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Glass Wash Room - Cleaning and Handling Glassware and Other Duties - Royal Oak

Document Type: Procedure

I. PURPOSE AND OBJECTIVE:

A. Glassware, especially volumetric glassware, must be clean so that indicated volumes are accurate and chemical or enzymatic reactions are not adversely affected by the unclean glassware. This document explains the process for cleaning and handling glassware.

B. Technologists should inspect a piece of glassware before use. Any perceptible film or residue should invalidate that glassware for use. If volumetric glassware, such as pipettes, is used and shows beading when filled with an aqueous solution and emptied, that piece of glassware should be considered unclean and the procedure repeated using a clean piece of glassware.

II. TRAINING:

Any employee performing procedures in the Glass Wash Room needs to be trained by his/her supervisor or designee and have competency review performed annually (see Attachment A, Glass Wash Room Training Checklist). Completed Training Checklists are signed by Trainer and Supervisor/Designee and filed in the employee's personnel file.

III. GLASS WASH ROOM SECTION SCHEDULE:

Week Day	Morning	Afternoon
Monday	Chemistry / Stat Lab / Toxicology	Flow Cytometry
Tuesday	Special Testing	Hematology
Wednesday	Chemistry / Stat Lab / Toxicology	Special Testing
Thursday	Special Testing	
Friday	Chemistry / Stat Lab / Toxicology	Hematology
See Attachment E, Glass Wash Room Section Schedule, for posting		

IV. EQUIPMENT:

A. Steris Reliance™ 400XLS Glassware Washer/Dryer, Lower Level, Research Building

B. Equipment Maintenance/Repairs: Contact Jones Lang LaSalle (BSC) x16300. Fill out Attachment B, Glass Wash Room Washer Problem Log, for repairs and submit to your supervisor.

V. SUPPLIES:

A. Alcotabs® - ordered through the Clinical Pathology Administrative Office

B. Glass KlenzÒ (Steris) Glassware Detergent (1 Gal) Cat # 1114-08

1. **CAUTION**: Contains tetrasodium EDTA. May cause eye and skin irritation. Wear protective eyeware, gloves and protective clothing while handling. Harmful if swallowed.
2. **First Aid**: Flush eyes and skin immediately with water for at least 15 minutes. Get medical attention if irritation develops. Ingestion: Do not induce vomiting. Get medical attention. Nothing by mouth to unconscious person. If conscious, drink large quantity of milk or water.
3. Glass Klenz® stock is stored in Glassware Washroom, lower level Research Building.
4. Order more through the Clinical Pathology Administrative Office
   Steris Corporation, 7501 Page Avenue, St Louis, MO 63133; 800-548-4873

C. pH Indicator Strips: pH range to cover 4.5-10.0. Obtain from Chemistry.

D. Clean blue towels: Call x84020 to have delivered to the Glass Wash Room by Linens.

VI. PROCEDURE:

A. **IN-LAB**

1. **Glassware**
   a. After use, soak the glassware thoroughly in plastic receptacle.
      i. Toxicology Lab: containing Alcotab® in tap water (1 tablet/10-12 L tap water)
      ii. Automated Chemistry glassware: 5mL of Glass Klenz® / one liter tap water.
   b. Note: Dirty glassware receptacles should not be allowed to overfill because good contact with water is necessary to prevent drying of the dirty glassware.
2. **Pipettes**
   a. After use, place pipettes in pipette soakers (**tip up**) so that the pipette is thoroughly immersed.
3. **Pipette Soakers (within lab section)**
   a. Pipette tips must be completely covered while they are soaking.
      i. Toxicology Lab: Fill with tap water; add 1 Alcotab®
      ii. Automated Chemistry: 50mL Glass Klenz® / 10 liter tap water
   b. Empty water and clean Pipette Soaker weekly with hot tap water.

B. **GLASS WASH ROOM: Glassware Washing- Steris Reliance® 400XLS**

1. Inspect glassware to ensure items are glass and not plastic. Do NOT place plastic containers in the dishwasher.

2. If washer display screen is off, touch it to activate it.
3. Verify the Glass Klenz® detergent reservoir is filled (located in the back room to the left of the washer). After filling, make sure the blue hose is put back into the reservoir.
4. Press “Door” button to open the washer.
5. For post-wash-cycle pH testing, place a flask (50-100 mL size) labeled with green tape in **each** wash load.
6. Load glassware onto dishwasher racks. Racks are designed to accommodate different sizes of glassware. Choose accordingly and load items upside down on the metal pegs/holders.
7. Slide racks completely into dishwasher and shut door.
8. Choose the proper cycle. If it does not appear on the top of the screen, push “*Select Cycle*” and select the proper cycle.
    a. **Chemistry Cycle:**
        i. Pre-Wash: unheated H_2O for 2 minutes
        ii. Wash1: 90°C H_2O plus Glass Klenz® for 10 minutes
        iii. Rinse1: 90°C H_2O for 1 minute
        iv. Rinse2: 90°C H_2O for 10 seconds
        v. Drying: Smart Drying - 115°C for 30 minutes
    b. **Hematology Cycle:**
        i. Pump speed: Auto
        ii. Water Level: Auto
        iii. Pre-Wash #1: 5 minutes COLD
        iv. Wash #1: 11 minutes COLD
        v. Rinse #1: 2 minutes HOT
        vi. Final Rinse: 10 seconds at 50°C
        vii. Drying: Low (82.2°C) for 25 minutes
9. Press “*Start Cycle*”. The wash cycle takes approximately one hour.
10. To initiate a “*Dry Cycle*” push “*Select Cycle*” and scroll to find the cycle. Dry Cycle: 90°C for 25 minutes
11. Remove racks when cool to touch or use oven mitts to handle hot racks.
12. **Test for Residual Detergent (performed with EACH wash load)**
    a. After wash cycle is done, add 5 mL water to the green-labeled flask.
    b. Swirl and test the water with pH Indicator Strip.
    c. The pH should be ≤7.0. pH should NOT be alkaline.
    d. Document the results on the Glass Wash Room Detergent Removal Log (see Attachment C)
    e. Contact the Chemistry Supervisor or a Clinical Chemist for further instructions if the reading is higher than 7.0.
    f. Return the Detergent Removal Log at the end of each month to the Chemistry Supervisor.

