.0150%	
Solubility (5%)	Passes Test	Passes Test	
Sulfate	0.005% max.	<0.005%	
	Arsenic (As)	5 ppm max.	< 5 ppm
	Copper (Cu)	5 ppm max.	< 5 ppm
	Iron (Fe)	5 ppm max.	< 5 ppm
	Lead (Pb)	5 ppm max.	< 5 ppm

COUNTRY OF ORIGIN: U.S.A.

TEST METHOD REFERENCE: DCN: 16-001016

The information contained herein is the property of BioSpectra. The recipient is responsible for its safe-keeping, and the prevention of unauthorized appropriation, use, disclosure and copying.

INTENDED USE: Material represented by this Certificate of Analysis is suitable to be used only as the following: IPEC Compliant GMP Manufactured Chemical, for use in further Manufacturing or as a Reagent for Laboratory and Research. 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.

OVI STATEMENT: Based on the manufacturing process and the controlled handling and storage of this product, there is no potential for any of the residual solvents listed in the current USP method <467> Tables 1,2,3, or 4 to be present at the specified limits; furthermore, if tested this product would comply with USP/NF requirements.

Prepared by: H. Beumer Date: 1/11/19

Reviewed by: Juan Miller Date: 1/14/19