Section F - Subsection 1 **Amido Black** **Page 1**

Name of Procedure:

Amido Black

Suggested Uses:

Amido Black may be used on impressions in blood that require enhancing. This dye will stain proteins present in blood producing a blue-black product. Amido Black can be used on both porous and non-porous items of evidence.

Amido Black may either be methanol or water based. The water based formula is a one-step process which eliminates the need for a separate fix solution (fix solution is incorporated into the formula). The sensitivity and color intensity of the process is similar to that of the methanol based formula. The water based formula uses a tap water rinse and has fewer health risks.

Equipment Needed to Perform Procedures:

A - Rubber apron and rubber gloves

B - Face shield visor and/or safety goggles

C - Magnetic stirrer, magnetic follower and magnetic retriever

D - Two (2) glass beakers

F - Two (2) 2000 ml glass beakers

G - One (1) 1000 ml beaker

H - Dark shatterproof containers

I - Four (4) glass trays

J -One (1) 100 ml measuring cylinder

K -Camera (35 mm, 2 1/4, MP-4, CU5, TC III , etc.)

L -Fume hoods

M -Weighing Scales

Chemicals Needed For Preparation of Chemical Solution(s):

A - Three (3) grams of Naphthalene 12B or Naphthol Blue Black
B - Two hundred fifty (250) ml of Glacial Acetic Acid
C - One thousand three hundred fifty (1350) ml of Methanol (Methanol Based Formula Only)
D - Nine hundred fifty (950) ml of Distilled Water
E - One (1) ml of Tergitol 7 (Optional)
F - Twenty (20) grams of 5-Sulfosalicylic Acid (Water Based Formula Only)
G - Three (3) grams of Sodium Carbonate (Water Based Formula Only)
H - Fifty (50) ml of Formic Acid (Water Based Formula Only)
I - 12.5 ml of Kodak Photo Flo 600 Solution (Water Based Formula Only)

Formula/Directions for Preparation of Chemical Solution(s):

METHANOL BASED FORMULA

Working Solution:

1. Place one (1) gram of Naphthalene 12B (or equivalent) in a clean dry one thousand ml glass beaker.

2. Add fifty (50) ml of Glacial Acetic Acid to the glass beaker.

3. Add four hundred fifty (450) ml of methanol to the solution. Place the magnetic follower in the solution and stir for approximately thirty (30) minutes. The solution will appear blue-black in color when stirred properly.

4. Transfer the working solution to a clean and properly labeled spray bottle or shatterproof jug until needed.

Acetic Acid-Methanol Solution:

1. Pour one hundred (100) ml of Glacial Acetic Acid into a clean two thousand (2000) ml glass beaker.

2. Add nine hundred (900) ml of methanol to the Glacial Acetic Acid. Place the magnetic follower in the solution and stir approximately ten (10) minutes. The Acetic Acid-Methanol solution produced will be colorless.

3. Transfer the working solution to a clean and properly labeled spray bottle or shatterproof container until needed.

Acetic Acid-Distilled Water Solution:

1. Pour one hundred (100) ml of Glacial Acetic Acid into a clean two thousand (2000) ml glass beaker.

2. Add nine hundred fifty (950) ml of distilled water to the Glacial Acetic Acid. Place the magnetic follower in the solution and stir approximately ten (10) minutes. The Acetic Acid-Distilled solution produced will be colorless.

3. Transfer the working solution to a clean and properly labeled spray bottle or shatterproof container until needed.

WATER BASED FORMULA

1. Pour five hundred (500) ml of Distilled Water into a clean two thousand (2000) ml glass beaker and place on a magnetic stirrer.

2. Place a magnetic follower in the Distilled Water and stir while adding the following

   ingredients in the order and amounts in which they are listed:

   5-Sulfosalicylic Acid (20 g)
   Naphthalene 12B or Naphthol Blue Black (3 g)
   Sodium Carbonate (3 g)
   Formic Acid (50 ml)
   Acetic Acid (50 ml)
   Kodak Photo Flo 600 Solution (12.5 ml).

3. Dilute the mixture to one liter with Distilled Water.

Processing Procedures for Application to Item(s) of Evidence:

Note: All visible impressions should be photographed prior to treatment with the Amido Black solutions.

