GENERAL CHEMICAL AND REAGENT QC

21.1 PURPOSE

To quality control new chemicals.

21.2 RESPONSIBILITY

Forensic Science Examiners (however titled) in the Forensic Biology Unit. Ordering information is maintained both electronically and in a log book by the Forensic Biology Unit. New chemicals and reagents are purchased according to GL-6 (Purchasing). For additional information, refer to the Biological Inventory located in Appendix 3.

21.3 SAFETY

Use appropriate measures for the proper handling of bleach and hazardous chemicals according to GL-2 (Safety Manual) and the Safety Data Sheets.

21.4 PREPARATION/QC PROCEDURES

21.4.1: dH_2O (defined as deionized water, see DNA SOP-1: General Guidelines, section 1.1.9).

A. dH_2O used to collect samples from evidence or in the preparation of a solution used to collect samples from evidence, will be obtained from and quality control tested by the DNA Unit prior to use.

1. Test the new lot before use according to FB SOP-08 (Screening Tests for Blood), FB SOP-12 (Screening Test for Semen), FB SOP-16 (Test for Amylase) and the dH_2O Reagent Log Sheet. Record the required information.

2. If the appropriate results are not obtained, discard, review the procedure, obtain new dH_2O and retest. If the reagent still does not yield the appropriate results, then determine the root cause and correct.

3. If acceptable for use, label the containers received from DNA with the date opened and examiner's initials. Label containers filled in Forensic Biology with the lot #, control (expiration) date, fill date and examiner's initials.

   The lot is acceptable for use when positive and negative results are obtained with the corresponding positive body fluid and negative blank controls according to the procedures listed above (21.4.1.A.1).

4. Unopened containers of dH_2O may be stored at room temperature. Opened containers shall be stored in the refrigerator. Discard and replace according to the DNA expiration date.

B. dH_2O used for other purposes will be obtained from the water filtration system in the DNA Unit.

1. Fill and label a stock container with the lot # (date filled) and examiner's initials.

2. Label containers filled in Forensic Biology with the lot #, fill date and examiner's initials.

   Note: Containers filled for daily use (i.e. rinsing instruments after disinfecting) only need to be labeled with the name of the solution.

3. Store at room temperature in a stock container and replace as needed.

21.4.2: Disinfecting Solutions

A. Diluted bleach for daily use (minimum of 10%)

1. Prepare a stock solution of diluted bleach (minimum of 10%) with dH_2O the day of use.

2. Fill and label the stock container with the lot # (date of preparation) and preparer's initials. Fill and label other containers with the lot # (date of preparation) and examiner's initials.

   Note: Containers filled for daily use (i.e. soaking instruments for disinfecting) only need to be labeled with the name of the solution.

3. It is not necessary to track this daily preparation.

B. 10% stabilized bleach may be used and is purchased by an outside vendor.

1. Label the containers with the date received, date opened and examiner's initials. Include the fill date and appropriate manufacturer's expiration date on the spray containers if re-used.

2. Record the required information on the electronic order and/or reagent tracking log sheets.

3. Store the stabilized bleach according to the manufacturer's instructions.

4. Discard/replace as needed according to the manufacturer's expiration date or according to 21.4.3 below.

21.4.3: New Chemicals

A. New chemicals received will be labeled with the date received, date opened and examiner's initials.

B. Quality control information for chemicals used to prepare reagents will be included with each reagent prepared. Reagent QC is always conducted prior to use on case samples.

C. Record the required information on the electronic order and/or reagent tracking log sheets.

D. Store chemicals according to the manufacturer's instructions.

E. Discard/replace chemicals according to the manufacturer's expiration date.
   1. If the manufacturer does not specify an expiration date, an expiration date of five (5) years will be made.
      a. At the time of expiration the chemical will be tested for validity.
      b. If no longer valid the chemical will be discarded and/or replaced. If valid, another five (5) year expiration date will be applied.

   2. Manufacturer’s expiration dates with only month and year indicated (i.e. 04/2014) expire the last day of the month noted.

21.5 REFERENCES

A. GL-2 (Safety Manual)
B. GL-6 (Purchasing)
C. Safety Data Sheets