

Usage Manual – Poly Benches for Acids/Bases

Polypropylene Acid/Base - Wet Bench/Fume Hoods



PORTAL LISTING:

Wet Chem: Acid/Base Poly Bench 1 & 2

LOCATION:

MRI Clean Room Nanofab

STAFF CONTACTS:

Joe Lonjin 190 MRI

865-9284 Speed Dial 76 (MRI Bldg Only)

(office phone rings to cell phone), JL13@PSU.EDU

-OR-

Andrzej Mieczkowski 191 MRI

865-0325 Speed Dial 73 (MRI Bldg Only)

AXM154@PSU.EDU

DESCRIPTION:

- 72" (6') Fume Hood / Wet Bench
- Manufactured by Reynolds Tech, Syracuse NY
- Manual Gooseneck with Deep Sink
- Filtered Nitrogen Gun
- DI Water Wand
- (2) 15A Receptacles
- Exhausted Storage Space
- Exhaust Gauge

RESTRICTIONS:

- You must be signed into the portal to use a bench. Interlocks are installed on the power, water and nitrogen.
- No Solvents can be used on the Poly benches unless noted in the Specialty Chemical Usage and Information Guide.
- The Specialty Chemical Usage and Information Guide will detail which chemicals are approved for each bench.
- Acids and Bases cannot be used at the same time on the same bench.
- Surface of bench must be rinsed and dried with clean wipes after each use.
- All lab ware items must be rinsed and placed into the dishwasher after each use. If the dishwasher is full, place on the Used Rack.
- **DO NOT LEAVE ITEMS ON THE BENCH!** The only item permitted to be left in the bench without prior staff approval is the provided funnel. Hang the funnel (Rinse First!) on the provided hooks.
- Materials cannot be left unattended for more than 15 minutes without checking them. (See policy in **General Use Procedures**)
- Materials cannot be left unattended for more than 30 minutes without staff approval. (See policy in **General Use Procedures**)
- Hot plates should be wiped off and returned to the Storage rack, after they have cooled.
- Users will be charged staff time and bench time if staff needs to clean up the bench because the user failed to do so.

SAFETY/PERSONAL PROTECTIVE EQUIPMENT:

- Personal Protective Equipment must be put on before you can enter the area around the benches.
- Yellow and Black Safety Tape installed on the floor indicates where the area begins. You must have on PPE to cross this line.
- Wet Bench Personal Protective Equipment (PPE) must be used at all times when in the Wet Chemistry Bay. Requirements for each bench are as follows:
 - Acid/Base Poly Benches (NO HF) – Chem Gloves, General Apron, Face Shield
 - Acid/Base Poly Benches (Using HF) – Chem Gloves, Full Apron, Face Shield
 - Solvent Stainless Benches – Chem Gloves, General Apron, Safety Glasses.
- PPE must be removed before leaving the wet chemistry bay.
- White and Black tape on the floor indicates the line where you should not cross if you still have PPE on.
- One user per bench. One observer/helper is permitted. They must also follow PPE guidelines.
- All chemicals must be used inside the fume hood. No work is allowed outside the hood.
- Do not transfer open containers outside of the hoods.
- **Hydrofluoric Acid is used in these benches.** Users need to follow the necessary precautions when working with or around HF.
- See Safety Guide as needed, located near the supply shelf.

- Pouring/Handling of chemicals and containers must be done with (2) hands at all times. If something does spill or fall, try to direct the material inside the hood.
- Eye wash and Safety showers are available at the entrance to the Wet Bench Area.
- If exposed rinse for at least 15 minutes and yell for help from other users or staff while rinsing.
- **Buddy Policy Rules are in effect at all times.** For the Wet Chemistry Bay you must have another trained user in the lab at all times in case you need assistance.

GENERAL USE PROCEDURES:

- All containers must be labeled with Chemical Use Labels **before** you add material/chemicals.
- **Unattended or Out-of-Sight materials/containers Policy-**

The following requirements must be met:

- Check your materials every 15 minutes if you are in the lab.
- If you are leaving materials unattended or out-of-sight for 30 minutes or less, ensure you or another person designated as your Buddy can check the materials after 15 minutes.
- If you are leaving the container unattended or out of sight for more than 30 minutes, you must get a staff signature. Staff will look over your materials to ensure they are safe to leave unattended.
- Containers must be covered. Covers must allow vapors to escape.
 - There are teflon covers, as well as pyrex lids that can be used as covers. Covers should not be air-tight, they are intended to provide protection against splashing or fuming of the chemical.
- Chemical use label is filled out completely including the **Extra Information Section** which details unattended materials.
- You are logged in to the bench on the Portal.

VIOLATION POLICY:

- Not following safety polices can result in a loss of wet chemistry area privileges.
- A warning will be given for minor offenses.
- Warnings will not be given for serious violations, for example:
 - Chemicals in the wrong bench
 - Non-labeled containers or Waste Bottles
 - Improperly labeled containers or Waste Bottles
 - Not wearing PPE
- First violation is a loss of access to the Wet Chemistry Area for 1 day. (All Benches, but not including Lithography)
- Second violation is a loss of access for 1 Week
- Third Violation and any that follow is a loss of access for 1 Month and possible permanent loss depending on a review by the Safety Committee.

WASTE PROCEDURES:

- Procedures for filling a Waste Bottle:
 - Select a waste bottle from underneath the appropriate bench. (Waste storage areas are labeled)
 - Place bottle into the deep sink before filling.
 - You must use a funnel, rinse funnel after use.
 - Remove vented cap and Dump waste into bottle.
 - Replace the vented cap onto the bottle.
 - Get a clean wipe from the storage rack.
 - Pick up bottle and wipe bottom of bottle. Make sure it is dry; do not place the bottle on the bench top.
 - Place bottle back into the proper waste storage area underneath the appropriate bench.
 - If no bottles are available for your chemical, or the bottle is full, you will need to make a new waste bottle.
- Procedures for making a new waste bottle are as follows:
 - Find empty plastic bottle.
 - Rinse 3 times and empty rinse water into sink.
 - Replace cap with new vented cap from storage shelf.
 - Fill out and apply waste label.
 - Follow steps listed above to add waste to the bottle.
 - Wastes are separated into different benches for isolation/safety.

TROUBLESHOOTING:

- If power, water, and nitrogen are not working, ensure you have logged in to the bench on the Portal and that the **BLUE** light is on.
- If you are logged in and utilities do not work, submit a trouble call using the Portal and find a staff member.

APPENDIX:

1. Specialty Chemical Usage and Information Guide
2. Chemical Storage List
3. Waste Label Information
4. Floor Plan
5. Safety Guide