

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

Certificate of Analysis

Date of Testing: 2022-05-10 17:02:34
Date of Next Testing: 2023-05-10 17:02:34
Product Name: **1-Methyl-2-pyrrolidinone**
CAS Number: 872-50-4
Specifications & Purity: electronic grade,99.9%
Lot #: E2209016
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

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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