

Name of Procedure:

Preliminary Tests
Zwicker Reagent

Suggested Uses:

The Zwicker reagent consists of a cupric sulfate solution and a pyridine/chloroform solution. Barbiturates will produce a purple color formation that is transferred to the organic layer.

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
Cupric Sulfate
Water
Pyridine
Chloroform
Funnel
Reagent bottles
Porcelain spot plate
Spatula
Culture tubes (6 X 50mm)

Formula for Preparing Reagent:

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

Formula for Preparing Reagent (continued):

4. Properly label reagent bottle.
5. Measure out 1 milliliter of pyridine and add 24 milliliters of chloroform.
6. Pour reagent into a second reagent bottle.
7. Properly label reagent bottle.

Quality Control:

A quality control check of this reagent will be performed using a known standard of a barbiturate 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. Using a spatula, place approximately 0.1 milligram of sample into a culture tube.
2. Add 1 drop of 0.5% cupric sulfate solution.
3. Add 1 drop of 5% pyridine in chloroform solution.
4. Observe for color formation.
5. Record results.

Safety Concerns:

Always wear eye protection, gloves and a laboratory coat when preparing this reagent. Eye protection and a laboratory coat should be worn when using this reagent. Pyridine is an irritant and a potential health hazard.

**Drug Chemistry Section
Drug Chemistry Procedure Manual
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Literature References:

Butler, William P., **Methods of Analysis**, IRS Publication #341, December 1966, p. 107.

This procedure has been used in the Drug Chemistry Section since 1971.