

Standard Operating Procedure for soldering irons

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Coming into the lab

- Perform visual check that the soldering iron station is easily accessible and cleared of any physical obstructions.
 - o If the station is not easily accessible and needs to be moved, refer to **Moving Soldering Station**.
- Inspect the electrical connection of the soldering irons to the station. Plugs should be securely fastened. If not, unplug the connection and reconnect it.

Moving Soldering Station

Cart

- Turn off power.
- **Check to see that soldering irons are secured inside the holders.**
- Clear obstructions away from desired destination.
- Standing up, hold cart by base and move slowly to destination.

Irons

- Turn off power.
- **Check to see that soldering irons are secured inside the holders.**
- