

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

Name of Procedure:

Extractions and Separations
Extraction of Psilocybe Mushrooms

Suggested Uses:

This procedure is used to extract psilocybe mushrooms.

Apparatus Needed to Perform Procedure Including Preparation of Reagent:

Fume hood
Eye protection
Gloves
Laboratory coat
Small beaker
Pipets, glass, disposable
Pipet bulb
Glass stirring rod
pH Test paper
Test tube
Test tube rack
Clean glass vial with cap
Glacial Acetic Acid
Ammonium Hydroxide
Ethyl Ether
Nitrogen source

Formula for Preparing Reagent:

3:1 Chloroform/Isopropanol Reagent

1. Measure out 60 milliliters of chloroform.
2. Measure out 20 milliliters of isopropanol.
3. Combine the chloroform and isopropanol.
4. Pour solution into a reagent bottle.
5. Properly label reagent bottle.

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Application of Procedure on Evidence:

1. Break up approximately 1-2 grams of psilocybe mushrooms and place in a small beaker.
2. Add enough deionized water to moisten.
3. Add 1-2 milliliters of glacial acetic acid and check with test paper to assure that the solution is acidic.
4. Stir 1-2 minutes. **[Do not leave in acidic solution for extended period of time]**
5. Decant liquid to test tube.
6. Add concentrated ammonium hydroxide dropwise until a pH of 8 is obtained.
7. Gently extract with ethyl ether or 3:1 chloroform/isopropanol.
8. Solvent may be dried using magnesium sulfate or sodium sulfate.
9. Evaporate solvent under dry nitrogen.

Safety Concerns:

Ethyl ether is extremely flammable. Ammonium hydroxide is a strong base and glacial acetic acid is a strong acid. Care should be taken to keep these two components capped when not in use and away from each other to avoid mixing.

Literature References:

Casale, J., "An Aqueous-Organic Extraction Method for the Isolation and Identification of Psilocin from Hallucinogenic Mushrooms", **Journal of Forensic Science**, January 1985.

Modified by Chemist T.H. McSwain with the North Carolina State Bureau of Investigation Drug Chemistry Laboratory, in use in the laboratory since January, 1985.