BIOSPECTRA

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

Effective Date:	23-Jun-2017	23-Jun-2020	: Date of Next Review
Prepared By:	Jamie Storm	16-001172 v.2.0	: Supersedes
QA/QC Approval:	Crystal Hamelburg	Dora Meissner	: Management Approval
Reason for Revision:	See Revision History in ensur		

MOPS

CERTIFICATE OF ANALYSIS

BIO PHARMA GRADE / MP4220-G100

LOT: MP4220-008-0618

$C_7H_{15}NO_4S$ ⅄ F.W. 209.26 g/mol. ⅄ CAS# 1132-61-2

Manufacturing Date: 5/15/2018 Retest Date: 5/31/2020

Manufacturing Site: 1474 Rockdale Lane, Stroudsburg, PA 18360

Packaging Date: 6/28/2018 Packaging Site: 1474 Rockdale Lane, Stroudsburg, PA 18360

ANALYSIS		SPECIFICATION	TEST RESULT
Absorbance (0.1M)	250 nm	0.020 a.u. maximum	0.0138 a.u.
	260 nm	0.020 a.u. maximum	0.0126 a.u.
	280 nm	0.020 a.u. maximum	0.0116 a.u.
Appearance and Color		White / Crystals	White / Crystals
Assay		99.5% minimum	99.75%
Chloride		0.005% maximum	<0.005%
Enzymes	DNase	None Detected	None Detected
	RNase	None Detected	None Detected
	Protease	None Detected	None Detected
Identification (IR)		Passes Test	Passes Test
Karl Fischer Water		0.1% maximum	0.06%
Loss on Drying		1.0% maximum	0.0266%
pH (1% solution)		3.0-4.5	4.190 @ 22.47 °C
pH (2.5M)		2.5-4.5	3.619 @ 21.50 °C
pK_a		7.0-7.5	7.1
Residue on Ignition		0.1% maximum	<0.0200%
Solubility (5%)		Passes Test	Passes Test
Sulfate		0.005% maximum	<0.005%
Trace Metals	Arsenic (As)	5 ppm maximum	< 5 ppm
	Copper (Cu)	5 ppm maximum	< 5 ppm
	Iron (Fe)	5 ppm maximum	< 5 ppm
	Lead (Pb)	5 ppm maximum	< 5 ppm

COUNTRY OF ORIGIN: U.S.A.

TEST METHOD REFERENCE: DCN: 16-000498

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 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: Jessica Mills Date: 6/28/18

Reviewed by: M-S- Date: 6/28/18