

Therapeutic and Abused Drugs In Blood, Plasma/ Serum and Urine for Acid/Neutral and Basic Drugs For GC Or GC/MS Confirmations Using: 200 mg Clean Screen® Extraction Column



UCT Part Numbers

ZSDAU020
Clean Screen® DAU
10 mL, 200 mg sorbent
Without Tips

Or

ZCDAU020
Clean Screen® DAU
10 mL, 200 mg sorbent
With CLEAN-THRU® Tips

Procedure:

1. Prepare Sample (Urine)

- To 1 mL of 100 mM phosphate buffer (pH=6.0) add internal standards*. Add 2 mL of urine.
- Mix/vortex.
- Sample pH should be 6.0 ± 0.5 .
- Adjust pH accordingly with 100 mM monobasic or dibasic sodium phosphate.
- Centrifuge as appropriate.

(Blood, Plasma or Serum)

- To 1 mL of 100 mM phosphate buffer (pH =6.0) add internal standards* Add 1 mL of sample and 4 mL D.I. H₂O.
- Mix/vortex and let stand 5 minutes.
- Centrifuge for 10 minutes at 2000 rpm and discard pellet.
- Add 2 mL 100 mM phosphate buffer (pH 6.0). Mix/vortex.
- Sample pH should be 6.0 ± 0.5 . Adjust pH accordingly with 100 mM monobasic or dibasic sodium phosphate.

2. Condition Clean Screen® Extraction Column

- 1 x 3 mL CH₃OH.
- 1 x 3 mL D.I. H₂O.
- 1 x 1 mL 100 mM phosphate buffer (pH= 6.0).

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. H₂O.
- 1 x 1 mL 100 mM acetic acid.
- Dry column (5 minutes at > 10 inches Hg).
- 1 x 2 mL hexane.

5. Elute Acidic and Neutral Drugs (Fraction 1)

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

6. Dry Eluate

- Evaporate to dryness at < 40°C.
- Reconstitute with 100 µL ethyl acetate.

7. Quantitate Acidic and Neutral Drugs

- Inject 1 to 2 µL onto gas chromatograph.

8. Wash Column

- 1 x 3 mL CH₃OH; Aspirate.
- Dry column (5 minutes at > 10 inches Hg).

9. Elute Basic Drugs (Fraction 2)

- 1 x 3 mL CH₂Cl₂/IPA/NH₄OH (78:20:2).
- collect eluate at 1 to 2 mL/minute.

Note: Prepare elution solvent fresh daily. Add IPA/NH₄OH, mix, then add CH₂Cl₂ (pH 11-12)

10. Dry Eluate

- Evaporate to dryness at < 40°C using a TurboVap® or equivalent evaporator. Take care not to overheat or over evaporate. Certain compounds are heat labile, such as the amphetamines and phencyclidine. Reconstitute with 100 µL ethyl acetate.

11. Quantitate Basic Drugs

- Inject 1 to 2 µL onto gas chromatograph.



Notes:

- (1) Fraction 1 (Acid Neutrals) and Fraction 2 (Bases) can be combined together.
- (2) A keeper solvent such as DMF can be used to prevent the volatilization of amphetamines and phencyclidine. Use 30-50 µL of high purity DMF in the sample (Fraction 2) before evaporation.
- (3) A 1% HCl in CH₃OH solution has been used to prevent volatilization by the formation of the hydrochloric salt of the drugs. Evaporate fraction 2 to approximately 100 µL, then add 1 drop of the solution. Continue to evaporate to dryness.

CLEAN SCREEN® DAU Forensic Applications

Data Provided By:

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The following are some of the many compounds that have been extracted from forensic samples with the CLEAN SCREEN® DAU bonded silica extraction cartridge (Part #: CSDAU303):

I. ACIDIC / NEUTRAL DRUG FRACTION (A)

Acetaminophen	Clonazepam	Nordiazepam
Barbiturates	Cotinine	Phenytoin
Benzoic acid	Diazepam	Primidone
Caffeine	Glutethimide and metabolite	Salicylic acid
Carbamazepine	Ibuprofen	Theophylline
Carisoprodol	Meprobamate	Thiopental
Chlorpropamide	Methyl salicylate	

II. BASIC DRUG FRACTION (B)

Amantadine	Dihydrocodeine	Methylphenidate
Amitriptyline and metabolite	Diethylhydramine	Methyprylon and metabolites
Amphetamine	Doxepin and metabolite	Morphine
Benzocaine	Ephedrine	Nicotine
Benzoyllecgonine	Fluoxetine	Oxycodone
Benzotropine	Imipramine and metabolite	Pentazocine
Bromodiphenhydramine	Ketamine	Phencyclidine
Chlordiazepoxide	Lidapine	Phenethylamine
Chloroquine	Loxapine	Phentermine
Chlorpheniramine	Meperidine	Phenylpropanolamine
Chlorpromazine	Methadone and metabolite	Procaine
Cocaine and metabolite	Methamphetamine	Propoxyphene and metabolite
Codeine	Methyl p-aminobenzoate	Propylparaben
Cresol	Methyl benzoate	Tranlycypromine
Dextromethorphan	Methyl ecgonine	Trifluoperazine
Dextrorphan	Methylparaben	Trimipramine
		Thioridazine
		Trazodone



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