
Technical Procedure for Hungarian Red

1.0 Purpose - This procedure describes how to make the Hungarian Red solution and apply it to items of evidence.

2.0 Scope – This procedure applies to porous and non-porous items of evidence that are to be examined for the presence of latent prints in blood.

3.0 Definitions

- **Alternate light source** - Any of the multiple forensic light sources readily available in the Digital/Latent Evidence Section including, but not limited to, the CrimeScope, Mini-CrimeScope, TracER Laser, and Ultra-Lite ALS.

4.0 Equipment, Materials and Reagents

4.1 Equipment and Materials

- Laboratory coat and gloves
- Tissue or filter paper
- Glass beakers
- Heating mantle
- Brown or dark shatter proof storage container (1 gallon)
- Camera/scanner
- Fume hood
- Measuring cylinders
- Laser filters
- Mist sprayers
- Laser goggles
- White gelatin lifters

4.2 Reagents

- Hungarian Red Blood stain
- Sulfosalicylic acid (20 g)
- Glacial acetic acid (10 mL)

5.0 Procedure

5.1 Sulfosalicylic Acid Solution

5.1.1 Mixing Procedure

5.1.1.1 Place twenty (20) grams of sulfosalicylic acid in a large beaker.

5.1.1.2 Fill the beaker with one (1) liter of distilled water and place magnetic stir bar in the beaker. Using the magnetic stir bar, stir the solution until the entire reagent is dissolved.

5.1.1.3 Place the solution in a squirt bottle until needed.

5.2 Acetic Acid Solution - Distilled water may be used in place of acetic acid solution.

5.2.1 Mixing Procedure

5.2.1.1 Place ten (10) mL of glacial acetic acid in a large beaker.

5.2.1.2 Fill the beaker with one hundred ninety (190) mL of distilled water and place a magnetic stir bar in the beaker. Using the magnetic stir bar, stir the solution for five (5) minutes.

5.2.1.3 Place the solution in a squirt bottle until needed.

5.3 Working Solution - Hungarian Red Solution

5.3.1 Mixing Procedure

5.3.1.1 Hungarian Red is available in a premixed solution and does not require prior mixing of this solution.

5.3.1.2 The solution shall be placed in a squirt bottle to apply to an item of evidence.

5.4 Application Procedure - Prior to spraying the item of evidence with any of the solutions, the bloody impression shall be dried or cured to prevent the print from dissolving when the solution is applied.

5.4.1 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.)

5.4.2 Cover the bloody impression with filter or tissue paper.

5.4.3 Spray the sulfosalicylic acid solution onto the tissue paper. The tissue paper shall remain in contact with the impression during this step. Allow the tissue paper to remain on the item of evidence for two (2) minutes. For larger thick stains, the tissue shall remain for a longer period of time.

5.4.4 Rinse the area of interest with distilled water at a crime scene and demineralized water in the laboratory.

5.4.5 Apply the Hungarian Red solution with a squirt bottle to the item of evidence ensuring the entire area is covered.

5.4.6 Wash the excess solution with the acetic acid solution (distilled water may be substituted in the step). Immediately blot any excess solution with the tissue paper.

5.4.7 Allow the item to dry (a hair dryer may be used to expedite the process).

5.4.8 When completely dry, place a white gelatin lifter over the impression. Leave the gelatin lifter on the impression for fifteen (15) to thirty (30) minutes.

5.4.9 Remove the gelatin lifter and view the lift with the laser or alternate light source. The most appropriate wavelengths are within the 515 to 560 nm range with a green filter and 600 nm with a red filter.

Note: The item of evidence may be reprocessed with Hungarian Red for additional contrast.

5.4.10 The developed impression on the lift shall be photographed within two hours. Hungarian red may be used in conjunction with other blood impression processes.

5.4.11 Preserve the developed impressions through photography, according to the techniques in the photographic equipment procedures and/or by electronically recording the impressions (see Section Technical Procedure for Image Processing).

5.5 Standards and Controls - N/A

5.6 Calibration - N/A

5.7 Sampling - N/A

5.8 Calculations - N/A

5.9 Uncertainty of Measurement - N/A

6.0 Limitations - Care shall be taken when applying the solutions. Hungarian Red is a stain for blood cells and is not peroxide. The impressions will only fluoresce when viewed with a laser or alternate light source on the gelatin lifts.

6.1 Hungarian Red Solution has a shelf life of one (1) year.

6.2 Glacial acetic acid and sulfosalicylic acid has a shelf life of ninety (90) days.

6.3 Hungarian Red shall be stored in the original shipping container or a squirt bottle until needed.

6.4 The glacial acetic acid and sulfosalicylic acid solutions shall be stored in squirt bottles away from sunlight.

7.0 Safety - The toxic and carcinogenic properties of Hungarian Red have not been thoroughly investigated; however, Hungarian Red shall be handled with extreme care. The glacial acetic acid and sulfosalicylic acid solutions may be flammable and corrosive and shall be handled with extreme care. Mixture and application of the solutions shall be conducted in a fume hood. Safety glasses, gloves, and a lab coat shall be used.

8.0 References

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. (January 1986): 2-8.

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 Attachments - N/A

Revision History		
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