

BIOSPECTRA

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

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|----------------------|-------------------------------|-----------------|-----------------------|
| Effective Date: | 30-Nov-2017 | 30-Nov-2020 | : Date of Next Review |
| Prepared By: | Jamie Storm | 16-001181 v.4.0 | : Supersedes |
| QA/QC Approval: | Crystal Hamelburg | Dora Meissner | : Management Approval |
| Reason for Revision: | See Revision History in ensur | | |

UREA

CERTIFICATE OF ANALYSIS

BIO PHARMA GRADE / UR4220-G100

LOT: UR4220-035-0219

NH₂CONH₂ ^ F.W. 60.06 g/mol. ^ CAS# 57-13-6

Manufacture Date: 7/30/2018

Retest Date: 7/31/2020

Manufacturing Site: 1474 Rockdale Lane, Stroudsburg, PA 18360

Packaging Date: 2/8/2019

Packaging Site: 100 Majestic Way, Bangor PA, 18013

| ANALYSIS | SPECIFICATION | TEST RESULT | |
|--------------------------|------------------|------------------|---------|
| Alcohol Insoluble Matter | 0.04% maximum | <0.0040% | |
| Appearance and Color | White / Crystals | White / Crystals | |
| Assay | 98.0-102.0% | 99.79% | |
| Chloride | 0.0005% maximum | <0.0005% | |
| Enzymes | DNase | None Detected | |
| | Protease | None Detected | |
| | RNase | None Detected | |
| Heavy Metals | 10 ppm maximum | < 10 ppm | |
| Identification A | Passes Test | Passes Test | |
| Identification B | Passes Test | Passes Test | |
| Identification (IR) | Passes Test | Passes Test | |
| Insoluble Matter | 0.010% maximum | <0.0010% | |
| Loss on Drying | 1.0% maximum | 0.1941% | |
| Melting Range | 132-135 °C | 132.9 – 134.3 °C | |
| Residue on Ignition | 0.010% maximum | <0.0075% | |
| Sulfate | 0.001% maximum | <0.001% | |
| | 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.

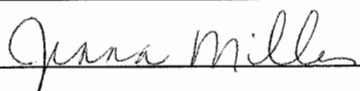
TEST METHOD REFERENCE: DCN: 16-000495

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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.

RESIDUAL SOLVENT 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:  Date: 2/11/19

Reviewed by:  Date: 2/11/19