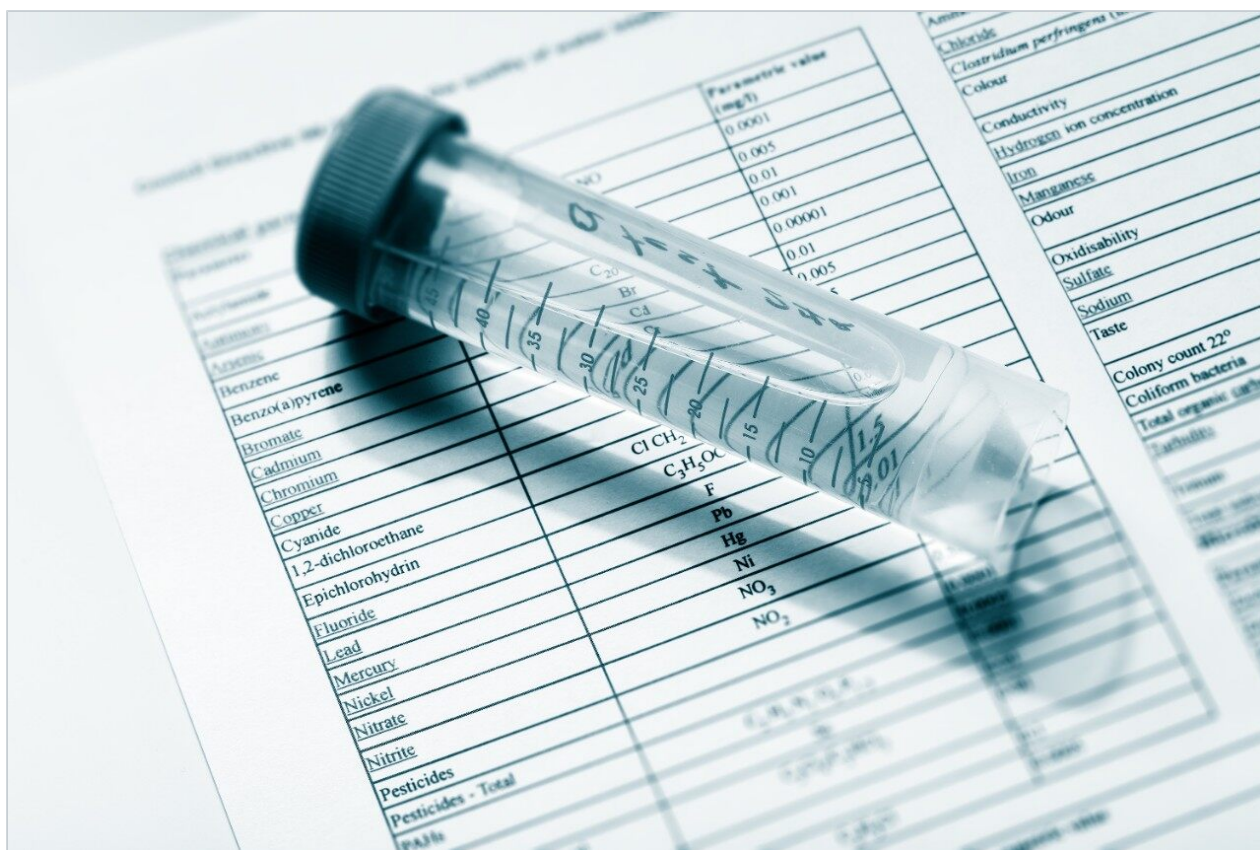


## Acidic Herbicides in Drinking Water Using Xterra Column

Waters Corporation



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

## Abstract

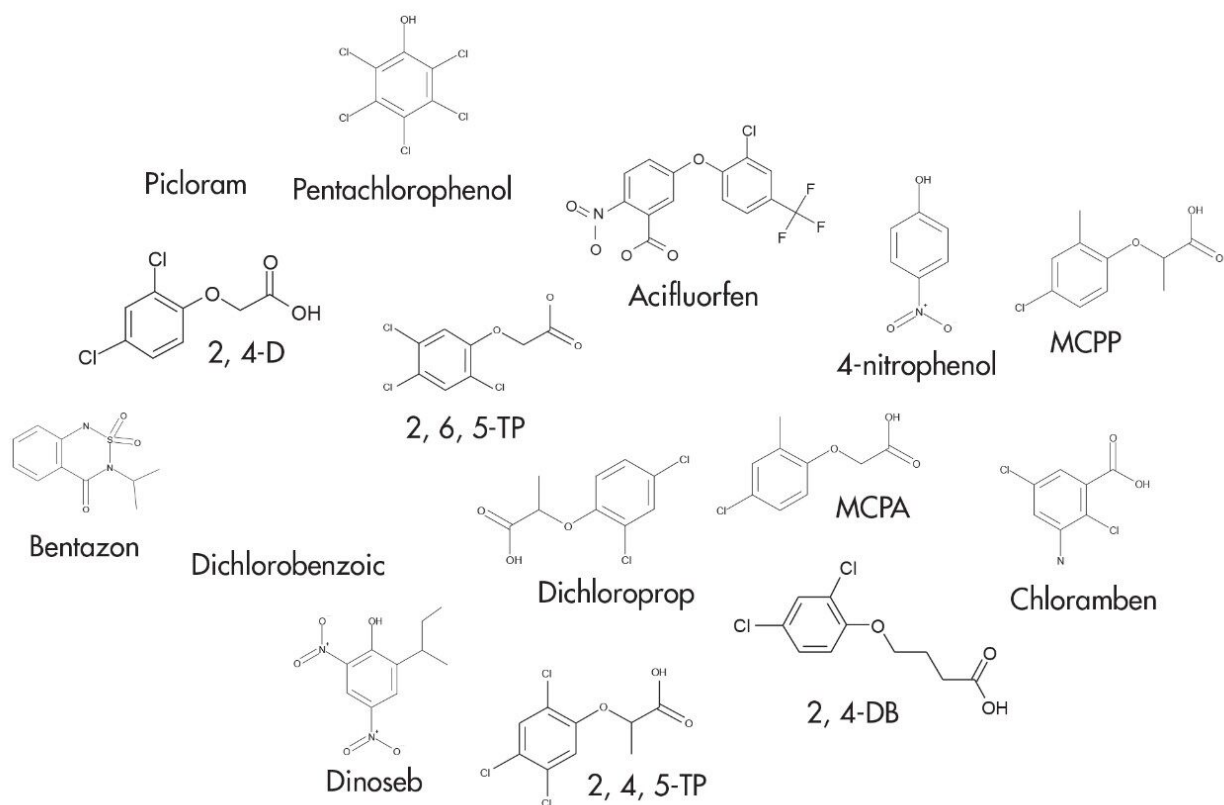
This application brief demonstrates analysis of acidic herbicides in drinking water.

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## Introduction

The compounds used in this study are –

1. Picloram
2. Chloramben
3. 4-nitrophenol (non-linear above 500)
4. Bentazon (non-linear above 300)
5. 2, 4-D
6. MCPA
7. 2, 4, 5-TP
8. Dichloroprop
9. MCPP
10. Dichlorobenzoic
11. Acifluorfen (non-linear above 300)
12. 2, 6, 5 -TP
13. 2, 4-DB
14. Dinoseb (non-linear above 200)
15. Pentachlorophenol




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Compounds.

