

Technical Procedures for Processing with Ash Gray Powder

1 Scope

Ash Gray Powder is used by FBI Laboratory Friction Ridge Discipline personnel to develop latent prints on adhesive surfaces.

2 Equipment/Materials/Reagents

Applicator(s) Ash Gray Powder

Liqui-Nox[®]

Photo-Flo 200 Solution

Photo-Flo 600 Solution

3 Procedures

3.1 Solution Preparation

Personnel will prepare stock and working solutions as follows:

3.1.1 Ash Gray Powder Working Solution with Photo-Flo

- Place Ash Gray Powder in petri dish or other suitable container.
- Add Photo-Flo 200 Solution or Photo-Flo 600 Solution and stir using a brush until the consistency of thin paint is achieved.

3.1.2 Ash Gray Powder with Liqui-Nox[®]

3.1.2.1 Liqui-Nox[®] stock solution

- Combine Liqui-Nox[®] and water in equal amounts and mix.

3.1.2.2 Ash Gray Powder working solution

- Place Ash Gray Powder in petri dish or other suitable container.
- Add Liqui-Nox[®] stock solution and stir using a brush until a consistency between paint and thin paint is achieved (Note: solution will be frothy).

3.2 Application

Personnel will complete the following steps in order:

1. Paint Ash Gray Powder working solution onto adhesive surface with a camel hair brush or similar.
2. Let item sit for a minimum of 30 seconds.
3. Rinse with a slow stream of water.
4. Allow to dry.

Solution may be reapplied as needed using steps one through four. Personnel must be cautious of background overdevelopment.

For digital capture and photography, see FBI Friction Ridge Discipline Processing Manual Preamble.

3.3 Storage of Solutions

Liqui-Nox[®] stock solution may be stored in any type of laboratory accepted receptacle.

Ash Gray Powder working solution is not stored. It is prepared as needed.

3.4 Shelf Life

Liqui-Nox[®] stock solution has an indefinite shelf life provided the reagent checks are satisfactory.

Ash Gray Powder working solution does not have a shelf life. It is prepared as needed.

4 Standards and Controls

See FBI Friction Ridge Discipline Processing Manual, Preamble.

5 Safety

See FBI Laboratory Safety Manual for appropriate information.

6 Sampling

Not applicable.

7 Calculations

Not applicable.

8 Measurement Uncertainty

Not applicable.

9 Limitations

Not applicable.

10 References

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.

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

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

FBI Friction Ridge Discipline Processing Manual, Preamble, Federal Bureau of Investigation, Laboratory Division. Latest Revision.

Rev. #	Issue Date	History
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 new Section 4 and Section 7 modified. Section 9, generalized. Updated for Biometrics Analysis Unit. References updated.
2	07/15/21	Replace Latent Print Units with Friction Ridge Discipline. Minor wording changes. Streamline equipment list. Re-organization and re-numbering of sections. Section 3.1 separated into Section 3.1.1 and Section 3.1.2 and added reapplication information. Section 4, added Preamble reference.

Approval

Redact - Signatures on File

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Technical Leader

Date: 07/14/2021

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Date: 07/14/2021

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Date: 07/14/2021

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