Processing Evidence Using Amido Black (Fisher 98)

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1 INTRODUCTION

This procedure is intended to be utilized by trained personnel to ensure consistency and transparency of methods employed during the enhancement of patterned impressions observed in blood located on evidence received in the Questioned Documents Unit (QDU).

2 SCOPE

These procedures apply to examiners and analysts in the QDU enhancing patterned impressions in blood utilizing Amido Black (Fisher 98).

3 EQUIPMENT

- Balance
- Weighing pans
- Spatulas
- Beakers (10 mL – 2000 mL)
- Graduated cylinders (10 mL – 100 mL)
- Magnetic stirrer
- Magnetic stirring bars
- Dipping trays (appropriate size for item being processed)
- Squirt bottles or spray bottles
- Fume hood (optional)
- Appropriate Personal Protective Equipment (e.g., gloves, lab coat, eyewear)
- Paper towels
- 5-Sulfosalicyclic acid
- Acetic acid
- Formic acid (concentrated)
- Naphthol blue black
- Kodak Photo Flo 600 Solution
- Sodium carbonate
- Distilled water
- Tap water

4 STANDARDS AND CONTROLS

4.1 Amido Black Solution

A. Prepare the solution in a 2-liter beaker on a magnetic stirring device by combining the ingredients in the order they are listed below:
    1. 500 mL Distilled water
    2. 20 grams 5-Sulfosalicylic acid
    3. 3 grams Naphthol blue black
    4. 3 grams Sodium carbonate
    5. 50 mL Formic acid

6. 50 mL Acetic acid
7. 12.5 mL Kodak Photo Flo 600 Solution

B. Dilute the mixture to 1 liter using distilled water, stirring until the Amido Black is dissolved.
C. While this mixture can be used immediately, the best results will be obtained if it is allowed to stand for several days prior to use.
D. The solution will be tested on a positive control blood stain prior to use.
    - A positive reaction will produce a blue black color.
E. A small area of the background of the object or surface being enhanced will be stained with the solution prior to application. If the background develops a significant color, the Amido Black solution may not be appropriate for enhancement on this item.
F. Record the results of the control test in the Chemical Enhancement and Control Logbook located in the Footwear/Tire Laboratory space.
G. The Amido Black solution can be stored in dark bottles indefinitely.

5 PROCEDURE

A. Apply the Amido Black solution to the item(s).
    - The Amido Black solution may be applied by dipping the item(s) to be enhanced in a tray filled with the solution or by covering he stained area with a paper towel(s) and using a squirt bottle filled with the solution to saturate the stained area.
    - Completely cover the target area and allow to develop for a minimum of thirty (30) seconds. Three (3) to five (5) minutes are preferred for maximum enhancement.
B. The item(s) should be rinsed with tap water and allowed to air dry.
C. At the completion of chemical enhancement, refer to IMPRS-300 Footwear and Tire Evidence Examinations.

6 LIMITATIONS

The color and porosity of the background substrate must be tested prior to use of this solution. Amido Black will react with the protein present in blood to produce a blue black color. If the background substrate is similar in color to blue black or if the background substrate stains a blue black color, then it will obscure the chemically enhanced impression.

7 SAFETY

Standard precautions should be followed for the handling of chemical and biological materials. Chemical and biological materials that are hazardous or potentially hazardous will be maintained and examined in specifically designated areas within QDU space. QDU personnel may refer to the FBI Laboratory Safety Manual for additional guidance.

All chemicals will be disposed of according to the Chemical Disposal Guidelines on file in the Footwear and Tire Laboratory space.

Safety information concerning each of the chemicals used in these procedures are available from the Material Safety Data Sheets (MSDS) on file in the Footwear and Tire Laboratory space.

8 Revision History

Revision	Issued	Changes
02	01/14/2022	Document reformatted for new technical procedure requirements.