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Workshop Wizard Handbook

Microfluidics Lab Routine Maintenance

Chores

- 1. Check and replenish paper towels in dispensers
 - Paper towels are stocked in brown paper packages on the shelves along the wall by the entrance.
 - There are 2 paper towel dispensers in the lab, just turn the key to check how much there are.
- 2. Check and replenish gloves
 - Check if any glove boxes are about to run out, should be 2 glove locations.
 - If they are, open up the next one on top of the stack and add a new box of gloves to the bottom of the stack.
 - Make sure there are both nitrile and latex gloves to use.
 - Gloves are stocked on the shelves along the wall by the entrance, as well as above the vacuum furnace.
- 3. Tidy up bench spaces
 - Properly dispose of sharps and put away tools/supplies.
- 4. Sweep and mop
 - Walkways and under benches.
 - Start at the corner of the lab and move in a zig-zag direction around the lab to make sure you don't get trapped.
 - Dirty water poured in the sink
 - Use the general maintenance cart located in the hallway outside the lab. The cleaner is stored in the cabinet under the sink.
 - Rule of thumb: Best to do in the mornings or weekends.
- 5. Check and replenish hazardous waste labels
- 6. Check sharps containers
 - If full, tape off the top and place in the hazardous waste bin.
 - Usually will consider full when you can't put something else in the container without getting cut.
- 7. Check glass waste bin
 - If full, seal and tape off the top.
- 8. Make sure all cabinets are locked
- 9. Check and replenish Kim wipes at every station
 - Kim wipes are stocked on the shelves along the wall by the entrance.
- 10. Refill solvent squirt bottles in fume hood

- Fume hood should have 3 bottles of IPA, 2 bottles of Ethanol, Acetone.
- Large jugs under the hood in the cabinet.
- New jugs in the cabinet labeled "extra solvents."
- Wear gloves and lab coat; do all refilling in the fume hood.
- Keep empty solvent bottles as waste bottles.
- NOTE: Acetone will drip when refilled due to pressure differences. So point away from yourself.
- 11. Monitor the hazardous waste jugs
 - Place in the hazardous waste bin if needed.
- 12. Top off the Sonicator with DI water
- 13. Replace the paper towels in the spin coaters if needed
 - Paper towels will have oil streaks if the spinner has been used.
 - Usually use 3 paper towels at the bottom and top of the spin coater.
- 14. Top off cutting fluid in diamond cutter
 - The blue fluid by the CNC drill.
- 15. Restart the Objet Printer
 - IN THIS ORDER:
 - Turn computer and Objet off. Wait 10 seconds
 - Turn Objet on (use mirror to find power switch in the back).
 - Turn the computer on.
 - Open remote desktop.
 - Open Objet application on remote desktop.
 - Open Object Studio software on the main desktop.
- 16. Replace empty resin and waste containers in the printer
 - Check software. If the resin level is red or has an hourglass, it cannot be put back in once taken out. Avoid wasting resin.
 - Restock spare materials in the grey bin under the printer.
 - Print new labels if necessary.
- 17. Clean the pressure washing station
 - Make sure water is off (both levers should be down).
 - Check the yellow gloves and replace torn.
- 18. Restock Thinky Mix Uline jars
 - Stored below the workbench.
- 19. Replace dirty bench liners
 - Remove, wipe the area, and place a new one shiny side down.
 - Stored under the workbench near gloves.

20. Turn off Olympus microscope

21. Turn off Keyence light

Power button.

22. Refill CNC drill squirt bottle

Use blue coolant.

23. Clean the laser cutter

• Take out the (layer with a bunch of hexagons) and vacuum small bits from the bottom.

24. Clean laser cutter lens

- Tools in the yellow bin above the bench.
- Place bubble wrap under the laser (in case of the lens drops)
- Unscrew the cap
- Use 1 drop of cleaner and a lint-free cloth to polish both sides of the lens.
- Replace the lens, the convex side should be facing down. Do not overtighten.
- **NOTE:** The convex side of the lens will have a more prominent (relative to the concave side) dot in the center.
- The grey knob on the laser will release the mirror for cleaning if necessary.

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