

09735 Ammonium Formate (Formic Acid Ammonium Salt)

Product Description:

This product is designated as BioUltra grade and is suitable for different applications like purification, precipitation, crystallisation and other applications which require tight control of elemental content.

Ammonium formate is a salt that is widely used in such research applications as chromatography and electrophoresis. It is prepared from formic acid and ammonia gas.²

Applications:

In capillary electrochromatography, ammonium formate has been used in the separation of non-steroidal anti-inflammatory drugs and of oligosaccharide mixtures.^{3,4}

Buffer component in the separation and purification of glycosaminoglycans from complex systems by affinity chromatography with Polybrene.⁹

HPLC and HPLC-MS methods have utilized ammonium formate in the analysis of a variety of substrates, including phosphatidylserines, triacylglycerols and triacylglycerol oxidation products, and oligogalacturonic acids.^{5,6,7}

Ammonium formate has been utilized in protein crystallization.⁸

Properties:

CAS Number	540-69-2
Molecular Formula:	CH ₅ NO ₂
Molecular Weight:	63.06 g/mol
Melting Point:	116°C ¹
Density:	1.27 g/ml
Solubility:	0.1 M in H ₂ O, 20°C, complete, colorless
pH:	5.5-7.5 (0.1 M in H ₂ O, 25°C)

Preparation Instructions:

This product is soluble in water (1000 mg/ml), yielding a clear, colorless solution.

Storage/Stability:

This product is hygroscopic. It is advised to keep containers well closed.



References:

1. The Merck Index, 12th ed., Entry# 554.
2. Zuffanti, S., Ammonium Salts of Aliphatic Carboxylic Acids, *J. Am. Chem. Soc.*, 63(11), 3123-3124 (1941).
3. Desiderio, C., and Fanali, S., Capillary electrochromatography and capillary electrochromatography-electrospray mass spectrometry for the separation of non-steroidal anti-inflammatory drugs. *J. Chromatogr. A*, 895(1-2), 123-132 (2000).
4. Que, A. H., and Novotny, M. V., Separation of neutral saccharide mixtures with capillary electrochromatography using hydrophilic monolithic columns. *Anal. Chem.*, 74(20), 5184-5191 (2002).
5. Larsen, A., et al., Separation and identification of phosphatidylserine molecular species using reversed-phase high-performance liquid chromatography with evaporative light scattering and mass spectrometric detection. *J. Chromatogr. B Analyt. Technol. Biomed. Life Sci.*, 774(1), 115-120 (2002).
6. Byrdwell, W. C, and Neff, W. E., Dual parallel electrospray ionization and atmospheric pressure chemical ionization mass spectrometry (MS), MS/MS and MS/MS/MS for the analysis of triacylglycerols and triacylglycerol oxidation products. *Rapid Commun. Mass Spectrom.*, 16(4), 300-319 (2002).
7. Stoll, T., et al., High-performance liquid chromatographic separation and on-line mass spectrometric detection of saturated and unsaturated oligogalacturonic acids. *Carbohydr. Res.*, 337(24), 2481-2486 (2002).
8. Brunner, N. A., et al., Crystallization and preliminary X-ray diffraction analysis of the NADdependent non-phosphorylating GAPDH of the hyperthermophilic archaeon *Thermoproteus tenax*. *Acta Crystallogr. D Biol. Crystallogr.*, 56(Pt 1), 89-91 (2000).
9. B.A. Hodson, et al., *J. Chromatogr.*, 565 (1991).

Precautions and Disclaimer:

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

The vibrant M and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates.

Detailed information on trademarks is available via publicly accessible resources.

© 2018 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.

