

Technical Procedure for Liquid Adhesive Lifters

1.0 Purpose - This procedure describes how to apply Liquid Adhesive Print Lifters to items of evidence.

2.0 Scope - This procedure applies to rough, grainy or difficult surfaces of items of evidence that are to be examined for the presence of latent prints. This technique may be used on rough metals, plastics, Styrofoam and grainy surfaces such as car interiors.

3.0 Definitions - N/A

4.0 Equipment, Materials and Reagents

4.1 Equipment and Materials

4.1.1 Mikrosil

- Lift material
- Catalyst
- Spatula

4.1.2 Accutrans

- Combination tube (Contains lift material and catalyst)
- Applicator gun
- Applicator tips

4.1.3 Liquid Adhesive

- One (1) container of Pentel Roll'n Glue
- Black powder (other powders may be substituted)
- One (1) small paint brush
- One (1) portable heated-air-blower
- Lifting tape
- Camera/scanner
- Small spoon or forceps
- Safety goggles
- Laboratory coat and gloves

4.2 Reagents - N/A

5.0 Procedure

5.1 Mikrosil

5.1.1 Mixing Procedure

5.1.1.1 Squeeze the lifting material onto a surface conducive to mixing.

5.1.1.2 Squeeze the catalyst adjacent to lifting material.

- 5.1.1.3 Mix the two (2) substrates thoroughly, but quickly. Mikrosil will begin to set as soon as mixed with the catalyst.

5.1.2 Application Procedure

- 5.1.2.1 Forensic Scientists shall produce a self-made test print to be processed concurrently with items of evidence. (See Section Technical Procedure for Ensuring Quality Control.)
- 5.1.2.2 Spread mixed lifting material gently over latent print to be lifted. Do not apply shearing pressure as this may distort or destroy the latent print.
- 5.1.2.3 Allow mixture to dry.
- 5.1.2.4 Remove dried Mikrosil from the surface. Latent print should be visible in the dried substrate (substrate will remain flexible after drying).

5.2 Accutrans

5.2.1 Mixing Procedure

- 5.2.1.1 Choose the color of material based upon the substrate of the latent print (brown, white, or clear).
- 5.2.1.2 Place dispensing tip onto preloaded cartridge. Tip will twist into place.
- 5.2.1.3 Place preloaded cartridge and tip into dispensing gun. Cartridge will snap in place.
- 5.2.1.4 Squeeze the trigger on the dispensing gun repeatedly until material flows into the tip and mixes.

5.2.2 Application Procedure

- 5.2.2.1 Forensic Scientists shall produce a self-made test print to be processed concurrently with items of evidence. (See Technical Procedure for Ensuring Quality Control).
- 5.2.2.2 Dispense mixed material over the top of the latent print/impression to be lifted. Ensure that enough material is present to cover the entire print.
- 5.2.2.3 Using a spatula quickly spread the material over the impression in a uniform thickness.
- 5.2.2.4 Allow to dry.
- 5.2.2.5 Peel Accutrans material off of the surface. Latent print will be visible within the surface of the material (substrate will remain flexible after drying).

5.3 Liquid Adhesive Print Lifter

5.3.1 Mixing Procedure - N/A

5.3.2 Application Procedure – The item of evidence shall be processed with superglue prior to using this technique as other chemical processing techniques can be used in conjunction with this method.

5.3.2.1 Forensic Scientists shall produce a self-made test print to be processed concurrently with items of evidence. (See Section Technical Procedure for Ensuring Quality Control.)

5.3.2.2 Process item with regular black powder to develop the latent impressions (See Powder Processing Procedures).

5.3.2.3 Pour the glue directly over the latent impression in a sufficient amount to cover the entire area of the impression. A small soft paint brush may be used to lightly spread the glue evenly over the item.

5.3.2.4 Once the glue is applied, a portable heated-air blower may be used to dry the glue completely (the blower shall be set on the low setting). The blower should be placed approximately four (4) to ten (10) inches from the area being processed and applied using circular or side-to-side motions for five (5) to ten (10) seconds. The heating and cooling process may need to be repeated until the item is completely dry. The item shall be allowed to cool after the heated-air blower is used prior to continuing. In the absence of a heated-air blower, allow the item to completely cool for approximately five (5) to ten (10) minutes before continuing.

5.3.2.5 There are two (2) methods of preserving the developed impressions depending on the thickness of the glue.

5.3.2.5.1 With a thick deposit of glue, the glue may be peeled directly from the surface and placed on a lift card or other backing material. Secure the glue deposit to the lift card by placing lifting tape over the impression.

5.3.2.5.2 Thin-layered deposits of glue often cannot be peeled without destroying the impression. Lifting tape shall be placed directly over the area and lifted directly from the surface. This technique may require using a small spoon or the end of forceps to gently lift the edge of the glue prior to lifting. The developed impression can then be easily transferred to a lift card or other backing material.

5.3.2.6 The developed impressions may be examined and used in comparisons once they have been secured to the lift card or backing material. The item shall be photographed initially in case the developed impression becomes damaged (see Camera/Photography Techniques).

5.4 Standards and Controls - N/A

5.5 Calibration - N/A

5.6 Sampling - N/A

5.7 Calculations - N/A

5.8 Uncertainty of Measurement - N/A

6.0 Limitations

6.1 Liquid Adhesive Print Lifters have an indefinite shelf life.

6.2 The glue/substrate/preloaded cartridges may be stored in almost any location; however, the top shall be tightly secured when not in use.

7.0 Safety - Presently, there are no major safety concerns associated with the use of this technique; however, the glue can be harmful if it comes into contact with the skin or eyes. Gloves and eye protection shall be used.

8.0 References

Guerrero, M. and B. Leon. "The Transparent, Liquid Adhesive, Latent Print Lifter." *Journal of Forensic Identification*. Vol. 42, 2: 101-105 (1992).

Kent, T., ed. *Manual of Fingerprint Development Techniques: A Guide to the Selection and Use of Processing for the Development of Latent Fingerprints*. Police Scientific Development Branch, London (July 1992).

Lee, H.C. "Methods of Latent Print Development." *Proceedings of the International Forensic Symposium on Latent Prints*. (July 1987): 15 – 24.

Lennard, C.J. and P.A. Margot. "Sequencing of Reagents for the Improved Visualization of Latent Fingerprints." *Proceedings of the International Forensic Symposium on Latent Prints*. (July 1987): 141-142.

Manual of Fingerprint Development Techniques: A Guide to the Selection and Use of Processes for the Development of Latent Fingerprints. Scientific Research and Development Branch, London (1986).

Trozzi, T.A., R.L. Schwartz and M.L. Hollars. Processing Guide for Developing Latent Prints. (2000): 1-64.

US Department of Justice. *Chemical Formulas and Processing Guide for Developing Latent Prints*. FBI Laboratory Division, Latent Fingerprint Section (1994).

9.0 Records - N/A

10.0 Attachment - N/A

Revision History		
Effective Date	Version Number	Reason
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