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ProductInformation

Magnesium acetate tetrahydrate

Product Code **22,864-8**
Store at Room Temperature
Exact replacement for Product Code M9147

Product Description

Molecular Formula: $Mg(C_2H_3O_2)_2 \bullet 4H_2O$
Molecular Weight: 214.5
CAS Number: 16674-78-5
Melting Point: approximately 80 °C[1]

This product is designated as ACS Reagent grade and meets the specifications of the American Chemical Society (ACS) for reagent chemicals.

Magnesium acetate is used in chemistry and molecular biology as a reagent and a source of magnesium. Magnesium has a variety of biological roles in enzymology, cell membrane and wall structural integrity, muscle cell physiology, and nucleic acid structure.[2,3] Magnesium is an essential co-factor in many enzymes, including deoxyribonuclease (DNase), the restriction enzymes *Eco*R I and *Eco*R V, and Ribonuclease H.[4,5] Magnesium also stabilizes polymeric nucleic acids such as transfer RNA and ribozymes.[6]

Magnesium acetate has been widely used in the crystallization of proteins[7,8,9] (Product Nos. 82009, 70437, 75403, 73513). A protocol for the separation of MB and BB isoenzymes of creatine kinase and the LD1 isoenzyme of lactate dehydrogenase that involves elution with magnesium acetate has been published.[10]

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in 1% acetic acid (100 mg/ml), yielding a clear, colorless solution. It is also highly soluble in water or alcohol.[1]

References

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3. The Biological Chemistry of the Elements, Frausto da Silva, J. J. R., and Williams, R. J. P., Clarendon Press (Oxford, UK: 1991), pp. 243-267.
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7. Mano, J., et al., Crystallization and preliminary X-ray crystallographic analysis of NADPH: azodicarbonyl/quinone oxidoreductase, a plant zeta-crystallin. Biochim. Biophys. Acta, **1480(1-2)**, 374-376 (2000).
8. Shaw, J. P., et al., Crystallization and preliminary X-ray diffraction studies of human RANTES. J. Mol. Biol., **242(4)**, 589-590 (1994).
9. Lee, D. S., et al., Crystallization and preliminary X-ray diffraction analysis of fatty-acid hydroxylase cytochrome P450BSbeta from *Bacillus subtilis*. Acta Crystallogr. D Biol. Crystallogr., **58(Pt 4)**, 687-689 (2002).
10. Morin, L. G., and Barton, E. G., A "column-batch" method for separating MB and LD1 in a single fraction. Clin. Chem., **29(10)**, 1741-1745 (1983).

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