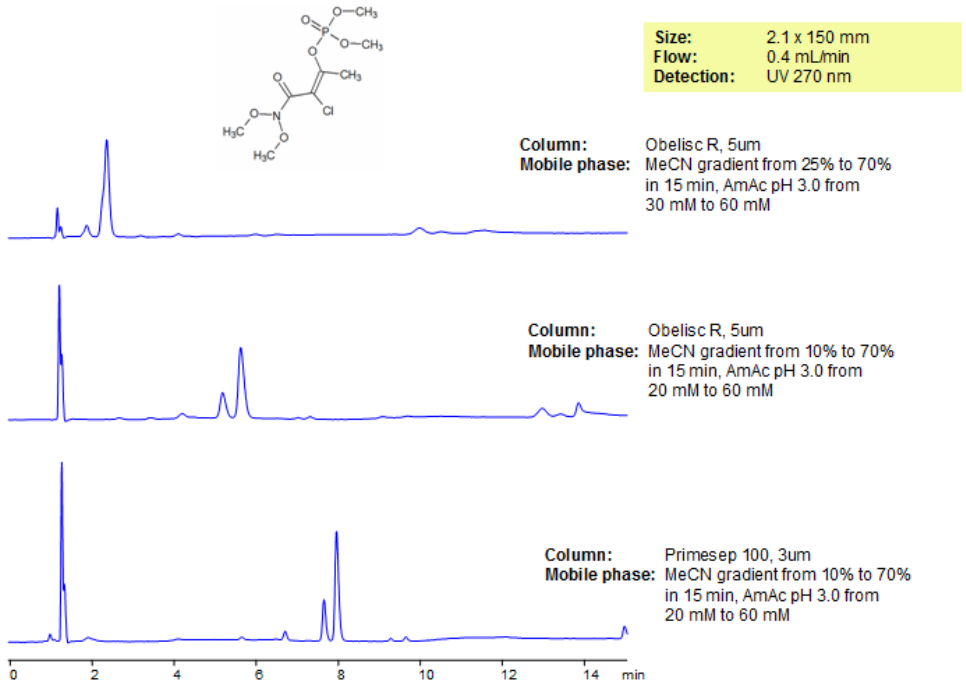
HPLC Separation of Phosphamidon on Mixed-Mode Columns



Phosphamidon is an organophosphate insecticide highly toxic to mammals and classified by the World Health Organization to be extremely hazardous (Ia), with an oral lethal dose of less than 5mg/kg of bodyweight. The EURL (European Union Reference Laboratory) included phosphamidon as a target pesticide for the EUPT-CF9. Primesep 100 and Obelisc R were used to retain phosphamidon and separate it from impurities. Primesep 100 contains embedded acidic ion-pairing groups and Obelisc R contains embedded ionic and hydrophobic groups which can assist in fine tuning separations. Method is LC/MS compatible and can be used as a general approach for analyzing phosphamidon, other organophosphate insecticides, and dozens of other pesticides.

SIELC has developed the Obelisc™ columns, which are mixed-mode and utilize Liquid Separation Cell technology (LiSC™). These cost-effective columns are the first of their kind to be commercially available and can replace multiple HPLC columns, including reversed-phase (RP), AQ-type reversed-phase, polar-embedded group RP columns, normal-phase, cation-exchange, anion-exchange, ion-exclusion, and HILIC (Hydrophilic Interaction Liquid Chromatography) columns. By controlling just three orthogonal method parameters - buffer concentration, buffer pH, and organic modifier concentration - users can adjust the column properties with pinpoint precision to separate complex mixtures.

Method Parameters

Column	Primesep 100, 2.1×150 mm, 5 µm, 100 Å
Mobile Phase	Gradient MeCN – 10-70%, 15 min
Buffer	Gradient AmAc pH 3.0- 20-60 mM, 15 min
Flow Rate	0.4 mL/min
Detection	UV, 270 nm

Quelle: https://sielc.com/Application-HPLC-Separation-of-Phosphamidon-on-Mixed-Mode-Columns