Note: Records of pH testing are kept for two years.

g. **Note**: Dishwasher temperature should not exceed 80°C (176°F) for Hematology Coplin jars.[1] Select appropriate Hematology cycle.

C. **Pipette Cleaning Instructions (Toxicology and Chemistry Pipettes)**
NOTE: USE GLOVES and GOGGLES/FACE MASK AT ALL TIMES.

1. Place pipettes in carrier.
2. Insert carrier into pipette wash container.
3. Fill wash container with enough hot water to cover pipettes. Ensure water does not reach down side of attached U-tube on pipette wash container or water will drain out.
4. Soak pipettes for 15 minutes.
5. Turn on hot water. Container will fill and then begin to drain as water level reaches U-tube.
6. Turn off hot water and wait until all water has drained.
7. Repeat step 5 and 6 two more times, to rinse pipette with hot water (total of 3 times.)
8. Transfer pipettes to deionized water container.
9. Turn on deionized water. Container will fill and then begin to drain.
10. Turn off deionized water and wait until all water has drained.
11. Repeat step 9 and 10 two more times, to rinse pipettes with deionized water (total 3 times).
12. Lay pipettes in metal baskets.
13. Place in dishwasher.
14. Initiate *Dry cycle*.

D. **Glassware Cleaning Precautions for Toxicology Technologist's Use of Sulfuric Acid Dichromate Solution**

1. When handling the sulfuric acid, use great care. Wear gloves, lab coat and safety glasses at all times. If you get the acid in your eyes, on your skin or clothing, wash immediately with cold running water for 15 minutes.
2. The acid should be clear with no more than a brownish tinge. A distinct brown color means that more acid dichromate should be added. Do not use the acid for 2-3 hours after adding.
3. Do not mix any other acid with the acid dichromate solution (nitric acid must be avoided).
4. Do not use with combustible materials. A fire or explosion may result.
5. Do not use on glassware containing silver salts. Wash silver salts away before using acid dichromate solution.
6. Place section's name document near or next to glassware to identify whose glassware is being processed.

E. **Glassware Precautions for Toxicology Technologist's use of Alcotab®**

1. Personal protective equipment should be used to avoid contact with the skin and eyes. Refer to the MSDS for further instructions

F. **Wash Room Cleanliness (performed at the end of each day)**

1. Wipe countertops with hospital approved disinfectant solution.

G. **Eyewash Check (performed weekly by Chemistry Front Desk Lab Assistant II)**

1. Remove the red caps from the eyewash and turn cold water on.
2. Pull pin at base of faucet to activate the water going through the eye wash nozzles.
3. Let water run for about 30 seconds.
4. Turn water off and replace red caps.
5. Document outcome of check on Glass Wash Room Eye Wash Maintenance Log (see Attachment D).
6. If any problems are encountered, immediately call Facilities Management x16300 and notify supervisor.
7. When repair(s) completed, document on Eye Wash Maintenance Log.

H. **Solvent Disposal (Hematology, Special Testing)**

1. Collect solvent cans.
2. Obtain the key for the Dock Boom Room from Hematology Lab.
3. Transport solvent cans to the Dock Boom Room located by the main loading dock.
4. Connect the cans, whether metal or plastic, to the drum with the grounding cable.
5. Empty solvent cans into 55-gallon drum. Use Personal Protective Equipment - gloves, goggles, lab coat.
6. Lock Dock Boom Room door.
7. Return key to Hematology Lab.

I. **Soiled Laundry**

1. To have dirty towels picked up, call Material Handling, x80310. Drop off soiled laundry bags near tunnel entrance on the lower level, Research Building.

VII. SAFETY:

NO FOOD OR BEVERAGES are allowed in the Washroom

VIII. REFERENCES:

1. Coplin jars insert. Wheaton Science Products

Attachments

Attachment A - Glass Wash Room Training Checklist.pdf
Attachment B - Glass Wash Room Washer Problem Log.pdf
Attachment C - Glass Wash Room Detergent Removal Log.pdf
Attachment D - Glass Wash Room Eye Wash Maintenance Log.pdf
Attachment E - Glass Wash Room Section Schedule.pdf

Approval Signatures

Step Description	Approver	Date
Medical Director	Ann Marie Blenc: System Med Dir, Hematopath	1/27/2022
Policy and Forms Steering Committee Approval (if needed)	Colette Kessler: Mgr Laboratory [RC]	1/27/2022
Policy and Forms Steering Committee Approval (if needed)	Gail Juleff: Project Mgr Policy	1/27/2022
Lab Chemistry Best Practice Committee	Qian Sun: Tech Dir, Clin Chemistry, Path	1/27/2022
Lab Chemistry Best Practice Committee	Elizabeth Sykes: System Med Dir, Chemistry	1/20/2022
	Colette Kessler: Mgr Laboratory [RC]	1/12/2022

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