Waters™

アプリケーションノート

Endocrine Disruptors in Soil

Waters Corporation

This is an Application Brief and does not contain a detailed Experimental section.

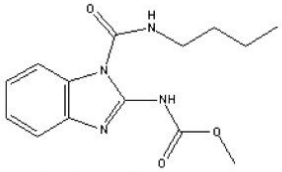
Abstract

This application brief demonstrates analysis of endocrine disruptors in soil.

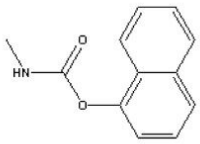
Introduction

The compounds used in this study are –

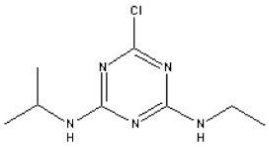
1. Benomyl
2. Carbaryl
3. Atrazine
4. Bisphenol A



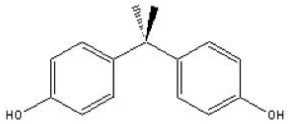
1. Benomyl



2. Carbaryl



3. Atrazine



4. Bisphenol A

Experimental

HPLC Method

Column:	Symmetry C_{18}, 3.9 x 150 mm, 5 µm
Part number:	WAT046970
Mobile phase A:	10 mM phosphate pH 6.8
Mobile phase B:	Methanol
Flow rate:	1.0 mL/min
Injection volume:	100 µL
Sample:	10 g potting soil extracted with 25 mL

	acetonitrile; then SPE on Oasis HLB
Detection:	PDA (225 nm extracted, 0.04 AUFS)

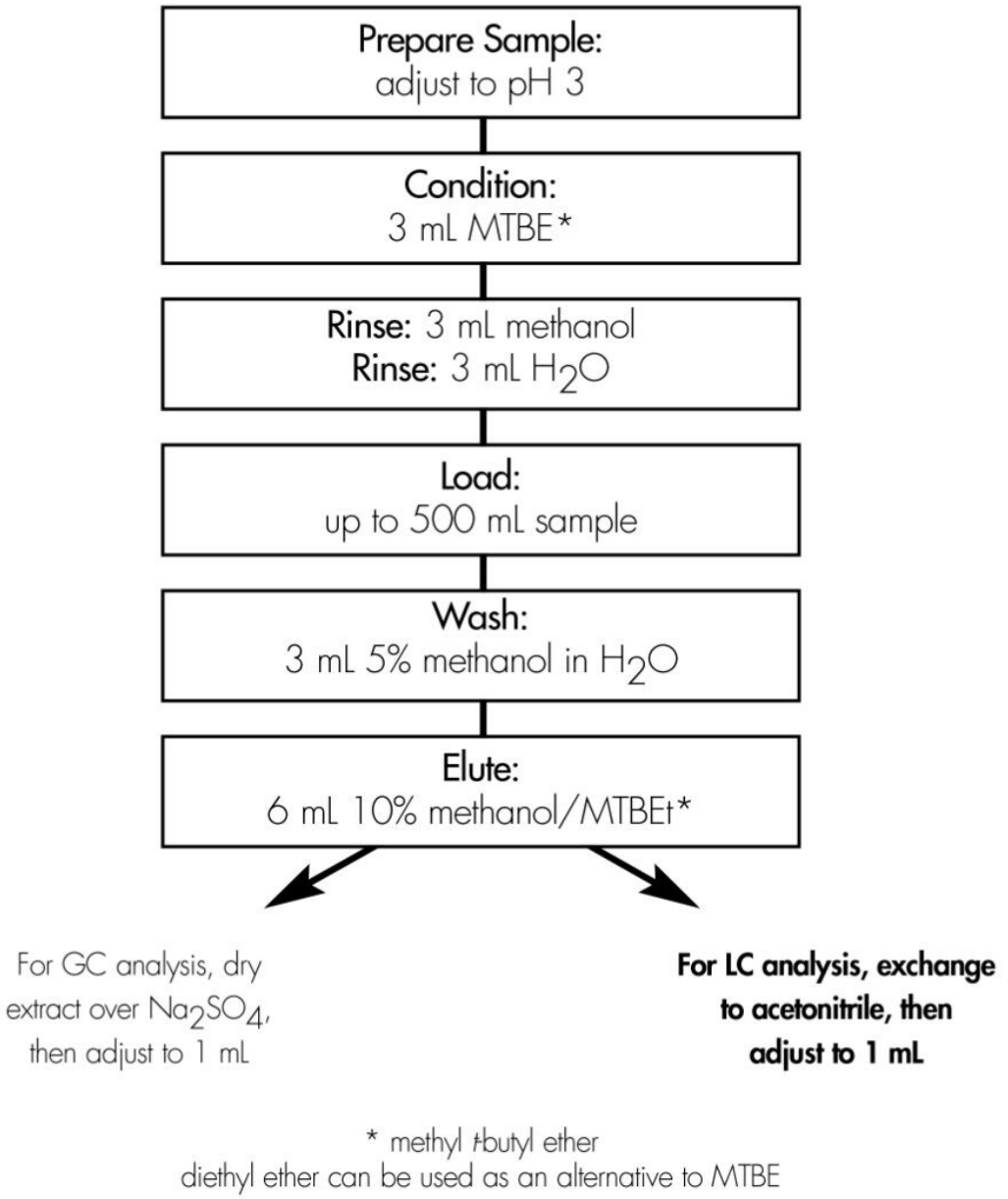
Gradient

Time (min)	Profile	
	%A	%B
0	60	40
20	0	100

Soil samples (5 g) were spiked with the appropriate compounds and extracted with 25 mL of acetonitrile (30 minutes on shaker). A 5 mL aliquot of the acetonitrile extract was diluted to 100 mL with reagent water (MilliQ) and then processed by SPE.

