

Drug Chemistry Section
Drug Chemistry Procedure Manual
Effective Date: August 3, 1998

Modification of A-3
Prepared By: I.L. Allcox
Approved By: I.L. Allcox
Supersedes: September 1, 1996

Name of Procedure:

Preliminary Tests
Cobalt Thiocyanate Reagent

Suggested Uses:

The Cobalt Thiocyanate reagent consists of an aqueous solution of Cobalt thiocyanate. This reagent reacts with some secondary and tertiary amines and other alkaloids to produce a blue color.

Apparatus Needed to Perform Procedure Including Preparation of Reagent:

Fume hood
Gloves
Eye protection
Laboratory coat
Pipet with bulb
Graduated cylinder
50ml beaker
Cobaltous thiocyanate
Water
Glass stirring rod
Funnel
Reagent bottle
Porcelain spot plate
Spatula

Formula for Preparing Reagent:

1. Measure out 2.0 grams of Cobaltous thiocyanate.
2. Dissolve in 100 milliliters of water.
3. Pour into a reagent bottle.
4. Properly label reagent bottle.

Formula for Preparing Reagent (continued):

Alternate Method:

1. Weigh out 0.4 gram of ammonium thiocyanate.
2. Add ammonium thiocyanate to 25 milliliters of water and dissolve.
3. Weigh out 0.7 gram of cobalt acetate.
4. Dissolve the cobalt acetate in the solution of ammonium thiocyanate.
5. Pour into a reagent bottle.
6. Properly label reagent bottle.

Quality Control Check:

A quality control check of this reagent will be performed using a known standard of cocaine 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. Place 1-2 drops of the reagent into a clean well of 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 the color produced.
4. Record results.

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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:

Butler, William P., **Methods of Analysis**, IRS publication #341, December 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.