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Product Information

2-Amino-2-methyl-1,3-propanediol

Product Number **A 9754**

Store at Room Temperature

Replacement for Product Code **A6,517-4**

Product Description

Molecular Formula: $C_4H_{11}NO_2$

Molecular Weight: 105.1

CAS Number: 115-69-5

pK_a : 8.79 (25 °C)

Melting Point: 109-111 °C¹

Synonyms: AMPD, Ammediol,
1,1-di(hydroxymethyl)ethylamine, 1,3-dihydroxy-2-
methyl-2-propylamine¹

2-Amino-2-methyl-1,3-propanediol is used in various research and industrial applications. Large scale applications include the synthesis of surface active agents and vulcanization accelerators. AMPD is utilized as an emulsifying agent in mineral oil and paraffin wax emulsions, polishes, and cleaning compounds.¹

AMPD is used as a buffer in biochemistry and molecular biology research, such as in polyacrylamide gel electrophoresis of proteins.^{2,3} The useful pH range of AMPD is 7.8 - 9.7. AMPD has been utilized in a spectrophotometric assay of superoxide dismutase activity.⁴ The isolation of light-harvesting proteins from various plants using an AMPD-based gel system has been reported.⁵

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in water (100 mg/ml), yielding a clear, colorless solution. It is also soluble in alcohol. The pH of a 0.1 M aqueous solution of AMPD is 10.8.¹

References

1. The Merck Index, 12th ed., Entry# 468.
2. Geisthardt, D., and Kruppa, J., Polyacrylamide gel electrophoresis: reaction of acrylamide at alkaline pH with buffer components and proteins. *Anal. Biochem.*, **160(1)**, 184-191 (1987).
3. Angellis, D., et al., Isoelectric focusing of alkaline phosphatase isoenzymes in polyacrylamide gels. Use of Triton X-100 and improved staining technic. *Am. J. Clin. Pathol.*, **66(6)**, 929-934 (1976).
4. Nebot, C., et al., Spectrophotometric assay of superoxide dismutase activity based on the activated autoxidation of a tetracyclic catechol. *Anal. Biochem.*, **214(2)**, 442-451 (1993).
5. Sigrist, M., and Staehelin, L. A., Identification of type 1 and type 2 light-harvesting chlorophyll a/b-binding proteins using monospecific antibodies. *Biochim. Biophys. Acta*, **1098(2)**, 191-200 (1992).

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