

DRUG CHEMISTRY SECTION TECHNICAL PROCEDURE MANUAL		
Procedure D-07	Extraction and Separations Separation of Organic Acids and Bases by Solvent Wash	
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**Name of Procedure:**

Extractions and Separations  
Separation of Organic Acids and Bases by Solvent Wash

**Suggested Uses:**

Organic acids and bases are commonly encountered in mixtures with sugars (mannitol, inositol) or other common diluents. The differences in solubility between the organic acids and bases and these diluent materials can be used to separate the organic components for infrared analysis.

**Apparatus Needed to Perform Procedure Including Preparation of Reagents:**

Fume hood  
Eye protection  
Gloves  
Laboratory coat  
Small beaker  
Filter paper  
Chloroform  
Ethyl Ether  
Hexane  
Methylene Chloride  
Acetone  
Spatula, small  
Heat source

**Application of Procedure on Evidence:**

1. Place 10-30 milligrams of sample in filter paper over small beaker.
2. Wash sample with several small portions of suitable solvent.
3. Evaporate solvent over heat source in a fume hood to yield compounds.

**Safety Concerns:**

Ethyl ether, hexane and acetone are extremely flammable. Chloroform and methylene chloride should be used in a well ventilated area or in a fume hood.

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**Other:**

This procedure can also be used to remove controlled substances from commercial preparations.

**Examples:** Diazepam can be removed from tablets with an acetone or ethyl ether wash of the crushed tablet and methylphenidate can be removed using chloroform.

**Literature References:**

**Forensic and Analytical Chemistry of Clandestine Phenethylamines**, CND Analytical, Inc., 1994, pp. 6-7.

Moffat, A. C. Ed., **Clarke's Isolation and Identification of Drugs**, 2nd Ed., The Pharmaceutical Press, London 1986.