

DRUG CHEMISTRY SECTION TECHNICAL PROCEDURE MANUAL		
Procedure C-15	Thin Layer Chromatography Iodine Visualizing Reagent	
Effective Date:	November 20, 2006	Page 1 of 2

Name of Procedure:

Thin-Layer Chromatography
Iodine 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. Benzodiazepines and other unsaturated compounds can be visualized in an iodine chamber. Organic compounds form a brown complex when reacted with iodine vapor. This visualizing method is usually nondestructive and warming the plate will sublime the iodine, leaving the organic compounds unchanged.

Apparatus Needed to Perform Procedure Including Preparation of Reagent:

Fume hood
Graduated cylinder
Eye protection
Laboratory coat
Gloves
Funnel
Spatula
Iodine chamber
Iodine

Formula for Preparing Reagent:

1. Iodine is the only chemical needed.
2. To prepare the iodine chamber, place several iodine crystals in the airtight chamber.

Quality Control Check:

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

DRUG CHEMISTRY SECTION TECHNICAL PROCEDURE MANUAL		
Procedure C-15	Thin Layer Chromatography Iodine Visualizing Reagent	
Effective Date:	November 20, 2006	Page 2 of 2

Expiration Date of Chemical Reagent:

The iodine chamber will be active until all the iodine crystals have vaporized.

Application of Procedure on Evidence:

1. Place well-dried TLC plate in the iodine chamber.
2. Remove the TLC plate from the iodine chamber after the known standard has reacted with the iodine and a brown spot appears.
3. Compare the known standard and the compound in question for their size, shape, color and position on the TLC plate.
4. Record the results of your observation.

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. 166-177.

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