

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

| | |
|--------------------------|-----------------------------|
| Date of Testing: | 2024-11-11 17:15:58 |
| Date of Next Testing: | 2026-11-01 17:15:58 |
| Product Name: | Polyvinylpyrrolidone |
| CAS Number: | 9003-39-8 |
| Specifications & Purity: | average Mw 24000,K23-27 |
| Lot #: | J2428533 |
| SKU # | P110609 |
| Version | 1 |
| Analysis #: | 419996 |

| Parameter | Limit Values | Result |
|---|---|---|
| Water by Karl Fischer | 0-5 (%) | 3.30 % |
| Sulfate Ash | 0-0.1 (%) | 0.10 % |
| Formic Acid | 0-0.5 (%) | 0.50 % |
| Nitrogen by Elemental Analysis | 11.5-12.8 (%) | 12.20 % |
| Hydrazine(N ₂ H ₄) | 0-1 (ppm) | 1.00 ppm |
| Peroxide(as H ₂ O ₂) | 0-400 (ppm) | 112.00 ppm |
| 2-pyrrolidone | 0-3 (%) | 1.20 % |
| Heavy metals | 0-10 (ppm) | 10.00 ppm |
| PH | 3-5 | 3.90 |
| NVP | 0-10 (ppm) | 0.00 ppm |
| Aldehydes | 0-0.05 (%) | 0.01 % |
| K value | 23-27 | 24.40 |
| Appearance (p110609) | White,Off-White Hygroscopic Powder,Crystals,Flake | White,Off-White Hygroscopic Powder,Crystals,Flake |
| Infrared spectrum | Conforms to Structure | Conforms to Structure |



ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

A handwritten signature in black ink that reads "John Su". The signature is written in a cursive, flowing style.

John Su
QA & QC Manager