CERTIFICATE OF ANALYSIS

Product Description CARBENICILLIN, DISODIUM SALT

α-CARBOXYBENZYLPENICILLIN, DISODIUM SALT

Product Number C346

Lot Number HKA0346099

Storage Temperature 2-8°C

 $\begin{array}{ll} \text{Molecular Weight} & 422.36 \text{ g/mol} \\ \text{Formula} & C_{17}H_{16}N_2O_6SNa_2 \end{array}$

CAS Number 4800-94-6

Physiochemical Specifications:

| TEST | SPECIFICATION | RESULTS |
|--------------------------|-----------------------------|----------------------|
| Solubility | Soluble in Water @ 10 mg/mL | Passes |
| pH | 5.5 - 7.0 | 6.3 |
| Physical Appearance | | |
| Color* | 2022-70 to 2027-70, | |
| | 2143-70 to 2151-70 | 2155-70 Light Yellow |
| Texture | Fine Powder | Fine powder |
| Solution Appearance | | |
| Clarity | Clear | Clear |
| Color | Colorless | Colorless |
| | For Information Only | |
| Average Time to Dissolve | (Approx. 5 min) | Passes |
| Insolubles | None | Passes |
| FTIR | Conform to Structure | Passes |
| Water | For Information Only | 5.4% |
| Purity | Minimum 85.0% | > 92.0% |

^{*} Product color based upon comparisons between sample and standardized color wheel (Benjamin Moore® Color PreviewTM).

Biological Testing:

Test Concentration: 50 mg/L

| TEST SPECIFICATION | PLANT CELL LINE | RESULTS |
|--|-----------------|---------|
| This product does not typically promote growth; tissue necrosis or death is possible. This product | African Violet | Passes |
| is tested with two or more clean plant cell lines with no bioburden added to the medium. | Ajuga | Passes |

This material is derived from microbial fermentation and highly purified and considered semi-synthetic. No animal- or plant-derived components were used in the manufacture of this product.

PhytoTech Labs Inc. provides the above information intended to be used only as a guide to the appropriate handling of this material by a properly trained person. PhytoTech Labs Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.

Date of Release: 5-June-2020

Recommended Shelf Life Date: June 2025

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