

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2025-07-31 09:58:24  
 Date of Next Testing: 2026-07-31 09:58:24  
 Product Name: **1-Methyl-2-pyrrolidinone**  
 CAS Number: 872-50-4  
 Specifications & Purity: electronic grade, ≥99.9%  
 Lot #: G2528029  
 SKU #: **M103246**  
 Version: **0**  
 Analysis #: **525611**  
 Storage Temperature: Protected from light, Argon charged, Desiccated

Parameter	Limit Values	Result
Water by Karl Fischer	0-0.03 (%)	0.02 %
Refractive index n <sub>20</sub> /D	1.468-1.472	1.47
Hazen	0-25	0.00
Sodium(Na)	0-10 (ppb)	0.00 ppb
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)	0.00 ppm
total diol	0-20 (ppm)	0.00 ppm
Cadmium(Cd)	0-10 (ppb)	0.00 ppb
Purity(GC)	99.9-100 (%)	99.96 %
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 (%)	0.01 %
Nickel(Ni)	0-10 (ppb)	0.27 ppb
Copper(Cu)	0-10 (ppb)	0.00 ppb
Cobalt(Co)	0-10 (ppb)	0.04 ppb
Aluminum(Al)	0-10 (ppb)	0.00 ppb
Manganese(Mn)	0-10 (ppb)	0.52 ppb
Chloride(Cl <sup>-</sup> )	0-0.05 (ppm)	0.01 ppm
Silver(Ag)	0-10 (ppb)	0.00 ppb
Chromium(Cr)	0-10 (ppb)	1.79 ppb
Lead(Pb)	0-10 (ppb)	0.00 ppb
Zinc(Zn)	0-10 (ppb)	10.00 ppb

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Parameter	Limit Values	Result
(NO3)Nitrate	0-0.05 (ppm)	0.00 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