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## Experimental

### Conditions

|                 |                                                |
|-----------------|------------------------------------------------|
| Column:         | Xterra MS C <sub>18</sub> 2.1 x 100 mm, 3.5 μm |
| Part number:    | 186000404                                      |
| Mobile phase A: | 15 mM NH <sub>4</sub> COOH, pH 3.4             |
| Mobile phase B: | ACN                                            |

Flow rate: 0.2 mL/min to MS

Injection volume: 20 µL

Detection: MS ESI-

Instrument: Alliance 2695, Micromass ZQ

#### Gradient

| Time<br>(min) | Profile |    |
|---------------|---------|----|
|               | %A      | %B |
| 0.0           | 75      | 25 |
| 9.0           | 40      | 60 |
| 14.0          | 40      | 60 |
| 30.0          | 10      | 90 |

Oasis® MAX SPE Method  
for Acidic Herbicides  
Conditions for Oasis® MAX Cartridge, 6 cc, 150 mg  
Part Number 186000369

Sample is first hydrolyzed at pH 12 for 60 min. Then, pH is adjusted to approx. neutral with HCl before SPE.

Prepare Sample

Condition:  
3 mL methanol/ 3 mL water

Load:  
300 mL sample

Wash #1:  
3 mL 50 mM NaOAc (pH 7.5)

Wash #2 (methanol) will contain bases and neutrals retained by reversed-phase interaction. This fraction may be analyzed for those compounds if desired.

Elute 1 (Wash #2):  
4 mL methanol

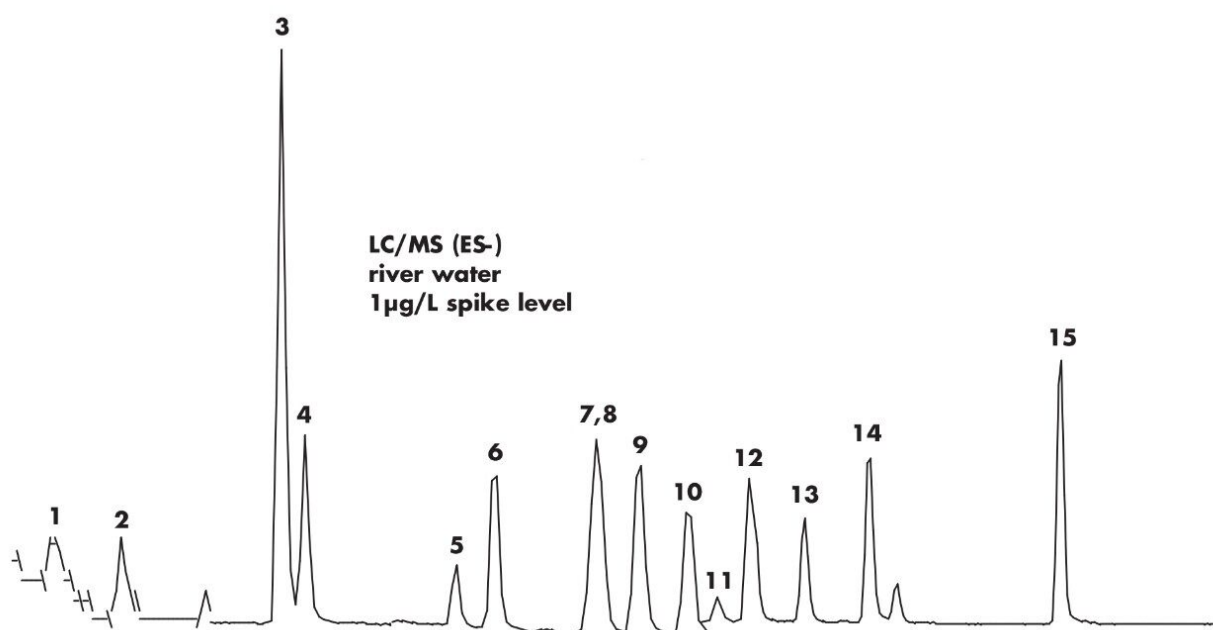
Analytes with  $pK_a < 3$  require strong acid (i.e. trifluoroacetic) at this step.

Elute 2\*:  
4 mL methanol(2 % TFA)

Evaporate and Reconstitute

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## Results and Discussion



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Alliance HPLC System <<https://www.waters.com/534293>>

WA20738.004, June 2002