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Glassware & Sample Bottle Cleaning and Sterilization

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ABSTRACT

This protocol outlines the basic procedure for cleaning and sterilizing glassware as performed in the Bivins Lab.

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GUIDELINES

Proper BSL2 PPE including lab coats, safety glasses, and nitrile gloves should be worn at all times in the lab.

MATERIALS TEXT

Dishsoap
Scrub brushes
DI water
Tap water

SAFETY WARNINGS

Care should be taken to avoid breaking glassware while cleaning.

BEFORE STARTING

Prior to cleaning glassware that contains culture-derived materials or sample material, the material should be disinfected via treatment with 10% bleach solution, sterilization by autoclave, or treatment with quaternary ammonium compounds. After disinfection or sterilization, liquid culture or sample material can be disposed of down the sink. Solid materials such as agar such be disposed of via the biohazardous waste containers.

Material Disposal 1h

1 Used glassware in the lab could contain at variety of materials, chemicals or reagents at the conclusion of experimental procedures. This material must be disposed of properly prior to cleaning and sterilizing glassware. For liquid cultures and samples that DO NOT contain guanidium salts (frequently used in extraction kits), 10% bleach solution with a contact time of at least 1 hour can be used to disinfect the material. After disinfection the liquid material can be discarded down the sink. For liquid materials results from extractions using guanidium salts, first disinfect the material with quaternary ammonium and then discard in the labeled hazardous waste carboy in the fume hood. Any liquids containing guanidium salts CANNOT be poured down the drain. Solid materials such as agar must be sterilized via autoclaving before being disposed of via the solid waste trash. Once the material contained in the glassware has been properly disinfected and/or sterilized and disposed of, the glassware is ready for cleaning and re-sterilization.

Glassware/Sample Bottle Washing 30m

2 Use the liquid dish soap by the sink, regular tap water, and the scrub brushes available to thoroughly wash the glassware or plastic bottle. Be sure all spots or clumped material are removed. After washing with soap, thoroughly rinse the glassware or bottle with DI water and securely hang the container on the drying rack to dry. Rinsing with DI water is critical to avoid any spotting while drying. Allow all glassware and bottles to dry overnight on the drying rack.

Sterilization 1h 20m

3 After glassware and bottles have dried, LOOSELY seal all openings with the appropriate caps (media bottles & samples bottles) or with aluminum foil for glassware with permanent openings (beakers, graduated cylinders, flasks). For bottles with caps, after LOOSELY capping, cover the cap with aluminum foil. Affix one small piece of autoclave to the aluminum foil on each object. For filter funnels, be sure to seal all openings with aluminum foil including the filter holder, the stem, and the tops and bottoms of the sample cups. One closed and taped place all glassware, etc. into an autoclave bin.

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3.1 Sterilization by autoclave can only be performed by personnel that have completed the autoclave training and been personally trained by Dr. Bivins. Fully trained personnel are the only ones allowed to use ANY autoclave. Load the fully prepared glassware into the autoclave ENSURING that bottles are LOOSELY capped. Select and run the "dry" autoclave cycle. After the cycle has completed allow the autoclave to fully de-pressurize and then open the door very slightly and allow it to cool for a few minutes. After cooling, use the orange heat-resistant autoclave gloves to carefully unload the glassware from the autoclave back into the autoclave bin.

Storage 5m

4 After sterilization by autoclave, store the sterilized glassware in the appropriately labeled cabinets and drawers in the lab. Leave all aluminum foil and autoclave tape in place to indicate the glassware is sterilized and ready for use in new experiments. Sterilized Nalgene sample bottles should be stored in the appropriate cabinet beside the fume hood. Leave all aluminum foil and autoclave tape in place so that others know the bottles are sterile and ready for use.

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