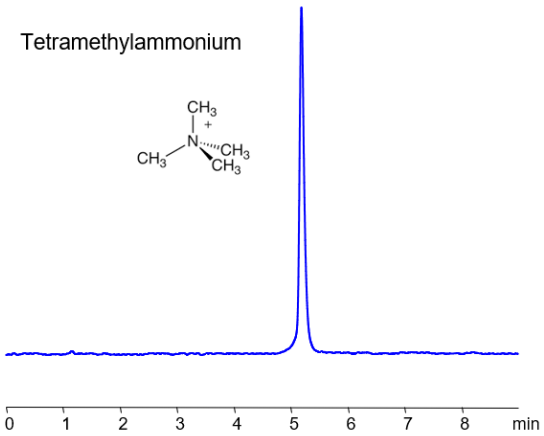
HPLC Method for Analysis of Tetramethylammonium on Newcrom AH Column



Column:	Newcrom AH
Column size:	4.6 × 150 mm, 3 µm, 100A
Column part number:	NAH-46.150.0310
Mobile phase:	MeCN – 50%
Buffer:	AmFm pH 3.0 – 10 mM
Flow rate:	1.0 mL/min
Detection:	ELSD, 50C

HPLC Method for Analysis of Tetramethylammonium on (Column not found) by SIELC Technologies

Tetramethylammonium is a quaternary ammonium cation with the formula (CH3)4N+. This compound is one of the simplest quaternary ammonium ions, and is notable for its prevalence in both science and industry.

The central nitrogen atom in tetramethylammonium has a positive charge due to the four alkyl (methyl, CH3) groups attached to it. This makes it a cation, meaning it carries a positive charge.

This compound is often used in its chloride salt form (tetramethylammonium chloride), which is a white crystalline powder that is highly soluble in water and used in various chemical applications, such as phase transfer catalysts, surfactants, and reagents in organic synthesis.

Tetramethylammonium ions can also serve as counter ions or blocking ions in certain biological and chemical studies. For example, they are sometimes used to block potassium channels in studies of cellular physiology.

The tetramethylammonium can be retained, analyzed, on a Newcrom AH column using an isocratic analytical method with a simple mobile phase of water, Acetonitrile (MeCN), and an Ammonium formate (AmFm) ionic modifier. This analysis method can be detected with an Evaporative Light Scattering Detector (ELSD) or any other evaporative detection method (CAD, ESI-MS).

LOD was determined for this combination of instrument, method, and analyte, and it can vary from one laboratory to another even when the same general type of analysis is being performed.

Method Parameters

Column	(Column variation not found)
Mobile Phase	MeCN/H2O – 50/50%
Buffer	AmFm pH 3.0- 10 mM
Flow Rate	1.0 mL/min
Detection	ELSD, the nebulizer and evaporator temperatures 50 °C, with a gas flow rate of 1.6 Standard Liters per Minute (SLM) (MS- compatible mobile phase)
Limit of Detection	320 ppb
Injection Volume	1 µl

Quelle: https://sielc.com/hplc-method-of-tetramethylammonium