

DRUG CHEMISTRY SECTION TECHNICAL PROCEDURE MANUAL		
Procedure C-12	Thin Layer Chromatography p-DMAB Visualizing Reagent	
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Name of Procedure:

Thin-Layer Chromatography
p-DMAB Visualizing Reagent

Suggested Uses:

A visualizing reagent or detection reagent must be used in Thin-Layer Chromatography if the compound or compounds are not distinguishable by their own color. Suggested uses for the p-DMAB spray reagent are indole compounds, ergot alkaloids, and other organic compounds. Refer to page 132, **Clarke's Isolation and Identification of Drugs**, and pages 631-649, **Spot Tests: A Color Reference for Forensic Chemists**, (see **Literature References**) for color formations of various drugs.

Apparatus Needed to Perform Procedure Including Preparation of Reagent:

Fume hood
Graduated cylinder
Eye protection
Balance
Laboratory coat
Gloves
Spray bottle
Air compressor
Funnel
Spatula
Bottles
Tygon or rubber tubing
p-DMAB (para-dimethylaminobenzaldehyde)
Ethanol
Methanol
Concentrated hydrochloric acid

Formula for Preparing Reagent:

1. Weigh out 1.0 gram of p-DMAB (para-dimethylaminobenzaldehyde).
2. Add 5 milliliters of concentrated hydrochloric acid to 95 milliliters of methanol or ethanol.

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3. Add the 1.0 gram of p-DMAB to the alcohol-hydrochloric acid mixture.
4. Place this solution in the spray bottle.
5. Properly label spray reagent.

Note: If you make up a stock solution of this reagent, store it in the refrigerator and do not add the hydrochloric acid until you place it in the spray bottle.

Quality Control Check:

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

Expiration Date of Chemical Reagent:

The p-DMAB spray reagent is stable and can be used until depletion.

Application of Procedure on Evidence:

1. Place well-dried TLC plate in hood.
2. Activate hood.
3. Using the air compressor and spray bottle, apply a fine mist of the visualizing reagent to the TLC plate.
4. Apply the visualizing reagent until the spot corresponding to the known standard appears.
5. Compare the known standard and the compound in question for their size, shape, color and position on the TLC plate.
6. Record the results of your observation.

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Safety Concerns:

Always wear eye protection, gloves, and a laboratory coat when preparing this reagent for use.

Eye protection and laboratory coat should be worn when visualizing the TLC plate.

Literature References:

Randerath, Kurt, **Thin Layer Chromatography**, New York, Academic Press, 1968.

Moffat, A.C., **Clarke's Isolation and Identification of Drugs**, 2nd Ed., The Pharmaceutical Press, 1986, pp. 132 & 166-177.

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

Butler, William P., **Methods of Analysis**, IRS Publication #341, December 1966, p. 93.

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