

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: MP4220-010-0819

$C_7H_{15}NO_4S$ * F.W. 209.26 g/mol. * CAS# 1132-61-2
 Manufacturing Date: 7/2/2019 Retest Date: 7/31/2021
 Manufacturing Site: 1474 Rockdale Lane, Stroudsburg, PA 18360
 Packaging Date: 8/20/2019 Packaging Site: 100 Majestic Way, Bangor PA, 18013

ANALYSIS	SPECIFICATION	TEST RESULT	
Absorbance (0.1M)	250 nm	0.020 a.u. maximum	0.0058a.u.
	260 nm	0.020 a.u. maximum	0.0048 a.u.
	280 nm	0.020 a.u. maximum	0.0043 a.u.
Appearance and Color	White / Crystals	White / Crystals	
Assay	99.5% minimum	99.82%	
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	0.08%	
Loss on Drying	1.0% maximum	0.0459%	
pH (1% solution)	3.0-4.5	4.26 @ 23.2 °C	
pH (2.5M)	2.5-4.5	3.58 @ 23.5 °C	
pK _a	7.0-7.5	7.1	
Residue on Ignition	0.1% maximum	<0.0300%	
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

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