Technical Procedure for Sticky-Side Powder

1.0 Purpose - This procedure describes how to make Sticky-Side powder and apply it to items of evidence.

2.0 Scope – This procedure applies to the adhesive side of tape and can be used to develop impressions on duct tape, masking tape, clear plastic tape, plastic surgical tape, reinforced packing tape, packing labels, paper-backed labels, double-sided foam tape and adhesive bandages.

3.0 Definitions – N/A

4.0 Equipment, Materials and Reagents

4.1 Equipment and Materials

- One (1) camel hair brush
- One (1) dropper bottle
- One (1) teaspoon
- One (1) mixing jar
- One (1) rinse tray and/or agitation device
- Safety goggles
- Camera/scanner
- Fume hoods
- Gloves
- Forceps

4.2 Reagents

- Sticky-Side powder (1 teaspoon)
- Photo-Flo 200 (30 mL)
- Sufficient distilled water for mixture and rinse

5.0 Procedure

5.1 Mixing Procedure

5.1.1 Place one (1) teaspoon of Sticky-Side powder into the mixing jar.

5.1.2 Fill dropper-bottle with thirty (30) mL of distilled water and thirty (30) mL of Photo-Flo 200 and shake well.

5.1.3 Using the dropper, add this solution to the powder in the mixing jar until a paste is developed to the consistency of a thin paint.

5.2 Application Procedure

5.2.1 Method # 1

5.2.1.1 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).

5.2.1.2 Using the camel hair brush, brush the paste onto the adhesive side of the tape.

5.2.1.3 The solution shall remain on the tape for approximately ten (10) to fifteen (15) seconds.

5.2.1.4 After approximately ten (10) to fifteen (15) seconds, place the tape in the rinse tray of distilled water and agitate to remove the excess dye. Allow the tape to dry.

5.2.2 Method # 2

5.2.2.1 Place approximately one (1) teaspoon amount of Sticky-Side powder in a tray of distilled water (the rinse water from Method #1 may be used in this step).

5.2.2.2 Agitate or stir the solution until the powder is completely dissolved.

5.2.2.3 Submerge the item in the solution with the adhesive side up allowing the particles to settle on the tape or label. This step may take a period of time to develop with the latent impressions appearing somewhat fainter. Faint latent impressions may require additional processing time and may be returned to the solution.

5.2.2.4 Allow the item to dry completely.

5.2.2.5 Preserve developed impressions through photography according to the techniques (see Photographic Equipment Procedures) and/or by electronically recording the impressions (see Image Processing).

Note: Some items (such as adhesive labels or paper coated labels) may not be suitable for the brush technique; when dealing with these items, an alternative process may be used.
Note: Developed impressions may also be lifted from the adhesive side of the tape; however, care shall be taken when attempting this procedure as the adhesive from the tape may also be lifted. Lifting the impressions may alter the contrast of the developed impression

5.3 Standards and Controls – N/A

5.4 Calibration – N/A

5.5 Sampling – N/A

5.6 Calculations – N/A

5.7 Uncertainty of Measurement – N/A

6.0 Limitations - If commercially prepared Sticky-Side powder is not available, various other powders may be substituted. Follow the same mixing procedures and application techniques previously stated. Test impressions shall be developed on a similar substrate prior to using other powders on items of evidence. Both sides of the tape should also be examined during analysis as this procedure will often develop latent impressions on the non-adhesive side of the tape. Sticky-side powder may be used after cyanoacrylate ester and may be followed by fluorescent dyes and/or laser examinations.

6.1 Sticky-side powder and Photo-Flo 200 have an indefinite shelf life.

6.2 Dropper mixture of distilled water and Photo-Flo 200 has a shelf life of thirty (30) days.

6.3 The paste mixture is for daily use only.

6.4 The Sticky-Side powder and concentrated Photo-Flo 200 shall be stored in the appropriate kit and mixed as needed. The dropper mixture of distilled water and Photo-Flo 200 shall also be stored in the kit to avoid direct exposure to sunlight.

6.5 The mixing jar and the camel hair brush shall be thoroughly cleaned with soapy water after use and stored in the appropriate kit.

7.0 Safety - There are no major safety concerns associated with the use of this technique; however, the toxicological properties have not been thoroughly investigated. The powder and chemical solutions shall be handled and applied while wearing gloves and eye protection. Improper use may cause some irritation when contact with the eyes or skin occurs, and the chemical may be harmful if inhaled or ingested.

8.0 References

Berg, E.C. "Latent Prints from Duct Tape." *Journal of Forensic Identification.* Vol. 42, 5: 401-403 (1992).

Burns, D.S. "Sticky-side Powder: The Japanese Solution." *Journal of Forensic Identification.* Vol. 44, 2: 133-138 (April 1994).

Campbell, B.M. "Separation of Adhesive Tapes." *Journal of Forensic Identification.* Vol. 41, 2: 102-106 (1991).

Gray, M. L. "Sticky-side Powder Versus Gentian Violet: The Search for the Superior Method for Processing the Sticky Side of Adhesive Tape." *Journal of Forensic Identification.* Vol. 46, 3: 268-272 (June 1996).

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
09/17/2012	1	Original Document