

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2024-07-20 09:33:02  
Date of Next Testing: 2026-07-10 09:33:02  
Product Name: **Polyvinylpyrrolidone**  
CAS Number: 9003-39-8  
Specifications & Purity: average Mw 24000,K23-27  
Lot #: G2412555  
SKU #: **P110609**  
Version: **0**  
Analysis #: **382236**

Parameter	Limit Values	Result
Hydrazine(N <sub>2</sub> H <sub>4</sub> )	0-1 (ppm)	0.30 ppm
Peroxide(as H <sub>2</sub> O <sub>2</sub> )	0-400 (ppm)	121.00 ppm
2-pyrrolidone	0-3 (%)	1.20 %
Heavy metals	0-10 (ppm)	10.00 ppm
PH	3-5	3.80
Aldehydes	0-0.05 (%)	0.01 %
K value	23-27	24.60
Water by Karl Fischer	0-5 (%)	4.12 %
Sulfate Ash	0-0.1 (%)	0.05 %
Formic Acid	0-0.5 (%)	0.50 %
NVP	0-10 (ppm)	10.00 ppm
Nitrogen by Elemental Analysis	11.5-12.8 (%)	11.57 %
Appearance (p110609)	White,Off-White Hygroscopic Powder,Crystals,Flake	White,Off-White Hygroscopic Powder,Crystals,Flake
Infrared spectrum	Conforms to Structure	Conforms to Structure



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A handwritten signature in black ink that reads "John Su".

John Su  
QA & QC Manager