

CERTIFICATE OF ANALYSIS

Product Description POLYVINYLPIRROLIDONE
Product Number P728
Lot Number 16F0728015
Storage Temperature Room Temperature
Molecular Weight 40,000 Avg.
Formula $(C_6H_9NO)_n$
CAS Number 9003-39-8

Physiochemical Specifications:

| TEST | SPECIFICATION | RESULTS |
|--|--|-------------------------------|
| Solubility | Soluble in Water @ 10 mg/mL | Passes |
| pH | Under Development | 3.7 |
| Physical Appearance Color* Texture | PM-1 to PM-4 Fine to Crystalline Powder | PM-1 Off-White Fine Powder |
| Solution Appearance Clarity Color | Clear Colorless | Clear Colorless |
| Average Time to Dissolve | For Information Only (Approx. 5 min) | 5 min |
| Insolubles | None | Passes |
| FTIR | Conforms to Structure | Passes |
| K-Value | 27.0-32.0 | 29.9 |

* Product color based upon comparisons between sample and standardized color wheel (Benjamin Moore® Color Preview™).

Biological Testing:

Test Concentration: 50.0 mg/L

| TEST SPECIFICATION | PLANT CELL LINE | RESULTS |
|--|-----------------|---------|
| This product is commonly used as an anti-oxidant. This product is tested with two or more tissue cultured plant lines to ensure no phytotoxic impurities that would cause morphological aberrations to plants. | Coreopsis | Passes |
| | Echinacea | Passes |

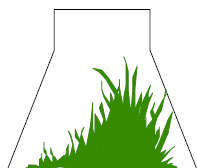
The material described in this certificate is synthetic. No animal- or plant-derived components were used in the manufacture of this product.

PhytoTechnology Laboratories® 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 2024



Gary Seckinger, Ph.D.



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