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Nota applicativa

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.

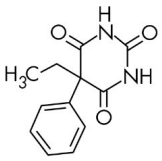
Introduction

The compounds used in this study are –

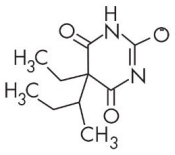
1. Phenobarbital
2. Butabarbital
3. Butalbital
4. Amobarbital (I.S.)

5. Mephobarbital

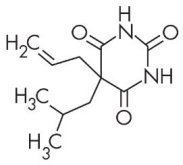
6. Secobarbital



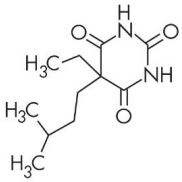
PHENOBARBITAL



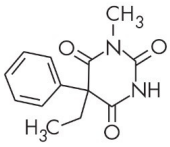
BUTABARBITAL



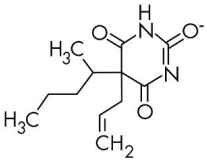
BUTALBITAL



AMOBARBITAL (I.S.)



MEPHOBARBITAL



SECOBARBITAL

Experimental

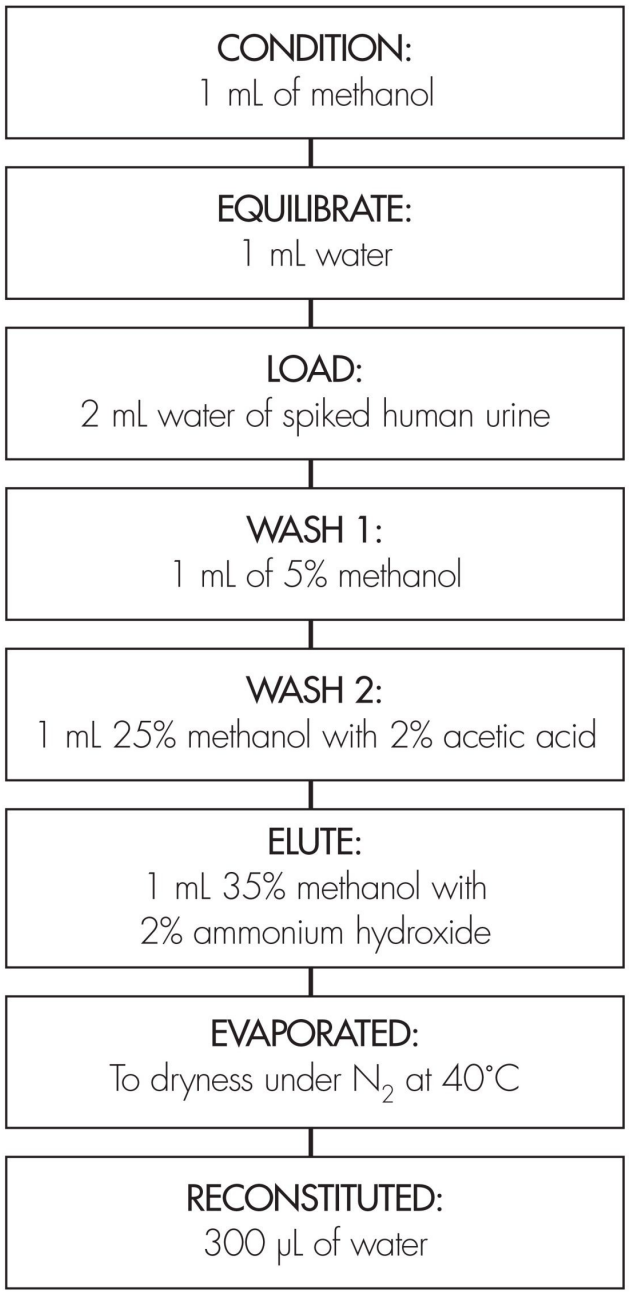
HPLC Method

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

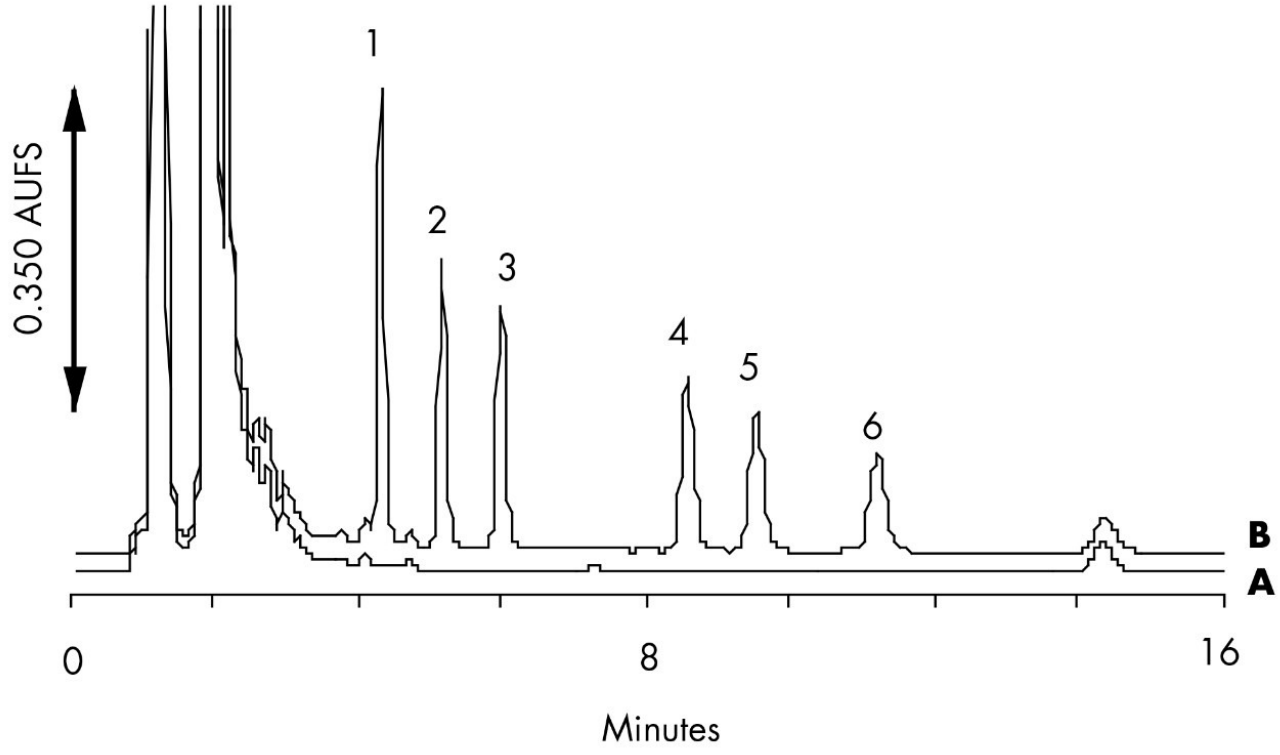
Oasis® HLB Extraction Plate, 30 mg/96-well
Part Number WAT058951



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



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