

Shared Equipment

Research groups often share pieces of equipment that are too large or expensive for just one group to purchase. Examples of shared equipment and spaces include: autoclaves, centrifuges, cold rooms etc. Often the diffuse responsibility of shared equipment leads to problems with:

- unauthorized/insufficiently trained users,
- scheduling use,
- unsafe situations from lack of understanding of other hazards present in the area
- processes for reporting and resolving equipment problems.

Groups with shared equipment or spaces should determine:

- Who to contact for training and who to contact to handle equipment problems
- How to schedule time for use (e.g. a shared google calendar for the equipment)
- How to identify and communicate which pieces of equipment are “shared”, Use of standardized signage is recommended. Brightly colored signs help make this obvious E.g. The salmon signage AT RIGHT is used in CEMS to indicate shared equipment. Template on next page.
- How quality control, calibration and maintenance will be performed.
- What warnings should be posted by the equipment to alert those in the area of potential hazards and special instructions (if any) the equipment user should be warned of and reminded of.
- Standardized SOPs reduce research errors in results, if they are followed. Posting these next to the shared equipment is recommend (E.g. The blue SOP for lyophilizers (BELOW) is laminated and posted in a shared equipment room.)

Individuals wanting to use shared equipment or spaces should:

- Never use another group’s equipment, without permission, especially if it is not shared.
- Look for signage indicating equipment is for shared use
- Get proper training on shared equipment. Do not use unless you have been trained by the equipment owner.
- Reserve time on the shared equipment schedule.
 - If you do not have access to an equipment’s calendar that means the equipment manager does not have you as a trained user. Talk to the contact listed.
- Clean up shared spaces after use
- Replace any depleted lab supplies

Shared Equipment

Equipment Name: -20°C Walk-in Freezer Room

Lab Contact: Meghan McCann

Email: mccan234@um.edu

Google Calendar: Yes No

NOTE: If changes/cancellations need to be made to a reservation, please make note on Sign-Up Sheet. Changes will be made when circumstances allow.

Warning:

COLD. Wear a warm coat if you're going to be in the freezer room for an extended period, however - it still might be warmer than outside.

Special Instructions:

NOTE: Please include what organisms can be used with this equipment and also include instructions for in case of a spill.

- No cardboard allowed in cold rooms.
- Organize items in shelves and keep them off the floor.
- Remember to turn off the light on your way out.
- Wipe up all spills immediately. For chemical spills, follow Hazardous Waste Management procedures.

* If you need access/training from lab staff, please make arrangements with the Lab Contact

Standard Operating Procedure: Lyophilizer
Issue Date: 09/20/13

Introduction
Lyophilization, or freeze drying, is used to remove water from experimental samples. Samples are flash frozen in liquid nitrogen and then exposed to high vacuum and low temperature such that water is sublimed away from the samples.

Procedure details
Materials: dry ice, isopropyl alcohol, LN2 dewar, 50ml tubes, caps with small holes, pump oil (stored in cabinet directly below lyophilizer)

Execution:
Sample Preparation:

1. Samples are frozen in liquid nitrogen. Use caution and be sure to wear protective gloves and eye protection. Allow samples to completely freeze (usually ~10-15 minutes, there should be no bubbling around the tube)
2. When ready to load samples, remove from liquid nitrogen and replace caps with caps with small holes to expose sample to vacuum.

Before you Begin:

1. Check that the cold trap is empty. If there is anything in the cold trap, it must be emptied before powering on the lyophilizer.
2. Check that the collection chamber is dry. If there is moisture in the chamber dry it with paper towels to prevent damage to the cooling coils.
3. Check that the pump oil is clear and free of debris and filled to the fill line. If it is cloudy or dirty, change the pump oil. If it is low, top off the pump oil.

Turning the Lyophilizer ON:

1. Make sure all valves are closed and the collection chamber lid is in place

Fact Sheet

Shared Equipment

Equipment Name: _____

Lab Contact: _____

Email: _____



Google Calendar: Yes No

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Warning:



Special Instructions:

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