

Shanghai Aladdin Biochemical Technology Co., LTD
809 Chuhua Branch Road, Fengxian District, Shanghai 201400, China

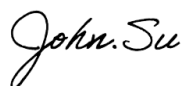
Certificate of Analysis

Date of Testing: 2022-05-07 18:09:04
Date of Next Testing: 2023-05-07 18:09:04
Product Name: **1-Methyl-2-pyrrolidinone**
CAS Number: 872-50-4
Specifications & Purity: electronic grade,99.9%
Lot #: D2228165
SKU #: **M103246**
Analysis: **082205**

Parameter	Limit Values	Result
Water by Karl Fischer	0-0.03 (%)	0.01050 %
Refractive index n ₂₀ /D	1.468-1.472	1.47090
Hazen	0-25	0.00000
Sodium(Na)	0-10 (ppb)	0.00000 ppb
Molybdenum(Mo)	0-10 (ppb)	0.00000 ppb
Phosphate(PO ₄)	0-0.05 (ppm)	0.00000 ppm
Iron(Fe)	0-10 (ppb)	0.00000 ppb
Calcium(Ca)	0-5 (ppm)	0.00000 ppm
total diol	0-20 (ppm)	0.00000 ppm
Cadmium(Cd)	0-10 (ppb)	0.00000 ppb
Purity(GC)	99.9-100 (%)	99.98000 %
Lithium(Li)	0-10 (ppb)	0.00000 ppb
Magnesium(Mg)	0-10 (ppb)	0.00000 ppb
Sulfate(SO ₄ ²⁻)	0-0.05 (%)	0.00000 %
Zinc(Zn)	0-10 (ppb)	0.00000 ppb
Nickel(Ni)	0-10 (ppb)	0.00000 ppb
(NO ₃)Nitrate	0-0.05 (ppm)	0.00000 ppm
Copper(Cu)	0-10 (ppb)	0.00000 ppb
Cobalt(Co)	0-10 (ppb)	0.00000 ppb
Aluminum(Al)	0-10 (ppb)	0.00000 ppb
Manganese(Mn)	0-10 (ppb)	0.00000 ppb
Chloride(Cl ⁻)	0-0.05 (ppm)	0.00250 ppm
Silver (Ag)	0-10 (ppb)	0.00000 ppb
Total Amine	0-20 (ppm)	0.00000 ppm
Chromium(Cr)	0-10 (ppb)	0.00000 ppb
Potassium(K)	0-10 (ppb)	0.00000 ppb
Lead(Pb)	0-10 (ppb)	0.00000 ppb

Shanghai Aladdin Biochemical Technology Co., LTD
809 Chuhua Branch Road, Fengxian District, Shanghai 201400, China

Parameter	Limit Values	Result
Infrared spectrum	Conforms to Structure	Conforms to Structure
Appearance (M103246)	Colorless to light yellow liquid	Colorless to light yellow liquid

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

John Su
QA & QC Manager