

DRUG CHEMISTRY SECTION TECHNICAL PROCEDURE MANUAL		
Procedure A-14	Preliminary Tests Secondary Amine Reagent #1	
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**Name of Procedure:**

Preliminary Tests  
Secondary Amine Reagent #1

**Suggested Uses:**

The secondary amine reagent consists of cupric sulfate, concentrated ammonium hydroxide and toluene-carbon disulfide. This reagent gives a yellow/brown discoloration in the organic phase when a secondary amine is present.

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

Fume hood  
Gloves  
Eye protection  
Laboratory coat  
Pipet with bulb  
Graduated cylinder  
50ml beaker  
Glass stirring rod  
Ammonium hydroxide  
Cupric sulfate  
Water  
Toluene  
Carbon Disulfide  
Reagent bottles  
Funnel  
Porcelain spot plate  
Spatula  
Culture tube (6 X 50mm)

**Formula for Preparing Reagent:**

1. Weigh out 0.12 gram of cupric sulfate.
2. Dissolve in 25 milliliters water.
3. Pour solution into a reagent bottle.

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**Formula for Preparing Reagent (continued):**

4. Properly label reagent bottle.
5. Measure out 25 milliliters of concentrated ammonium hydroxide.
6. Pour into a separate reagent bottle.
7. Properly label reagent bottle.
8. Measure out 20 milliliters of toluene and mix with 5 milliliters of carbon disulfide.
9. Pour into a separate reagent bottle.
10. Properly label reagent bottle.

**Quality Control:**

A quality control check of this reagent will be performed using a known standard of methamphetamine and following the application procedure listed below.

**Expiration Date of Chemical Reagent:**

No expiration date. Reagents need to be properly contained in a sealed container and stored in a cool place.

**Application of Procedure on Evidence:**

1. With spatula, place 0.1 milligram of the sample in a culture tube.
2. Add 2-3 drops of the cupric sulfate solution to dissolve sample.
3. Add 2-3 drops of the concentrated ammonium hydroxide.
4. Add 2-3 drops of the toluene/carbon disulfide solution.
5. Agitate culture tube.

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6. Observe for a yellow/brown discoloration in the organic phase.
7. Record results.

**Safety Concerns:**

Always wear eye protection and laboratory coat when preparing this reagent. A laboratory coat should be worn when using this reagent for color tests.

**Literature References:**

Procedure used in Drug Chemistry Section since 1971.