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Basic Fuchsin

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Name of Procedure:

Basic Fuchsin

Suggested Uses:

Basic Fuchsin has been developed to assist the analyst in the often difficult task of recovering latent impressions from black electrical tape and other adhesive types of materials. This process can be utilized to develop impressions on the adhesive side of the tape as well as the non-adhesive areas. This dye is extremely efficient in that it offers a significant fluorescent and can be used with either an argon-ion laser, copper-vapor laser, YAG laser or various alternate light sources.

Equipment Needed to Perform Procedures:

A - Laser (Argon-Ion, YAG, Copper Vapor) or alternate light sources
(Omniprint1000, Spectrum 9000, etc.)

B - Laser Goggles

C - Filter (Laser)

D - Camera (35mm, 2 1/4, MP-4, CU5)

E - Fume hood

F - Rubber gloves and apron

G - Face shield visor and/or safety goggles.

H - Glass processing tray

Chemicals Needed For Preparation of Chemical Solution(s):

A - .002 grams of Basic Fuchsin

B - Four-hundred (400) ml of methanol (Distilled water may be substituted for methanol).

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

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1. Place .002 grams of Basic Fuchsin in 400 ml of methanol. (To approximate this amount, moisten the end of a tooth pick and insert it in the chemical. What adheres to the toothpick can then be transferred to the solution. Properly dispose of the toothpick after use.)
2. Thoroughly dissolve the Basic Fuchsin in the methanol and the solution is ready to use.

Note: Distilled water may be substituted for methanol; however, the solution will take a longer time to dissolve with this substitution.

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

1. Utilizing a fume hood and rubber gloves, spray or completely submerge the item of evidence with the Basic Fuchsin solution and allow to dry.
2. When completely dry, view the item using either the argon-ion laser or an alternate light source while wearing laser safety goggles.

Note: The developed impressions will be laterally reversed in position and must be photographed correctly. If any latent prints are present, they will fluoresce bright yellow.

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 utilization of a 35 mm, 2 1/4, MP-4, or CU5 camera will suffice for Basic Fuchsin developed impressions. All laser prints must be photographed using a laser filter; otherwise, they will not be recorded on the film.

Safety Concerns:

Presently the toxicity of the reagent is still under review and has not been thoroughly investigated in respect to it's use. Basic Fuchsin may possess carcinogenic properties and should be handled and applied with extreme care until the full health effects are known. As with any chemical, it may cause some irritation when in contact with the eyes or skin and may be harmful if inhaled or ingested. The methanol used in this solution is corrosive and flammable and should be handled with extreme care.

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Storage and Location of Chemicals and Solutions:

Basic Fuchsin reagents should be stored in the original shipping container until needed.

The methanol solution should be stored in the original shipping containers or in a flammable liquid storage area until needed.

Solutions should be stored in dark shatterproof jugs or containers until needed.

Shelf Life:

Basic Fuchsin reagent - Indefinite

Basic Fuchsin solutions - thirty (30) days.

Other Information:

Basic Fuchsin may be used in conjunction with other fluorescent dyes which may be available. Rhodamine 6G may be used to develop additional impressions or enhance weak impressions developed with Basic Fuchsin.

Solutions used in the analysis of evidence should be discarded after each use.

The use of lasers and/or alternate light sources should be conducted as quickly as possible as the heat and light involved may destroy developed impressions.