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ProductInformation

Methanol

Product Number **M 1770**
Store at Room Temperature

Product Description
Molecular Formula: CH_3OH
Molecular Weight: 32.04
CAS Number: 67-56-1
Density: 0.7915 g/ml (20 °C)[1]
Boiling point: 64.7 °C (760 torr)[1]
Synonyms: methyl alcohol, methyl carbinol[1]

This product is as suitable for use as a protein sequencing reagent.

Methanol is a widely used polar organic solvent in chemistry, biochemistry, and molecular biology. It is a common solvent in HPLC and mass spectrometry (MS) of small molecules and of biomolecules such as oligonucleotides and proteins.[2,3,4,5] Methanol is also utilized in high performance capillary electrophoresis.[6] Protocols which utilize methanol have been published on the isolation of hydrophobic and membrane proteins from macrophages, plants, and bile.[7,8,9] The use of methanol in studies of sequencing gels has been described.[10]

Industrial applications of methanol include the manufacture of formaldehyde and methyl esters of organic and inorganic acids. Methanol is used as a solvent and solvent adjuvant for polymers, and as a softening agent for pyroxylin plastics.[1]

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

Preparation Instructions
This product is miscible with water, ethanol, ether, benzene, and most other organic solvents.[1]

References
1. The Merck Index, 12th ed., Entry# 6023.
2. Cech, N. B., and Enke, C. G., Practical implications of some recent studies in electrospray ionization fundamentals. Mass Spectrom. Rev., **20(6)**, 362-387 (2001).
3. Fountain, K. J., et al., Analysis of native and chemically modified oligonucleotides by tandem ion-pair reversed-phase high-performance liquid chromatography/electrospray ionization mass spectrometry. Rapid Commun. Mass Spectrom., **17(7)**, 646-653 (2003).
4. High-Performance Liquid Chromatography of Peptides and Proteins: Separation, Analysis, and Conformation. Mant, C. T., and Hodges, R. S., eds., CRC Press (Boca Raton, FL: 1991), pp. 292, 310, 442, 644.
5. Piette, V., et al., Enantiomer separation of N-protected amino acids by non-aqueous capillary electrophoresis and high-performance liquid chromatography with tert-butyl carbamoylated quinine in either the background electrolyte or the stationary phase. J. Chromatogr. A., **987(1-2)**, 421-427 (2003).
6. High Performance Capillary Electrophoresis: Theory, Techniques, and Applications. Khaledi, M. G., ed., John Wiley & Sons (New York, NY: 1998), pp. 527, 529-531, 536, 539, 541, 546-550, 571.
7. Simoes-Barbosa, A., et al., Solubilization of delipidated macrophage membrane proteins for analysis by two-dimensional electrophoresis. Electrophoresis, **21(3)**, 641-644 (2000).
8. Seigneurin-Berny, D., et al., Technical Advance: Differential extraction of hydrophobic proteins from chloroplast envelope membranes: a subcellular-specific proteomic approach to identify rare intrinsic membrane proteins. Plant J., **19(2)**, 217-228 (1999).
9. Stark, M., et al., Isolation and characterization of hydrophobic polypeptides in human bile. Eur. J. Biochem., **266(1)**, 209-214 (1999).
10. Molecular Cloning: A Laboratory Manual, 3rd ed., Sambrook, J., and Russell, D. W., CSHL Press (Cold Spring Harbor, NY: 2001), pp. 12.90-12.92, A1.20.

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