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3.0 Reagents

3.0.1 Scope

This policy applies to personnel assigned to, or conducting work in, the FSD Latent Print Units. This policy describes the documentation requirements specific to latent print personnel processing evidence for latent prints. These requirements are in addition to all requirements described in the Forensic Science Division Laboratory Operations and Quality manuals.

3.0.2 Responsibility

3.0.2.1

All members of the latent print discipline are responsible for ensuring complete and thorough documentation and processing of evidence submitted for latent print analysis. This responsibility includes the original analyst and the technical and administrative reviewers for each case.

3.0.2.2

Unit Supervisors and analysts shall promote and ensure accurate documentation testing within their unit.

3.0.3 Terminology

3.0.3.1

Sequential Processing: the best order of processing techniques when multiple techniques are employed to increase the likelihood of latent prints being developed at subsequent processing steps.

3.0.3.2

Reagent: a substance or mixture used to create a chemical reaction.

3.0.3.3

Stock solution: A concentrated solution that will be diluted to a lower concentration or added to another solution to create a working solution.

3.0.3.4

Working solution: A chemical solution or reagent made for direct use which may be made from standard or stock solutions.

3.0.3.5

Controls/Control testing: A created sample that is used to test the reliability of a reagent or solution to ensure that is working correctly.

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3.0.4 Evaluation of Evidence for Potential Value for other Forensic Analysis

3.0.4.1

Latent print unit personnel shall evaluate the evidence submitted on their case for potential value for other forensic disciplines prior to application of latent print processing techniques. Consultation with the affected laboratory discipline and the agency, if necessary, shall be documented in the case record worksheet unless otherwise stated on the FSD-7 or in communication notes.

3.0.4.2

Evidence containing written material shall be evaluated for possible questioned document examination. Evidence determined to be of value for questioned document examination shall be discussed with the agency to determine if a questioned document exam should be conducted prior to latent print processing. This consult, and the agencies decision, shall be documented in the case record worksheet unless otherwise stated.

3.0.4.3

Paper items may have the additional potential of impressed writing being present. A notation at submission or a consult with the agency shall be made to determine if an examination for impressed writing should be conducted prior to latent print processing. This consult, and the agencies decision, shall be documented in the case record worksheet.

3.0.4.4

The evaluation for value for questioned document examination is based on the circumstances surrounding the evidence and the likelihood that the person of interest would have:

- written on the item
- written on an item above that item (impressed writing)
- might have left the item behind (impressed writing).

3.0.4.5

Evidence containing written material that is determined to be of value for questioned document examination that is not submitted to questioned documents, per the agency, shall be photographed or scanned at a minimum of 600 ppi and acquired into ADAMS. Documentation of the image file location in ADAMS shall be made in the actions section of the latent print worksheet and added in the case details case comments in Forensic Advantage.

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3.0.4.6

Change of request to add an examination shall be documented in the case record. A pdf file of the communication log or a pdf copy of the email shall be placed in the case object repository with a note in the actions section of the worksheet.

3.0.5 Visual Examination

3.0.5.1

The detection of fingerprints by close visual exam is required prior to the application of chemical or physical processing techniques. The visual examination may be conducted using oblique white light and/or specific wavelengths of light.

3.0.5.2

Latent prints of collection or comparison value that are located during the visual examination stage should be photographed prior to the application of reagents or powders.

3.0.6 Sequential Processing

3.0.6.1

The use of sequential processing is suggested. The suggested sequential order of processing techniques is listed in the training manual to assist the analysts in selection. Specific processing techniques chosen are based on an evaluation of the traits of the substrate and matrix and are chosen by the analyst or technician completing the processing.

3.0.6.2

Analysts may use any reagent listed in the latent print unit procedures manual that is suitable for the evidence submitted.

3.0.6.3

Latent prints of collection or comparison value should be photographed/collected at the first visual or processing step in which they become visible. Additional photographs of the same latent print after subsequent sequential processing steps need only be taken if the latent print increases in quality or quantity.

3.0.6.4

Any reagent or processing technique that is not listed in the Latent Print Unit Procedure Manual must be validated prior to use in casework. (see LOM 2.9 Validation and Verification).

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3.0.7 Chemicals

3.0.7.1

The receipt of purchased chemicals and powders shall follow the established requirements in the Safety manual and the Laboratory Operations manual (see LOM 2.5) which includes marking the containers with the date of receipt and the person receiving it.

3.0.7.2

Purchased chemicals and powders shall be marked with the date opened and the initials of person opening them.

3.0.7.3

Chemicals shall be disposed of by the expiration date provided by the vendor.

3.0.7.4

Unopened purchased powder chemicals that do not list an expiration date are considered to have an indefinite shelf life. Once opened, the shelf life should be no more than two years.

3.0.8 Reagents

3.0.8.1

Reagent solutions will be stored in stock solution and/or working solution containers labeled with the name of the reagent, components, safety and hazard information, preparer's initials, and date prepared.

3.0.8.2

The accepted specific chemical formulations are contained in this procedure manual section, titled by the reagent name.

3.0.8.3

Reagents shall be control tested for reliability prior and/or concurrent to use in casework. The control test of the chemical processing technique shall be documented in the case record worksheet for each reagent used.

3.0.8.3

The control test conducted during casework may be added to the reagent logs, to include the assigned laboratory number. The routine recorded use of the reagent may act as the data that ensures continued reagent reliability.

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3.0.9 Reagent logs

3.0.9.1

Each latent print unit shall maintain a reagent log. The retention of the reagent log shall follow the State of Michigan's retention schedule.

3.0.9.2

Prepared reagents shall be documented in the reagent log identifying who made the reagent, the components used in preparation, the lot # of the components, the date prepared and the control test used to verify the reagent is reliable.

3.0.9.3

The preparation of single use reagents or solutions shall be documented in the case record worksheet by noting the control result. It is not necessary to record these single use reagents in the reagent log.

3.0.9.4

Reagents and solutions that are stored shall be periodically tested to ensure continued reliability. The periodic testing shall be noted in the reagent log.

3.0.9.5

If the reliability of a reagent is questionable, due to a negative control test or noticeable change in the appearance of the reagent, the reagent shall be destroyed. The destruction or disposal of a reagent shall be documented in the reagent log.