



Product Information

1-Methyl-2-pyrrolidone

Product Number **M 6762**
Storage Temperature 2-8 °C

Product Description

Molecular Formula: C₅H₉NO
Molecular Weight: 99.13
CAS Number: 872-50-4
Boiling Point: 202 °C¹
Density: 1.027 g/ml¹
Viscosity: 1.65 cp (25 °C)¹
Synonyms: N-methylpyrrolidone, 1-methylpyrrolidone, N-methyl- α -pyrrolidinone, 1-methylazacyclopentan-2-one, N-methyl- γ -butyrolactone, NMP

1-Methyl-2-pyrrolidone is a polar solvent that is used in organic chemistry and polymer chemistry. Large scale applications include the recovery and purification of acetylenes, olefins, and diolefins, gas purification, and aromatics extraction from feedstocks.¹

Several reports have described the use of NMP as a solvent in the synthesis of such compounds as a 5,10-dideaza-5,6,7,8-tetrahydrofolic acid, substituted thioamides, and gels derived from polyallylamine and carbon dioxide.^{2,3,4} The preparation of intercalation compounds of NMP with kaolinite has been described.^{5,6} The reactivity of an epoxyhydroxylinoleic acid derivative with lysine groups in NMP as a model of lipid peroxidation has been investigated.⁷

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is miscible in ethanol (0.1 ml/ml, 10%, v/v), yielding a clear, colorless solution. It is also miscible in water, ether, acetone, ethyl acetate, chloroform, and benzene.¹

References

1. The Merck Index, 12th ed., Entry# 6197.
2. Boschelli, D. H., et al., Synthesis and biological properties of 5,10-dideaza-5,6,7,8-tetrahydrofolic acid. *Arch. Biochem. Biophys.*, **265(1)**, 43-49 (1988).
3. Zbruyev, O. I., et al, Preparation of thioamide building blocks via microwave-promoted three-component kindler reactions. *J. Comb. Chem.*, **5(2)**, 145-148 (2003).
4. Carretti, E., et al., Synthesis and characterization of gels from polyallylamine and carbon dioxide as gellant. *J. Am. Chem. Soc.*, **125(17)**, 5121-5129 (2003).
5. Gardolinski, J. E., et al., Preparation and characterization of a kaolinite-1-methyl-2-pyrrolidone intercalation compound. *J. Colloid Interface Sci.*, **211(1)**, 137-141 (1999).
6. Kelleher, B. P., et al., The effect of kaolinite intercalation on the structural arrangements of N-methylformamide and 1-methyl-2-pyrrolidone. *J. Colloid Interface Sci.*, **255(2)**, 219-224 (2002).
7. Lederer, M. O., et al., Reactivity of lysine moieties toward an epoxyhydroxylinoleic acid derivative: aminolysis versus hydrolysis. *J. Agric. Food Chem.*, **47(11)**, 4611-4620 (1999).

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