Waters™

Application Note

# Barbiturates in Human Urine using Oasis Sample Preparation Products

Waters Corporation

*For forensic toxicology use only.*

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

## Abstract

This application brief demonstrates analysis of barbiturates in human urine.

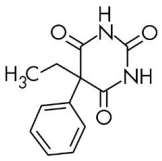
## Introduction

The compounds used in this study are –

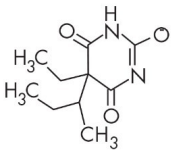
1. Phenobarbital
2. Butabarbital
3. Butalbital
4. Amobarbital (I.S.)

5. Mephobarbital

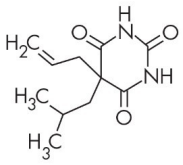
6. Secobarbital



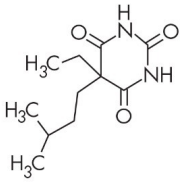
PHENOBARBITAL



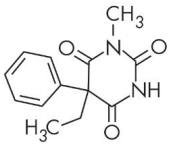
BUTABARBITAL



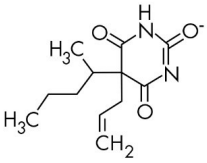
BUTALBITAL



AMOBARBITAL (I.S.)



MEPHOBARBITAL



SECOBARBITAL

## Experimental

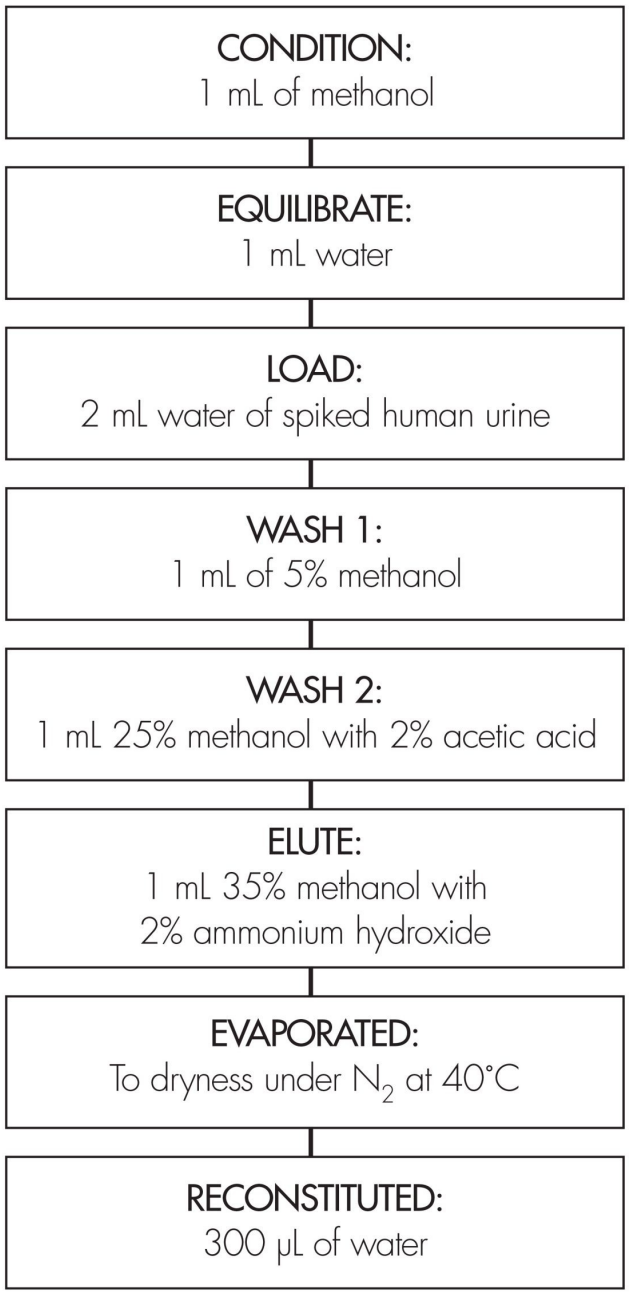
### HPLC Method

| | |
|---|---|
| Column: | Symmetry Shield RP18, 2.1 x 150 mm, 5 µm |
| Guard column: | Symmetry Shield RP18, 3.9 x 20 mm, 5 µm |
| Part numbers: | Column - 186000111, Guard - 186000107 |
| Mobile phase: | 50 mM potassium phosphate, pH 7.0/acetonitrile 71:29 |

| | |
|---|---|
| Flow rate: | 1 mL/min |
| Injection volume: | 80 µL urine extract |
| Temperature: | 30 °C |
| Detection: | UV @ 214 nm (0.350 AUFS) |

