BIOSPECTRA

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

Effective Date:	January 12, 2014		January, 2018	: Date of Next Review
Prepared By:	Jamie Storm		New Document	: Supersedes
QA/QC Approval:	Chad Pezoldt		Sarah DeMaio	: Management Approval
Reason for Revision:	New Document			

GUANIDINE HYDROCHLORIDE

CERTIFICATE OF ANALYSIS

BIO EXCIPIENT GRADE / GH3220-K001

LOT#: GH3220-001-0118

$NH_2C(NH)NH_2 \cdot HCl$ ⅄ F.W. 95.53 ⅄ CAS#: 50-01-1

Manufacturing Date: 03/08/2017 Retest Date: 03/31/2019

Manufacturing Site: 1474 Rockdale Lane, Stroudsburg, PA 18360

Packaging Date: 01/16/2018

Packaging Site: 100 Majestic Way, Bangor PA, 18013

ANALYSIS		SPECIFICATIONS	RESULT
Absorbance	260 nm	0.0300 a.u. maximum	0.0059 a.u.
	275 nm	0.0300 a.u. maximum	0.0014 a.u.
	230 nm	0.2000 a.u. maximum	0.0979 a.u.
Appearance and Color		White / Crystals	White / Crystals
Assay		99.5% minimum	99.81%
Enzymes	DNase	None Detected	None Detected
	Protease	None Detected	None Detected
	RNase	None Detected	None Detected
Identification (IR)		Passes Test	Passes Test
Insoluble Matter		0.15% maximum	0.0014%
Loss on Drying		0.5% maximum	0.0498%
Melting Range		184-188°C	185.5 – 186.9 °C
Nitrate		0.01% maximum	<0.01%
pH (6M)		4.5-6.0	5.643 @ 22.90 °C
Residue on Ignition		0.05% maximum	<0.0150%
Solubility (6M)		Passes Test	Passes Test
Sulfate		0.01% 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.

INTENDED USE: Material Represented by this Certificate of Analysis is suitable to be used only as the following: ICH Q7 Compliant cGMP Manufactured Excipient, 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 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. Burnett Date: 1/17/18

Verified by: Cuyatte Date: 1/17/18