

Standard Operating Procedures for Latent Print Processing with Alternate Black Powder

1 Scope

Alternate Black Powder is used by latent print personnel to develop latent prints on adhesive surfaces.

2 Equipment/Materials/Reagents

Balance

Beakers or graduated cylinders

Camel hair brush or other similar small brush

Petri dish or other container

Spatula

Squirt bottles

Water

Lightning[®] Black Powder

Liqui-Nox[®]

3 Standards and Controls

Not applicable.

4 Sampling or Sample Selection

Not applicable.

5 Procedures

5.1 Solution Preparation

- a) Liqui-Nox[®] stock solution
 - Combine Liqui-Nox[®] and water in equal amounts and mix.
- b) Alternate Black Powder working solution
 - Place Lightning[®] Black Powder in petri dish or other suitable container.
 - Add Liqui-Nox[®] stock solution and stir using a brush until the consistency of shaving cream is achieved.

5.2 Application

- a) Paint the Alternate Black Powder working solution onto the adhesive surface with a camel hair brush or other similar small brush.
- b) Let sit for a minimum of 30 seconds.
- c) Rinse with a slow stream of water.
- d) Allow to dry.
- e) For digital capture and photography, see FBI Latent Print Units Processing Manual Preamble.

5.3 Storage

- a) Liqui-Nox[®] stock solution may be stored in any type of laboratory accepted receptacle.
- b) Alternate Black Powder working solution may be stored in the mixing container provided the reagent checks are properly conducted.

5.4 Shelf Life

Liqui-Nox[®] stock solution and Alternate Black Powder working solution have an indefinite shelf life provided that the reagent check is satisfactory.

5.5 Reagent Checks

See FBI Latent Print Units Processing Manual, Preamble.

6 Calculations

Not applicable.

7 Measurement Uncertainty

Not applicable.

8 Limitations

Not applicable.

9 Safety

See FBI Laboratory Safety Manual for appropriate information.

10 References

Bratton, R., Gregus, J., and Juhala, J. "A Black Powder Method to Process Adhesive Tapes". *Fingerprint Whorld*. 22(83): 28.

Bratton, R. and Gregus, J. "Development of a Black Powder Method to Process Adhesive Tapes". *Fingerprint Whorld*. 23(87):21.

FBI Laboratory Safety Manual, Federal Bureau of Investigation, Laboratory Division. Latest Revision.

FBI Latent Print Units Processing Manual, Preamble, Federal Bureau of Investigation, Laboratory Division. Latest Revision.

Lo, I. K. L.. "A Review on Detection of Latent Prints on Self-Adhesive Tapes". *Fingerprint Whorld*. 19(74):89.

Sneddon, N. "Black Powder Method to Process Duct Tape". *JFI*.49(4):347.

Trozzi, T. A., Schwartz, R. L., and Hollars, M. L. *Processing Guide for Developing Latent Prints*, FBI Laboratory, Washington DC, 2001.

<u>Rev. #</u>	<u>Issue Date</u>	<u>History</u>
0	01/13/14	Original document issued. Derived from Discontinued Latent Print Operations Manual, Standard Operating Procedures for Processes Used to Develop Latent Prints. The original LPU Processing Manual consisted of a single document with a preamble and procedures for all processes. The current document separates each into its own separate document.
1	10/02/17	Specific section numbers referenced in Preamble removed throughout document. Section 1, latent print personnel added. Section 4 removed and remaining renumbered. Titles for Section 4 and Section 7 modified. Section 5.3 and Section 5.4, allows for storage of working solution. Section 9, generalized. Updated for Biometrics Analysis Unit. Reference modified.

Approval

Redacted - Signatures on File