Name of Procedure:

Extractions and Separations
Dry Solvent Extraction of Drugs Utilizing Chloroform/Ammonia

Suggested Uses:

This procedure uses a dry extraction of chloroform saturated with ammonia to remove hydromorphone, morphine, diazepam, lorazepam, flurazepam, phentermine, chlordiazepoxide, cocaine, pentazocine, methaqualone, and benzodiazepines from pharmaceutical preparations and clandestine mixtures.

Apparatus Needed to Perform Procedure Including Preparation of Reagent:

Fume hood
Gloves
Eye protection
Laboratory coat
Ammonium Hydroxide
Chloroform
Small beaker
Filter paper
Pipets, glass, disposable
Pipet bulb
Heat source
Reagent bottle

Formula for Preparing Reagent:

1. Mix approximately one part ammonium hydroxide to ten parts chloroform and place in a reagent bottle.
2. Shake reagent bottle and allow layers to separate.
3. Properly label bottle.

Expiration Date of Chemical Reagent:

The reagent can be used until depleted if stored in an airtight reagent bottle.

Application of Procedure on Evidence:

1. Place 20-50 milligrams of sample in filter paper over a small beaker.

2. Wash sample with ethyl ether and discard washings.

3. Dry the sample and then wash with several small portions of chloroform/ammonia reagent.

4. Evaporate solvent over moderate heat in a fume hood.

Safety Concerns:

Ammonia is a strong base and is caustic. Ammonia and chloroform should be used in a well-ventilated area or under a fume hood. Ethyl ether is very flammable.

Literature References:

Adair, A., Noggle, F. Jr., Odom, M., Rhodes, M., "The ANOR (Alternate Non-aqueous Organic Ratio Extraction Procedure)", **MICROGRAM**, Vol. XVI., No. 1, Jan. 1983, pp. 220-224.