A. Purpose:

To outline the procedures to be utilized by the latent print section to ensure that chemicals and reagents are of sufficient quality to produce expected results.

B. Responsibility:

Latent Print Examiners

C. Procedure:

1. Fingerprint development and enhancement chemicals/reagents are commercially purchased through an approved vendor. All chemicals and reagents will be stored and kept in appropriate containers. This will include items that need to be refrigerated or kept under other environmental safe guards.
2. When restocking supply chemicals/reagents, the new chemical/reagent packages will be marked with the initials of the receiving examiner and the date they are received. New stock should be placed behind the older stock. Older chemicals/reagents should always be utilized first unless a manufacturer expiration date has passed. Any expired chemicals/reagents should be discarded.
3. When a chemical/reagent is utilized for the first time, the examiner opening/preparing the chemical or reagent will ensure that the container is properly labeled as to its contents, its safety information (NFPA or GHS) and the ability of the performance of the chemical/reagent (see section a. below). The examiner will also place the date opened/prepared and his/her initials on the container. Most chemicals/reagents are purchased premixed or in kits.

   a. Per GL-21 General Laboratory Equipment, chemicals/reagents are considered "equipment" as they can influence the correct performance of laboratory activities (i.e. processing). The Latent Print Unit will satisfy all applicable requirements for this "equipment". Except for cyanoacrylate, a control test impression will be developed before use on any evidence. The very first control test impression developed with a newly opened or prepared chemical/reagent will demonstrate the ability of the performance of that lot of chemical/reagent. A log will be kept of this control test impression. The log will include the chemical/reagent name, the date opened/prepared, the lot number, the initials of the analyst who opened/prepared it, if the control test impression was acceptable and the manufacturer's expiration date, if there is one. This information will be logged on the Reagent/Equipment Log form (QR-LP3). Once the chemical/reagent has been found to be acceptable, a colored dot will be initialed and dated and "OK" or "OK for use" will be written on it. This dot will be taped to the chemical/reagent bottle and will signify the chemical/reagent is okay to use. Before any chemical/reagent is used, every analyst should check for this sticker. If it is not present, the above stated procedure must be followed. In the case of cyanoacrylate, when a new bottle is opened, a control test impression must be developed BEFORE being used for any evidence. The first control test impression developed with cyanoacrylate cannot be run simultaneous with evidence. The Reagent/Equipment Log will be used to record the development of the control test impression.

b. Chemicals/reagents that are purchased premixed can be used without additional preparation. The date opened will be the lot number (absent a manufacturer's lot number). The date opened shall be in the following six digit month, day, year sequence: mmddyy i.e. 010115 If there is an expiration date, it will also be placed on the container. The acceptability of the first control test impression developed must be documented on QR-LP3 (Reagent/Equipment Log form).

c. Chemicals/reagents (such as Indanedione) purchased as a kit need to be prepared for use. The date prepared will be the lot number and will follow the same month , day, year format as above. If there is an expiration date, it will also be placed on the container. The preparation and the acceptability of the first control test impression developed must be documented on QR-LP3 (Reagent/Equipment Log Form).

d. Although not a chemical/reagent, the lot number of DNA free fingerprint brushes will be recorded on QR-LP17 (Brush Log). These brushes are bought in large amounts so only one lot number will be in use at a time. The start of use date and end of use dates will be logged under the appropriate columns. When a new lot of brushes is placed into use, any remaining brushes from a previous lot will be marked "Not for Casework". Generally, only these brushes will be used for the application of dry fingerprint powders. If any other kind of brush is used for the application of dry fingerprint powders, it must be noted on the Latent Print Processing form for the case.

4. A control test impression will be developed on each day of use to ensure that the chemical/reagent is still working in an acceptable manner; the procedure in Section C.3.a. above does not take the place of the day of use control test impression development unless it is the first day of use.

   a. A control test impression will be developed on the day of use by the examiner that is using the chemical/reagent. Separate cases shall require separate test impressions. The examiner will create a test impression using a similar substrate (i.e. porous, non-porous, adhesive, etc.) capable of retaining a test impression and reacting with the chemical/reagent that is going to be used in the case at hand. The examiner will place an impression on the substrate using a Latent Print Reference or Standard pad to ensure that a proper matrix has been deposited. The chemical is then applied as required.

   b. An acceptable result is the development of a latent print with definitive contrast against the background. The examiner will photograph the test impression, and will document the results and the chemical/reagent's lot number on the processing worksheet. The digital image file of the control test impression will be made part of the case file.

      This process of conducting a test impression must be done for each case, when the examiner uses chemicals/reagents.

   c. An unacceptable result is when there is no development of an impression. The chemical/reagent that didn't produce an acceptable result shall be discarded. The examiner will document the unacceptable result in a log book and indicate that the chemical was discarded. The examiner will then repeat the process with a new lot of the chemical/reagent.

If the new lot does not produce an acceptable result, the Unit Lead or Deputy Director will be notified.

d. The only exception to the preceding shall be cyanoacrylate (superglue). The control test impression will be run simultaneously as the processing of evidence.

If the control test impression is acceptable (development of an impression), a photograph of the control test impression will be taken and made part of the case file. If the control test impression is not acceptable (no development of an impression) and there is no development on the evidence, a new batch of cyanoacrylate (superglue) will be used and processing of the control test impression will be repeated. If the control test impression is not acceptable, but there is development on the evidence the Unit Lead or Deputy Director will be contacted to determine the next step.

5. Controls should be re-run by an examiner if one of the following occurs:
   a. Examiner is processing an item of evidence with cyanoacrylate and begins using a different chamber from the original control test impression.
   b. If it has been noted that a chemical was improperly stored or possibly compromised between use on the same day in between testing of items in that examiner's case.
   c. The original chemical has run out and a new lot/bottle needs to be used.
   d. The cyanoacrylate processing bottle was refilled from the stock bottle during the same day.

6. Latent Print Development powders are not considered chemicals/reagents by the Latent Print Unit. Quality Control for powders consists of minimizing contamination and exposure to moisture. The only quality control check on powders will be conducted on the initial opening of the stock container (refer to section C. 3. A). A small amount of powder should be removed from the stock or working container for each use. Powder removed for use should NEVER be added back to a container. Excessive moisture may cause clumping of the powder. Do not expose powders to high humidity or moisture. Keep all containers closed as much as possible.

   The date the original stock container is opened shall should become the lot number of the powder. The lot number will be in the following six digit month, day, year format: mmddyy (i.e. 010115). Smaller working containers of powder may be made from the stock container. Any working container will be labelled with the name and lot number of the stock container.. The shelf life of development powders is indeterminable; however, if clumping of the powder is observed, it shall be discarded.