Oasis® SPE Method for Endocrine Disruptors

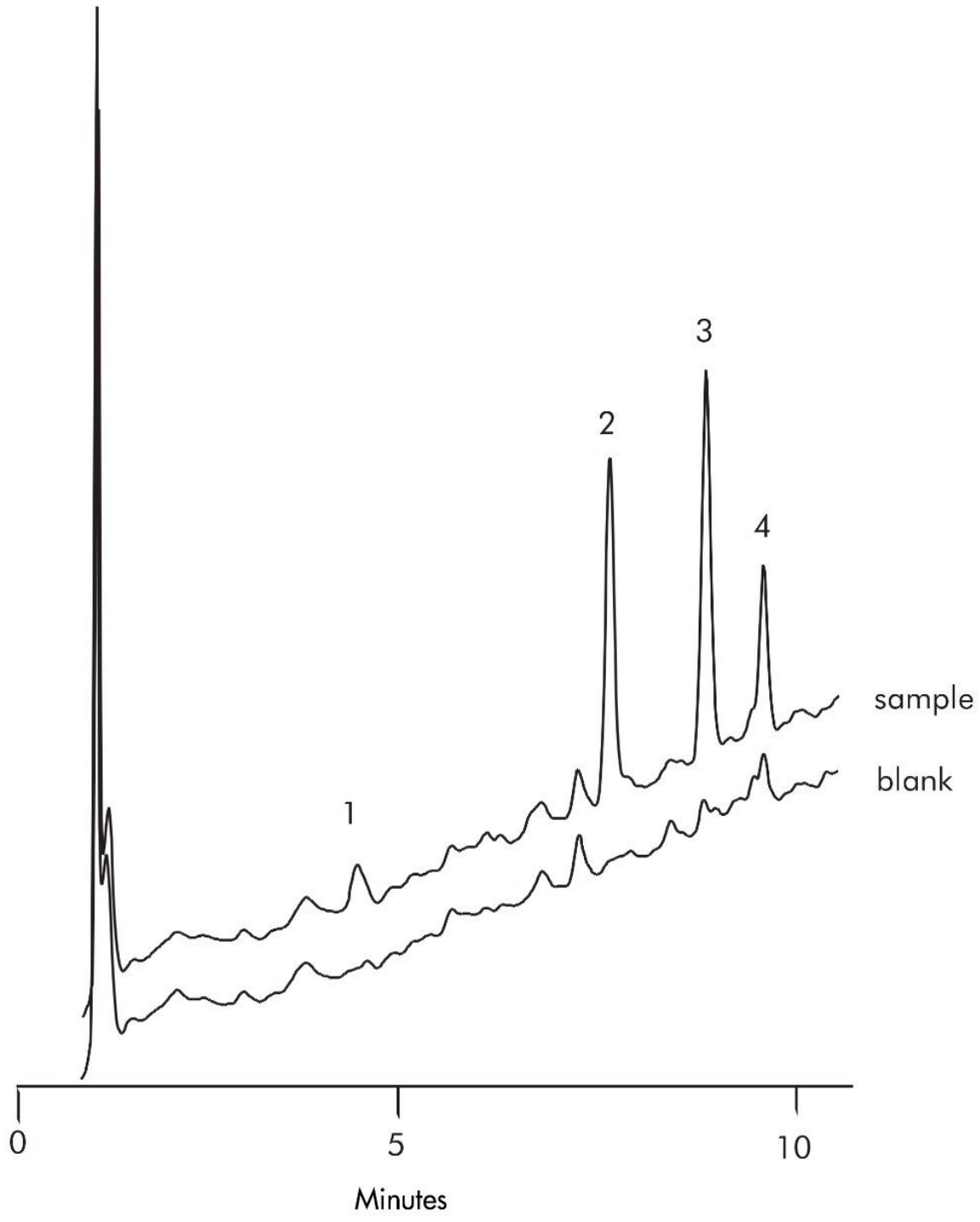
Conditions for Oasis® HLB Cartridge, 6 cc, 200 mg
Part Number WAT106202



* methyl *t*-butyl ether
diethyl ether can be used as an alternative to MTBE

Results and Discussion

50 ppb spike level	
Compounds	**% Recovery ± % RSD**
1. benomyl	65 ± 6
2. carbaryl	91 ± 4
3. atrazine	84 ± 5
4. bisphenol A	78 ± 6



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