

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2025-10-22 08:42:55  
Date of Next Testing: 2026-10-22 08:42:55  
Product Name: **1-Methyl-2-pyrrolidinone**  
CAS Number: 872-50-4  
Specifications & Purity: electronic grade, ≥99.9%  
Lot #: J2515308  
SKU #: **M103246**  
Version: **0**  
Analysis #: **563437**  
Storage Temperature: Protected from light, Room temperature, Argon charged, Desiccated

Parameter	Limit Values	Result
Water by Karl Fischer	0-0.03 (%)	0.03%
Refractive index n <sub>20</sub> /D	1.468-1.472	1.47
Hazen	0-25	0.00
Molybdenum(Mo)	0-10 (ppb)	0.00 ppb
Phosphate(PO <sub>4</sub> )	0-0.05 (ppm)	0.00 ppm
Iron(Fe)	0-10 (ppb)	0.00 ppb
Calcium(Ca)	0-5 (ppm)	0.04 ppm
Cadmium(Cd)	0-10 (ppb)	0.00 ppb
Purity(GC)	99.9-100 (%)	99.97%
Lithium(Li)	0-10 (ppb)	0.00 ppb
Potassium(K)	0-10 (ppb)	0.00 ppb
Magnesium(Mg)	0-10 (ppb)	0.00 ppb
Sulfate(SO <sub>4</sub> <sup>2-</sup> )	0-0.05 (%)	0.00%
Zinc(Zn)	0-10 (ppb)	0.00 ppb
Nickel(Ni)	0-10 (ppb)	0.00 ppb
(NO <sub>3</sub> )Nitrate	0-0.05 (ppm)	0.00 ppm
Copper(Cu)	0-10 (ppb)	0.68 ppb
Cobalt(Co)	0-10 (ppb)	0.00 ppb
Aluminum(Al)	0-10 (ppb)	1.90 ppb
Manganese(Mn)	0-10 (ppb)	0.00 ppb
Chloride(Cl <sup>-</sup> )	0-0.05 (ppm)	0.03 ppm
Silver(Ag)	0-10 (ppb)	0.00 ppb
Chromium(Cr)	0-10 (ppb)	1.60 ppb
Lead(Pb)	0-10 (ppb)	0.23 ppb
Sodium(Na)	0-10 (ppb)	1.17 ppb

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<b>Parameter</b>	<b>Limit Values</b>	<b>Result</b>
total diol	0-20 (ppm)	20.00 ppm
Total Amine	0-20 (ppm)	20.00 ppm
Appearance (M103246)	Colorless to light yellow liquid	Colorless to light yellow liquid
Infrared spectrum	Conforms to Structure	Conforms to Structure

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

John Su  
QA & QC Manager