



**BARBITURATES IN URINE FOR GC OR GC/MS  
CONFIRMATIONS USING: 200 mg CLEAN SCREEN<sup>®</sup>  
EXTRACTION COLUMN**

Part #: ZSDAU020 without Tips or ZCDAU020 with CLEAN-THRU<sup>®</sup> Tips

**1. PREPARE SAMPLE**

To 2 mL of urine add internal standard(s)\* and 1 mL of 100 mM phosphate buffer (pH 5.0).

Mix/vortex.

Sample pH should be  $5.0 \pm 0.5$ .

Adjust pH accordingly with 100 mM monobasic or dibasic sodium phosphate.

**2. CONDITION CLEAN SCREEN<sup>®</sup> EXTRACTION COLUMN**

1 x 3 mL CH<sub>3</sub>OH.

1 x 3 mL D.I. H<sub>2</sub>O.

1 x 1 mL 100 mM phosphate buffer (pH 5.0).

**NOTE:** Aspirate at < 3 inches Hg to prevent sorbent drying.

**3. APPLY SAMPLE**

Load at 1 to 2 mL/minute.

**4. WASH COLUMN**

1 x 3 mL D.I. H<sub>2</sub>O.

1 x 1 mL 100 mM acetic acid.

Dry column (5 minutes at > 10 inches Hg).

1 x 2 mL hexane.

**5. ELUTE BARBITURATES**

1 x 3 mL hexane/ethyl acetate (50:50); Collect eluate at 1 to 2 mL / minute.

**6. DRY ELUATE**

Evaporate to dryness at < 40°C.

Reconstitute with 100 µL ethyl acetate.

OPTIONAL DERIVATIZATION

Add 25-50 µL of 0.2 M TMPAH\*\*\*\*,

Reaction occurs in injection port

**7. QUANTITATE**

Inject 1 to 2 µL onto gas chromatograph.

For MSD monitor the following ions:

## UNDERIVATIZED

<u>Drug</u>	<u>Primary Ion**</u>	<u>Secondary Ion</u>	<u>Tertiary Ion</u>	<u>Cerilliant #</u>
Amobarbital:	156	141	157	A-020
Butabarbital:	156	141	157	B-006
Butalbital:	168	167	181	B-024
Hexobarbital*	221	157	236	H-013
Pentobarbital	156	141	197	P-010
Phenobarbital	204	232	117	P-008
Secobarbital	168	167	195	S-002
Thiopental:	172	157	173	

## DERIVATIZED

<u>Drug</u>	<u>Primary Ion**</u>	<u>Secondary Ion</u>	<u>Tertiary Ion</u>	<u>Cerilliant #</u>
Butalbital-D5	201	214		B-005
Butalbital	196	195	209	B-024
Amobarbital	169	184	185	A-020
Pentobarbital	169	184	112	P-010
<sup>13</sup> C <sub>4</sub> -Secobarbital	200	185		
Secobarbital	196	195	181	S-002
Phenobarbital-D5l	237	151		P-017/P-018
Phenobarbital	232	146	175	P-008

\*\*Target ions in bold

\* Suggested internal standard for GC/MS: Hexobarbital or a Deuterated Barbiturate analog.

\*\* Quantitation Ion

\*\*\*\* Part # STMPAH-0-1 1, 10, 25, 100