

## CERTIFICATE OF ANALYSIS

|                     |   |
|---------------------|---|
| Product Description | POLYVINYLPIRROLIDONE, PVP-40                    |
| Product Number      | P728  |
| Lot Number          | SXS0728017                                      |
| Storage Temperature | Room Temperature                                |
| Molecular Weight    | 40,000 Avg.                                     |
| Formula             | (C <sub>6</sub> H <sub>9</sub> NO) <sub>n</sub> |
| CAS Number          | 9003-39-8                                       |

### Physiochemical Specifications:

| TEST                                     | SPECIFICATION                              | RESULTS                   |
|--|--|---------------------------|
| Solubility                               | Soluble in Water @ 10 mg/mL                | Passes                    |
| pH                                       | Under Development                          | 3.9                       |
| Physical Appearance<br>Color*<br>Texture | PM-1 to PM-4<br>Fine to Crystalline Powder | PM-4 White<br>Fine Powder |
| Solution Appearance<br>Clarity<br>Color  | Clear<br>Colorless                         | Clear<br>Colorless        |
| Average Time to Dissolve                 | For Information Only<br>(Approx. 5 min)    | 5 min                     |
| Insolubles                               | None                                       | Passes                    |
| FTIR                                     | Conforms to Structure                      | Passes                    |
| K-Value                                  | 27.0-32.0                                  | 30.8                      |

\* 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. | Begonia         | Passes  |
|  | Ajuga           | Passes  |

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

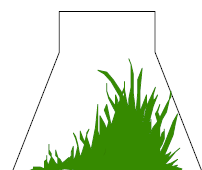
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Recommended Shelf Life Date: December 2025



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