



## Product Information

### 1-Methylimidazole

Product Number **M 8878**  
Storage Temperature 2-8 °C

#### Product Description

Molecular Formula: C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>  
Molecular Weight: 82.11  
CAS Number: 616-47-7  
Density: 1.03 g/ml<sup>1</sup>  
pK<sub>a</sub> (protonated cation):<sup>2</sup> 7.06

1-Methylimidazole is a derivative of imidazole that is utilized in the manufacture of such classes of items as pharmaceuticals, pesticides, ion-exchange resins, dye intermediates, textile auxiliaries, photographic chemicals, and corrosion inhibitors. It is also used as a catalyst for manufacturing polyurethanes and a curing agent for epoxy resins. 1-Methylimidazole has been utilized in the synthesis of inorganic complexes, ionic liquids, and catalytic deprotonation reagents.<sup>3-5</sup> The use of 1-methylimidazole in the preparation of GDP-hexanolamine for the purification of fucosyltransferases has been reported.<sup>6</sup>

An investigation of the kinetics of copper uptake by apoazurin has used 1-methylimidazole as a buffer over the pH range 7-9.<sup>7</sup> 1-Methylimidazole has been utilized as a buffer in a study of nucleotide binding to the sarcoplasmic reticulum Ca<sup>2+</sup>-ATPase.<sup>8</sup> An investigation of hydrogen bonding of substrates to a heme-pocket water in the *Bradyrhizobium japonicum* FixL heme domain that uses 1-methylimidazole has been published.<sup>9</sup>

#### Precautions and Disclaimer

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

#### Preparation Instructions

This product is soluble in water (50 mg/ml), yielding a clear, colorless solution.

#### References

1. CRC Handbook of Chemistry and Physics, 74th ed., Lide, D. R., ed., CRC Press (Boca Raton, FL: 1993), p. 3-291.
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4. Holbrey, J. D., et al., 1,3-dimethylimidazolium-2-carboxylate: the unexpected synthesis of an ionic liquid precursor and carbene-CO<sub>2</sub> adduct. *Chem. Commun.*, **(1)**, 28-29 (2003).
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7. Blaszkak, J. A., et al., Kinetics of copper(II) uptake by apoazurin in complexing media. *J. Biol. Chem.*, **258(16)**, 9886-9892 (1983).
8. Liu, M., and Barth, A., Mapping nucleotide binding site of calcium ATPase with IR spectroscopy: effects of ATP  $\gamma$ -phosphate binding. *Biopolymers*, **67(4-5)**, 267-270 (2002).
9. Hao, B., et al., Structure-based mechanism of O<sub>2</sub> sensing and ligand discrimination by the FixL heme domain of *Bradyrhizobium japonicum*. *Biochemistry*, **41(43)**, 12952-12958 (2002).

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