

# CERTIFICATE OF ANALYSIS

Product Description SPERMIDINE, FREE BASE  
N-(3-AMINOPROPYL)-1,4-BUTANEDIAMINE  
Product Number S837  
Lot Number 08M83713  
Storage Temperature 2-6° C  
Molecular Weight 145.25  
Formula C<sub>7</sub>H<sub>19</sub>N<sub>3</sub>  
CAS Number 124-20-9

## Physiochemical Specifications:

| TEST                                    | SPECIFICATION                                      | RESULTS  |
|---|--|--|
| Solubility                              | Soluble in Water @ 1.45 mg/mL                      | Passes   |
| pH                                      | Under Development                                  | 10.9   |
| Physical Appearance<br>Color<br>Texture | Colorless<br>Solid;<br>Melts at RT to Clear Liquid | Colorless<br>Solid;<br>Melts at RT to Clear Liquid |
| Solution Appearance<br>Clarity<br>Color | Clear<br>Colorless                                 | Clear<br>Colorless                                 |
| Average Time to Dissolve                | For Information Only<br>(Approx. 1 min)            | 1 min  |
| Insolubles                              | None   | Passes   |
| Purity by GC                            | Minimum 97.0%                                      | 99.35%   |
| FTIR                                    | Conforms to Structure                              | Passes   |
| Water Content by Karl Fischer           | For Information Only                               | < 0.1%   |

## Biological Testing:

Test concentration: 1.45 mg/L

| TEST SPECIFICATION  | PLANT CELL LINE | RESULTS |
|---|-----------------|---------|
| Supports and/or facilitates plant growth and/or shoot proliferation in two or more plant tissue cultured lines with no morphological aberrations to plants. | Tobacco callus  | Passes  |
|   | Syngonium       | Passes  |

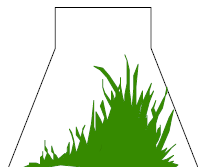
The material described in this certificate is synthetic. No animal- or plant-derived components were used in the manufacture of this product.

**PhytoTechnology Laboratories, LLC provides the above information intended to be used only as a guide to the appropriate handling of this material by a properly trained person. PhytoTechnology Laboratories 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.**

Recommended Shelf Life Date: July 2018



Gary Seckinger, Ph.D.



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### **PhytoTechnology Laboratories®**

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