

Drug Chemistry Section
Drug Chemistry Procedure Manual
Effective Date: September 1, 1996

Name of Procedure:

Extractions and Separations
Separation of Cocaine Hydrochloride and Dimethylterephthalate

Suggested Uses:

This procedure is used to separate mixtures of cocaine hydrochloride and dimethylterephthalate in order to isolate cocaine base.

Apparatus Needed to Perform Procedure Including Preparation of Reagent:

Fume hood
Gloves
Eye protection
Laboratory coat
5% Hydrochloric Acid Reagent
Ethyl Ether
Sodium Hydroxide
Small beaker
pH Test paper
Reagent bottles
Spatula, small
Glass stirring rod
Heat source

Formulation for Preparing Reagent:

5% Hydrochloric Acid Reagent

1. Measure 95 milliliters of water in a 100 milliliter graduated cylinder.
2. Bring to total volume (100ml) with concentrated hydrochloric acid.
3. Pour into a reagent bottle.
4. Properly label reagent bottle.

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Application of Procedure on Evidence:

1. Dissolve 10-20 milligrams of cocaine/DMT mixture in 5% hydrochloric acid reagent.
2. Wash with ethyl ether 2-3 times and discard ether (unless IR of DMT is desired).
3. Add sodium hydroxide to aqueous solution and check for pH 10 with test paper.
4. Extract with ethyl ether.
5. Evaporate ethyl ether over moderate heat to obtain sample.

Safety Concerns:

Ethyl ether is flammable. Sodium hydroxide is caustic and can cause chemical burns. Hydrochloric acid is corrosive. This procedure should be performed in a well-ventilated area or in a fume hood.

Literature References:

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

Shriner, R. L., Fuson, R. C., Curtin, D. Y., **The Systematic Identification of Organic Compounds**, 5th Ed., Wiley & Sons Inc., New York 1964, pp. 67-85, 88-106.