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Name of Procedure:

Cyanovac

Suggested Uses:

The cyanovac polymerizes the latent impression using cyanoacrylate in a vacuum environment. The vacuum will eliminate the background moisture and allow the cyanoacrylate to attach to the components of the latent impression thus eliminating the over-fuming of an item of evidence which may occur with manual super glue techniques. Numerous materials may be processed utilizing the cyanovac such as plastic bags, weapons, metals and various other substrates. Super glue should be used as a preliminary process when utilizing a number of subsequent processing techniques. Fluorescent dye staining with laser examinations are dependent on the proper use of super glue fuming techniques.

Equipment Needed to Perform Procedures:

A - Cyanovac Unit

B - Commercially prepared super glue for fuming

Chemical(s) Needed for Preparation of Chemical Solution(s):

Not Applicable

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

Not Applicable

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

1. Remove the plexiglass end cap from the cyanovac chamber by releasing the elastic T-straps.

2. Insert item(s) of evidence into the chamber by hand.

   Note: Items may touch each other and the sides of the chamber without significant effect. Large flexible items such as garbage bags should be unfolded

to the degree possible, but need not be fully spread. Sealed items such as ziplock plastic bags should be opened to avoid possible rupture.

3. Place five (5) to ten (10) drops of cyanoacrylate (super glue) in a foil dish and place into the chamber.

4. Verify that the o-ring in present in the end cap.

5. Place the end cap on the chamber and fasten using the elastic T-straps.

6. Verify that the chamber bleed valve is closed.

7. Turn the vacuum pump control switch to ON.

8. Observe the vacuum gauge to verify that the chamber is being evacuated. Pump will automatically stop at the correct pressure.

   Note: Pump will restart automatically if the vacuum varies from optimum.

9. Allow the item(s) to remain under vacuum for twenty (20) minutes.

   Note: This period of time is sufficient for most items; however, a longer period of time may be required for some items.

10. Turn pump control switch off and open the chamber bleed valve to allow air to enter the chamber.

11. Remove the chamber end cap and remove the cyanoacrylate (super glue) source.

12. Allow the item(s) to remain in the chamber for approximately ten (10) minutes.

13. Remove the item(s) and examine for developed latent prints using powder or fluorescent dyes.

Steps To Preserve Developed Impressions:

The most appropriate methods to preserve developed impressions are photography, using the proper techniques (See Photographic Equipment/Procedures), and/or electronically recording the impressions (See Image Processing). The item(s) of evidence can be powder processed after

super glue fuming and any developed latent prints can be lifted with lift tape or photographed to preserve the impression (See Powder Processing).

The super glue fuming process is vital to any subsequent treatment with fluorescent dyes and laser and/or alternate light source examinations (See Fluorescent Dyes and Laser/Alternate Light Sources).

Safety Concerns:

Proper purging of the system is necessary as the fumes may cause some irritation when in contact with the eyes or skin and may be harmful if inhaled or ingested. Protective goggles, gloves and aprons should be worn at all times during processing.

Storage and Location of Chemicals and Solutions:

Not Applicable

Shelf Life:

Not Applicable.

Other Information:

Refer to the Cyanovac operating manual for further information on controls and specifications.

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