

## Certificate of Analysis

Date of Testing: 2022-02-23 13:52:54  
 Date of Next Testing: 2024-02-13 13:52:54  
 Product Name: **Polyvinylpyrrolidone**  
 CAS Number: 9003-39-8  
 Specifications & Purity: average Mw 24000,K23-27  
 Lot #: B2221313  
 SKU #: **P110609**  
**Analysis: 061250**

Parameter	Limit Values	Result
Hydrazine(N <sub>2</sub> H <sub>4</sub> )	0-1 (ppm)	0.52 ppm
Peroxide(as H <sub>2</sub> O <sub>2</sub> )	0-400 (ppm)	39.20 ppm
Water by Karl Fischer	0-5 (%)	2.90 %
2-pyrrolidone	0-3 (%)	1.20 %
Sulfate Ash	0-0.1 (%)	0.04 %
Heavy metals	0-10 (ppm)	6.35 ppm
Formic Acid	0-0.5 (%)	0.01 %
PH	3-5	3.90
NVP	0-10 (ppm)	3.95 ppm
Nitrogen by Elemental Analysis	11.5-12.8 (%)	11.85 %
Aldehydes	0-0.05 (%)	0.01 %
K value	23-27	24.80
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

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

John Su  
QA & QC Manager