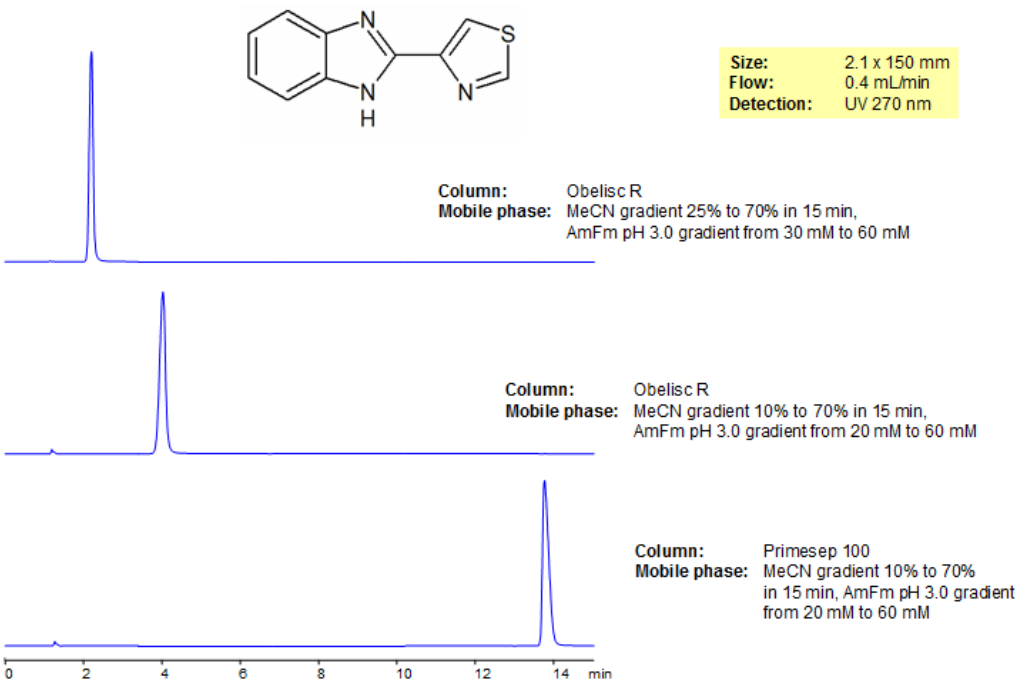
Separation of Thiabendazole on Mixed-Mode HPLC Columns



Separation type: Liquid Chromatography Mixed-mode

High Performance Liquid Chromatography (HPLC) Method for Analysis of Thiabendazole.

Thiabendazole (TBZ) or tiabendazole is both a fungicide and parasiticide which goes by the trade names Mintezol and Tresaderm. As a fungicide, it controls mold and blight and as a parasiticide it can control various types of worms. According to the EURL-SRM (European Union Reference Laboratory – Single Residue Methods) TBZ is considered difficult to analyze by traditional multiresidue methods. We separated and analyzed TBZ using two mixed-mode columns with different modes of separation. Obelisc R has a long hydrophobic chain and multiple ion-pairing groups, and Primesep 100 contains acidic ion-pairing groups. Method is LC/MS compatible and can be use on many different 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-Separation-of-Thiabendazole-on-Mixed-Mode-HPLC-Columns