

Product Information

Triethylammonium bicarbonate buffer

Catalog Number **T7408**

Storage Temperature 2–8 °C

CAS Number 15715-58-9

Synonyms: TEAB, triethylammonium hydrogen carbonate buffer

Product Description

This product is a 1.0 M solution, pH 8.5.

Triethylammonium bicarbonate (TEAB) is a buffer, composed of a combination of triethylamine and carbon dioxide, the latter occurring in solution as bicarbonate. TEAB has been applied for use in electrophoresis and ion-exchange chromatography.¹ The volatility of TEAB facilitates sample recovery after chromatographic analysis and makes TEAB a buffer of interest for mass spectrometric analysis of biomolecules.

TEAB has been utilized to coat Amberlite® XAD-4 resin for the separation of nucleic acid hydrolysis products.² Several reports have described the use of TEAB in HPLC resolution of nucleotides, such as the separation of 5'-adenosine di- and triphosphates from inorganic pyrophosphate or imidodiphosphate, and the resolution of groups of nucleoside diphosphates and nucleoside triphosphates.^{3,4} HPLC-ESI MS methods for the study of oligonucleotides using TEAB have been described.⁵⁻⁷ Proteins have also been analyzed by ESI-MS with TEAB buffer.⁸

The preparation of TEAB by passing carbon dioxide gas into a 1.0 M aqueous solution of triethylamine at 5 °C has been described.⁵

Precautions and Disclaimer

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

References

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5. Huber, C.G., and Krajete, A., Sheath liquid effects in capillary high-performance liquid chromatography-electrospray mass spectrometry of oligonucleotides. *J. Chromatogr. A*, **870(1-2)**, 413-424 (2000).
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7. Premstaller, A. et al., High-performance liquid chromatography-electrospray ionization mass spectrometry of single- and double-stranded nucleic acids using monolithic capillary columns. *Anal. Chem.*, **72(18)**, 4386-4393 (2000).
8. Lemaire, D. et al., Stabilization of gas-phase noncovalent macromolecular complexes in electrospray mass spectrometry using aqueous triethylammonium bicarbonate buffer. *Anal. Chem.*, **73(8)**, 1699-1706 (2001).

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