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. Aromatic compounds that typically undergo oxidation/reduction/substitution reactions will react with this reagent to produce colored intermediates. Refer to pages 631-649, "Spot Tests: A Color Chart Reference for Forensic Chemists", (see **Literature References**) for color formations of various drugs.

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.

Formula for Preparing Reagent (Continued):

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:

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

Johns, S.H., "Spot Tests: A Color Chart Reference for Forensic Chemists", **Journal of Forensic Science**, July, 1979, pp. 631-649.

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