

# Cleaning of Glassware

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Biology experiments generate a large amount of glassware, and keeping it all clean and available for use is a major chore. We do have a dishwasher, and we ask lab assistants to help keep things clean. But we need *you* to help prepare glassware for the dishwasher and to take care of glassware that can't be (or doesn't need to be) washed in the dishwasher.

The chart on page 85 gives a general idea of how different types of glassware should be cleaned. Lab manuals for individual courses may also have instructions for items specific to that course. The autoclave, dishwasher, bins for dirty glassware and drying racks can be found in the media room (SC224, accessed through SC222). Your instructor may also set up areas for dirty glassware in a particular lab. Clean glassware for general use (beakers, flasks, bottles, etc.) is found in the back hall behind the biology prep room (SC230). Here are two general principles to keep in mind:

- ▶ Tap water contains all kinds of minerals and salts. These can leave ugly spots on glassware—but more importantly can interfere with an experiment. All clean glassware should be triple-rinsed with deionized water (dH<sub>2</sub>O) before being put away.
- ▶ Soap residue can be an enemy to your experiment. Use a minimal amount and rinse very well afterward! Don't use soap on glassware used to prepare growth media.

## *Be a good lab citizen!*

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- ▶ Don't remove anything from your lab without permission—another lab may need it! If you do get permission to borrow something, be sure to return it promptly.
- ▶ Leave your bench as you found it. Pay attention to where things are (in drawers, on the benchtop, in a common supply area, etc.) and make sure they get back where they came from before you leave the lab.
- ▶ Most lab supplies are organized in some way: chemicals are alphabetical, beakers are sorted by size, etc. Be observant! Recognize and respect the organization system.
- ▶ If something is running out, either fill it up (if you know how) or notify your instructor or lab assistant. Don't just leave it for the next person to find.
- ▶ If you are working with sterile materials and think you might have contaminated something, let your instructor know. Don't let the next person find out the hard way.
- ▶ If you're working with bacteria, always wipe down your bench with disinfectant both before and after your lab. Rinse your sponge before putting it away.
- ▶ If you need something or don't know how to use something, *ask!* Don't "just try it" or assume you know what you're doing. It only takes a minute to get help that could save an experiment.

## *Broken glassware*

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- ▶ All broken glassware should be discarded into a designated broken glass container.
- ▶ Full, closed containers can be left in the hallway with a sign indicating they are to be discarded.

## *Spatulas and balance areas*

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- ▶ **Keep the balance area clean!** When weighing chemicals, be sure you didn't leave any powder behind that could corrode the balance or gum up its inner workings.
- ▶ If you spill a chemical, clean it up with a brush and/or damp paper towels. Don't leave any to fall into the balance. Remove the pan and clean under it if necessary. Check with your instructor if you've spilled a possibly dangerous chemical.
- ▶ Avoid cross-contaminating chemicals. When possible (i.e., when the chemical will pour easily without raising too much dust), weigh chemicals without using a spatula.
- ▶ Plastic weigh boats work well for larger amounts of chemicals but are expensive; for small amounts, use a piece of weighing paper creased diagonally.

## *Electrophoresis equipment*

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- ▶ Most electrophoresis equipment (gel boxes, combs, gel trays, etc.) can simply be rinsed with tap water and then with deionized water.
- ▶ **Be especially careful about anything that may have come into contact with ethidium bromide!** Wear gloves while cleaning these materials. Rinse them very well before returning them to common areas where others might touch them.
- ▶ Gels containing low concentrations of ethidium bromide can simply be wrapped in a paper towel and discarded in the trash. Place used ethidium bromide solutions in the designated bottles for recycling or disposal.

## *Plastic pipette tips and microcentrifuge tubes*

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- ▶ Your lab should have a disposal beaker for disposable plastic pipette tips and closed microcentrifuge tubes.
- ▶ This beaker can be emptied into the trash when it is full.

## *Glass pipettes*

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- ▶ Place used glass pipettes in the pipette jar in SC224 or in your lab.
  - Fill the jar if needed with water, one Alconox tablet and ~100 ml of bleach
- ▶ When the pipette jar is full, wash pipettes as follows:
  - Remove the pipette carrier from the pipette jar and place it in the stainless steel pipette washer in SC224.
  - Connect the plastic tubing to the sink and turn on the water. The washer should fill and empty by siphon action. Let it fill and empty about 5-6 times.
  - Take the washer downstairs to the biochemistry lab (SC112). In the back of the room is a yellow hose for deionized water. Connect it to the washer and let it fill and empty 3-4 times.
  - Spread the pipettes out on some paper towels and let them dry overnight.
  - Sort the pipettes by volume, place them in stainless steel pipette cans and autoclave.

## *Using the autoclave*

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If you need *sterile* glassware, media or instruments, you will need to use the autoclave. Instructions for autoclaving are found in the section *Preparing Media and Growing Cultures* on page 71.



## Basic Glassware Cleaning Instructions



*Note: for all items, remove all labels, tape and/or Sharpie markings (use alcohol to remove Sharpie) before returning to the shelf or leaving for dishwashing!*

item	preparation	washing
beakers, flasks, bottles	use soap and brush to remove soil; rinse well with tap water	dishwasher
graduated cylinders	rinse well with tap water brush and soap only if needed	rinse 3× with dH <sub>2</sub> O <u>no</u> dishwasher
media flasks and cylinders (media shelf in SC224)	rinse well with tap water brush if needed, <u>no soap</u> rinse immediately if used for agar	rinse 3× with dH <sub>2</sub> O <u>no</u> dishwasher
stir bars and spatulas	rinse with tap water	rinse 3× with dH <sub>2</sub> O <u>no</u> dishwasher
culture tubes	add a squirt of 10% bleach wait 5 min, then discard in sink rinse with tap water	dishwasher keep separate from test tubes
test tubes	rinse well with tap water	dishwasher keep separate from culture tubes
agar plates	place in autoclave bags in designated containers only	autoclave and discard
microscope slides	discard cover slip	wash with Bon Ami rinse with dH <sub>2</sub> O and dry
glass pipettes	place in pipette jar	see special instructions below
plastic pipettes	discard	
caps and lids	separate from bottles	dishwasher replace caps on bottles after wash

