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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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Last update: 2020/01/20 23:20

