Waters™

Application Note

# Fungicides in Commercial Apple Cider

Waters Corporation

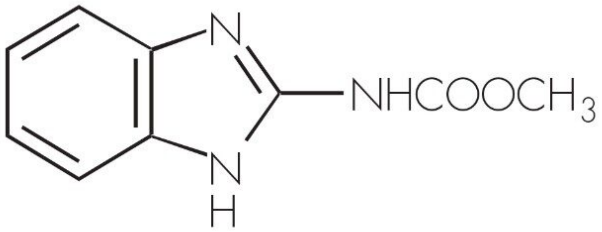
This is an Application Brief and does not contain a detailed Experimental section.

## Abstract

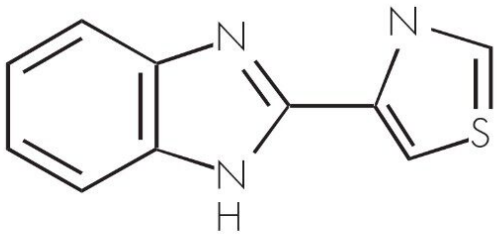
This application brief demonstrates analysis of fungicides in commercial apple cider.

## Introduction

The compounds analyzed in this study are - Carbendazim(70 µg/L) and Thiabendazole(170 µg/L).




CARBENDAZIM




THIABENDAZOLE

## Experimental

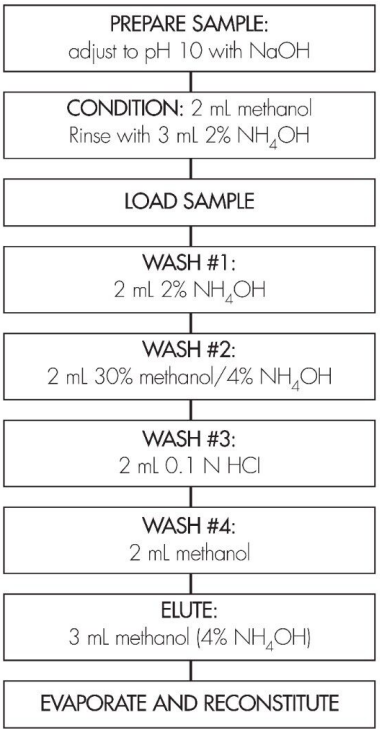
### LC Conditions

| | |
|---|---|
| Column: | Xterra MS $C_{18}$, 2.1 x 100 mm, 5 µm |
| Part number: | 186000450 |
| Mobile phase: | $CH_3CN$/10 mM $NH_4HCO_3$, pH 8.3 (20/80) |
| Flow rate: | 200 µL/min, split 1/1 through each detector |
| Instrument: | Waters Alliance Separations Module with 996 PDA |

## MS Conditions

| | |
|---|---|
| Instrument: | Waters ZQ |
| Source: | Positive Electrospray ($ESI^+$) |
| Mode: | Multiple Selected-Ion Recording (SIR) |

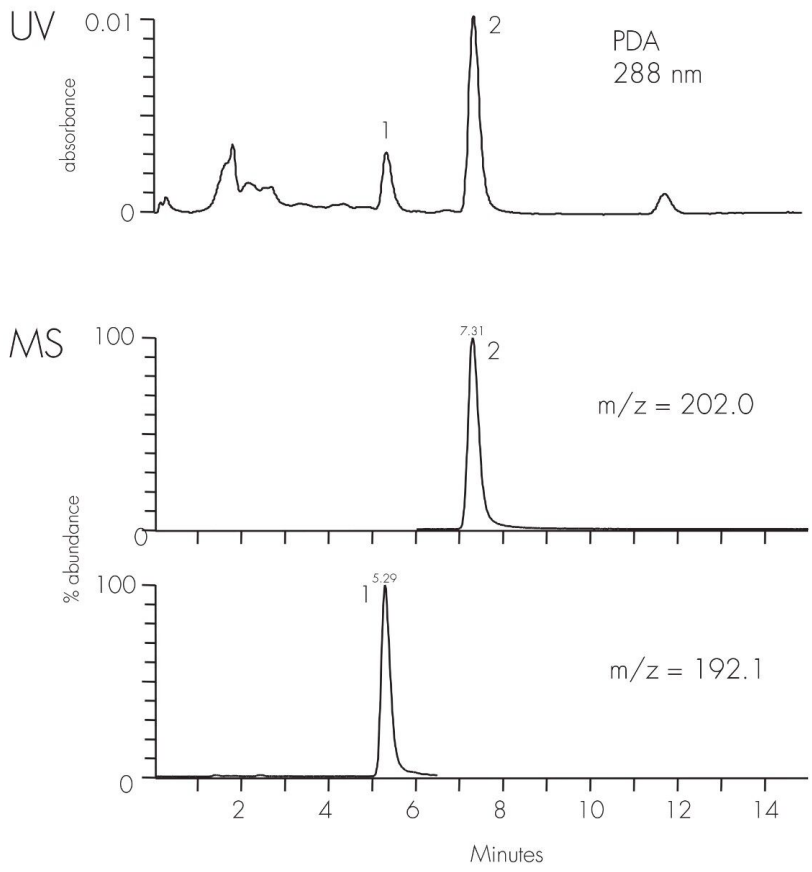
**OASIS® MCX SPE METHOD**
Conditions for Oasis® MCX Cartridges, 6 cc/150 mg
Part Number 186000256




# Results and Discussion

| SIR group | Time (mins) | Compound | Mass | Cone voltage | Dwell time |
|---|---|---|---|---|---|
| 1 | 0–6.5 | Carbendazim | 192.1 | 25 V | 1.0 secs |
| 2 | 6–15 | Thiabendazole | 202.0 | 35 V | 1.0 secs |

## LC-MS and LC/PDA Chromatograms of Fungicides in Apple Cider

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WA31764.90, June 2003