

## 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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