

**Name of Procedure:**

Preliminary Tests  
Mecke's Reagent

**Suggested Uses:**

The Mecke Color test consists of a solution of selenious acid and concentrated sulfuric acid. (Color formation is due to oxidation/reduction/substitution reactions to aromatic ring systems).

**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  
Sulfuric acid (concentrated)  
Selenious acid  
Funnel  
Reagent bottle  
Porcelain spot plate  
Spatula

**Formula for Preparing Reagent:**

1. Weigh out 0.25 gram of selenious acid.
2. Dissolve in 25 milliliters of concentrated sulfuric acid.
3. Pour solution into a reagent bottle.
4. Properly label reagent bottle.

**Quality Control:**

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

**Expiration Date of Chemical Reagent:**

The Mecke's reagent should be prepared every 30 days.

**Application of Procedure on Evidence:**

1. Place 1-2 drops of the reagent into a clean well on a spot plate.
2. With a spatula, add approximately 0.1 milligram of the unknown powder/tablet to the reagent in the spot plate.
3. Observe 1-2 minutes for color to be produced.
4. 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 for color tests.

Sulfuric acid is a strong oxidizing agent and corrosive.

**Literature References:**

Clarke, E.G.C., **Isolation and Identification of Drugs**, 1969.

Butler, William P., **Methods of Analysis**, IRS Publication #341, 1966, p. 136.