

Thermo Fisher Scientific

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## **CERTIFICATE OF ANALYSIS**

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by TUV SUD America Inc. Certificate Number. 951001163

Catalogue Number	043894			
Lot Number	U021033			
Description	1-Methyl-2-pyrrolidinone, ACS grade, 99.0+%			
CAS Number	872-50-4			
Quality Test/Release Date	02/Aug/2022			
Suggested retest date	02/Aug/2025			
Country of Origin	China			
Result Name	Units	Specifications	Test Value	
Color (APHA)		≤50	5	
Assay (GC)	%	>/= 99.0%	99.93	
Chloride content	ppm	≤ 1ppm	0.08	
Form		Clear Liquid	Clear liquid	
Impurity content	%	≤ 0.01% Free amines (as CH₃NH₂) 0.0005		
Water Content (Karl Fischer Titration)	%	≤0.05%	0.007	

John Astarita

John Astarita Director, Quality

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.