METHANOL BASED FORMULA

1. Pour a sufficient amount of methanol into a clean dry glass tray. Immerse the item in

methanol for approximately one (1) hour (cover the tray to prevent evaporation). The methanol will fix the blood for processing. If the item cannot be immersed, it may be heated with a lamp or fan heater for approximately one (1) hour (caution should be taken to avoid fire hazards). The methanol used to fix the impression should be discarded after use (large or bulky items may require changing the methanol to prevent contamination).

2. Pour a sufficient amount of the Working, Acetic Acid-Methanol and Acetic Acid Distilled Water solutions into separate clean dry glass trays.

   If the item cannot be immersed, the solutions can be applied with a spray or wash bottle.

3. Immerse or spray the item with the Working solution. Leave the item in the solution for approximately two (2) to three (3) minutes until the area of interest becomes blue-black in color. Working solutions may be replenished as necessary and should be discarded if contamination occurs.

4. Immerse or spray the item with the Acetic Acid-Methanol solution. Rock the tray gently or apply additional solution to remove the background of the excess dye. This solution should be changed if it becomes heavily contaminated and discarded after use.

5. Immerse or spray the item with the Acetic Acid-Distilled water solution. Rock the tray gently for thirty (30) seconds or apply additional solution to remove the background of the excess dye. This solution should be changed if it becomes heavily contaminated and discarded after use.

6. Allow the item to completely air-dry prior to proceeding.

WATER BASED FORMULA

1. Apply the reagent to the item by dipping or using a squirt bottle. Completely cover the target area and allow to develop for approximately three (3) to five (5) minutes.

2. Rinse the item with tap water.

Steps to Preserve Developed Impressions:

The most appropriate methods to preserve developed impressions is through photography, using the proper techniques (See Photographic Equipment/Procedures) and/or electronically recording the impressions (See Image Processing). The contrast of the impression(s) may be enhanced by Laser and/or Alternate Light Source examinations which may be especially useful when impressions are found on dark surfaces (See Laser/Alternate Light Sources).

Safety Concerns:

Amido Black should only be used in a well ventilated area such as a fume hood. The Glacial Acetic Acid is in the solutions is highly corrosive. Methanol is toxic and highly flammable. Ingestion or absorption through the skin can be lethal.

Eye protection should be worn at all times when mixing, transporting and processing items of evidence or at crime scenes. Rubber aprons and gloves should be worn at all times when handling the solutions.

This technique may be used at crime scenes if proper safety considerations are applied; however, only use in a well vented area or utilize a fan to remove the fumes produced. Crime scene processing will require a dust or mist respirator.

Storage and Location of Chemicals and Solutions:

Naphthalene 12B or Naphthol Blue Black should be stored in the original shipping container until needed.

The Working, Acetic Acid-Methanol and Acetic Acid Distilled Water solutions may be stored in spray bottles or dark containers until needed.

The one-step water based Amido Black reagent may be stored in clear or dark containers.

Shelf Life:

Naphthalene 12B or Naphthol Blue Black - Indefinite

The Working, Acetic Acid-Methanol, and Acetic Acid-Distilled Water solutions will keep indefinitely.

The one-step water based Amido Black reagent will keep indefinitely.

Other Information:

Amido Black will not detect the normal constituents of latent impressions; therefore, Amido Black must be used in sequence with other techniques. It is essential to develop any traditional latent impressions prior to treatment with Amido Black. Careful treatment with powders before Amido Black will not interfere with Amido Black processing. Ninhydrin, if used, must precede

the application of Amido Black.

Some impressions in blood on porous surfaces such as paper or cardboard may be improved by using Physical Developer after Amido Black. Washing the item in a warm detergent solution after the Physical Developer treatment will reduce the background stain due to Amido Black. Use one (1) ml of Tergitol 7 per liter of distilled water at fifty (50) degrees Celsius, if the item will withstand this temperature. Wash the item until the background stain is reduced to an acceptable level.

Issue Date: _____ Supersedes: _____

Prepared By: _____ Date: _____

Approved By: _____ Date: _____

Originating Unit: _____