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Product Information

N-Methyl-D-glucamine

Product Number **M 2004**

Store at room temperature

Replacement for Product Code M4,700-0

Product Description

Molecular Formula: $C_7H_{17}NO_5$

Molecular Weight: 195.2

CAS Number: 6284-40-8

Melting point: 128-129 °C

Specific rotation: -15.7 to -17.3°

(10 mg/ml in water at 25 °C)

pK_a: 9.5 (20 °C)¹

Synonyms: NMDG, meglumine

This product is used as a Na⁺ substitute in systems to maintain physiological solutions as isotonic, but without sodium. It has been used, among other things, in studying cells from rabbit cerebral artery,² rabbit cardiacmyocytes,³ perfused rat intestine,⁴ and frog skeletal muscle.⁵

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). It is reported to be soluble up to 1g/ml in water at 25 °C.⁶ A 1% aqueous solution has a pH of approximately 10.5.

References

1. Martindale The Extra Pharmacopoeia, 29th ed., Reynolds, J. E. F., ed., The Pharmaceutical Press (London, England: 1989), p. XXVI.
2. Kim, J. K., et al., Influence of Extracellular Na⁺ Removal on Cytosolic Ca²⁺ Concentration in Smooth Muscle Cells of Rabbit Cerebral Artery. *J. Smooth Muscle Res.*, **35**, 135-145 (1999).
3. Clemo, H. F., and Baumgarten, C. M., Atrial Natriuretic Factor Decreases Cell Volume of Rabbit Atrial and Ventricular Myocytes. *Am. J. Physiol.*, **260(4 Pt 1)**, C681-C690 (1991).
4. Wapnir, R. A., and Stiel, L., Intestinal Absorption of Copper: Effect of Sodium. *Proc. Soc. Exp. Biol. Med.*, **185(3)**, 277-282 (1987).
5. Abercrombie, R. F., et al., The Intracellular pH of Frog Skeletal Muscle: Its Regulation in Isotonic Solutions. *J. Physiol.*, **345**, 175-187 (1983).
6. The Merck Index, 11th ed., Entry# 5995.

CMH/RXR 6/03

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