Triethylammonium acetate - buffer solution pH 7.0 (1 mol/L / 1 M)

TEAA
Product No. A3846

Description

Composition:	1 mol/L (1 M) triethylamine (pH 7.0 ± 0.1 with acetic acid)
Molecular Formula:	$C_6H_{15}N \cdot CH_3COOH$
Molecular weight:	161.25 g/mol
CA No.:	[5204-74-0]
HS No.:	29211910
Non-volatile components:	max. 0.01% **working concentration**: 30 - 40 mmol/L (30 - 40 mM) (for DNA fragments)
Stock solution:	1 mol/L (1 M), pH 7.0 ± 0.1 (for DNA fragments)
Stability (stock solution):	Approx. 6 months (tightly closed!)
Storage:	Room temperature

Comment

Triethylammonium salts, usually the acetate, carbonate or phosphate salt, are used in chromatography as ion-pair reagents for the purification of anionic oligosaccharides and glycopeptides (2) or oligonucleotides (3). It belongs to the volatile buffers and can be removed under vacuum. This type of buffer has the advantage that components can be removed which may interfere with subsequent steps (e.g. protein determination, restriction digestion). Also, there is no need to introduce an additional precipitation step where sample material could be lost.

In the case of the separation of oligosaccharides and glycopeptides, the major advantage is that the carbohydrate moiety can remain intact during the separation and remain bound to an amino acid. can remain bound to an amino acid. The working concentration here was 3% acetic acid adjusted to pH 5.5 with triethylamine (3).

For the purification of oligonucleotides, especially for fragment sizes above 500 base pairs, ion pair chromatography is an excellent method. ion-pair chromatography is excellently suited for the purification of oligonucleotides, especially for fragment sizes above 500 base pairs. At amine concentrations of 30-40 mol/L, the separation of fragments of size 1078 and 1353 base pairs was optimal (3).

Application and Literature

(1) Usher, D.A. (1979) *Nucleic Acids Res*. **6**, 2289-2306, Reverse-phase HPLC of DNA restriction fragments and ribooligonucleotides on uncoated Kel-F powder

(2) Mellis, S.J. & Baenziger, J.U. (1983) *Anal. Biochem*. **134**, 442-449, Size fractionation of anionic oligosaccharides and glycopeptides by high-performance liquid chromatography

(3) Eriksson, S. *et al.* (1986) *J. Chromatogr*. **359**, 265-274, Separation of DNA restriction fragments by ion-pair chromatography

(4) Fritz, H.J. *et al.* (1978) *Biochemistry* **174**, 1257, Separation of DNA restriction fragments by Ion pair chromatography.

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