

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-07-19 15:41:05  
 Date of Next Testing: 2027-07-18 15:41:05  
 Product Name: **1-Methyl-2-pyrrolidinone(NMP)**  
 CAS Number: 872-50-4  
 Specifications & Purity:  $\geq 99.5\%$ (GC)  
 Lot #: G23131377  
 SKU #: **M103248**  
 Version: **2**  
 Analysis #: **245707**  
 Storage Temperature: Protected from light, Room temperature, Argon charged, Desiccated

| Parameter                           | Limit Values                     | Result                           |
|-------------------------------------|----------------------------------|----------------------------------|
| Purity(GC)                          | 99.5-100 (%)                     | 99.61200 %                       |
| Refractive index n <sub>20</sub> /D | 1.468-1.472                      | 1.47080                          |
| Water by Karl Fischer               | 0-0.02 (%)                       | 0.01330 %                        |
| Free amine                          | 0-0.001 (%)                      | 0.00000 %                        |
| Density (20°C)                      | 1.032-1.036                      | 1.03460                          |
| Specific gravity                    | 1.025-1.035                      | 1.03274                          |
| Appearance (M103248)                | Colorless to light yellow liquid | Colorless to light yellow liquid |
| Proton NMR spectrum                 | Conforms to Structure            | Conforms to Structure            |



John Su  
QA & QC Manager