## OASIS® HLB EXTRACTION METHOD

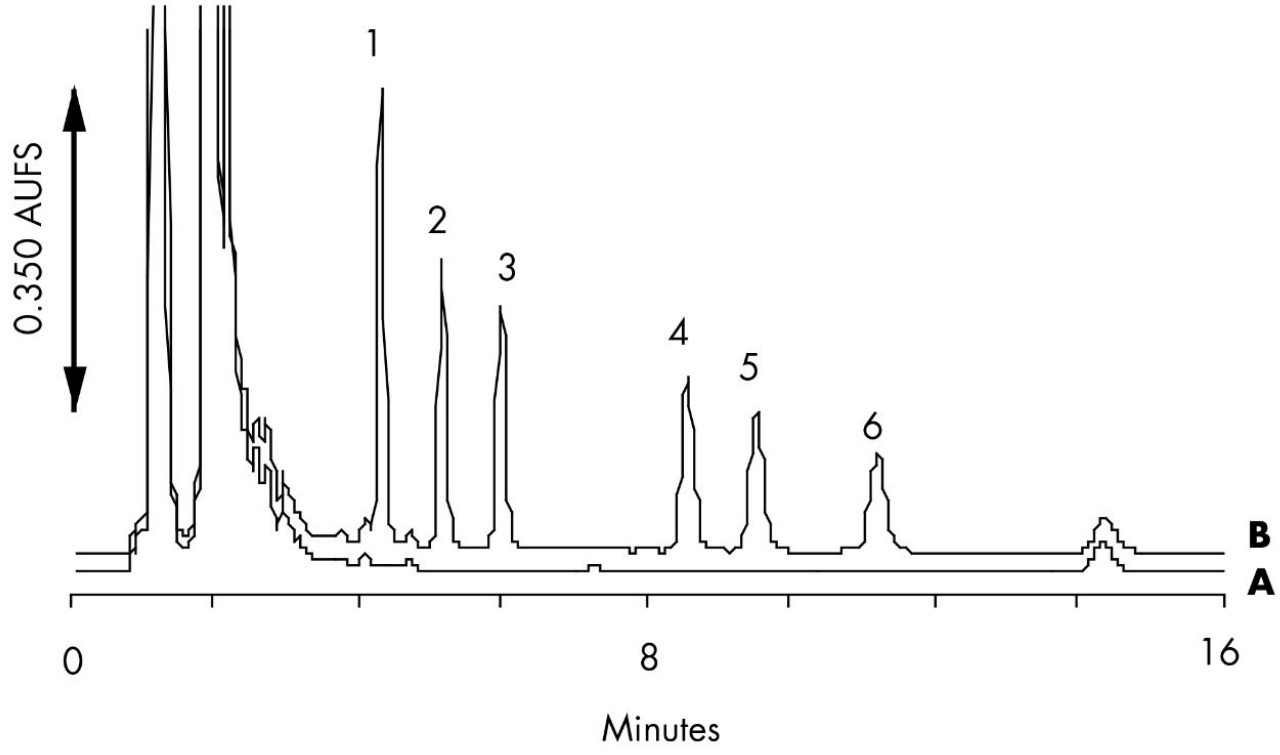
Oasis® HLB Extraction Plate, 30 mg/96-well
Part Number WAT058951



## Results and Discussion

| Compound | %Recovery (n=8) 0.2 µg/mL | (%RSD) (n=8) 1.0 µg/mL |
|---|---|---|
| Phenobarbital | 114.3 (1.7) | 106.5 (0.5) |
| Butabarbital | 95.7 (1.3) | 105.5 (0.7) |
| Butalbital | 109.5 (0.9) | 104.2 (0.9) |
| Amobarbital | | 86.3 (1.7) |
| Mephobarbital | 92.5 (3.6) | 92.4 (1.7) |
| Secobarbital | 101.5 (5.2) | 94.8 (2.2) |

### Chromatogram of A) Blank Urine, B) Spiked Urine



## Featured Products

WA31764.48, June 2003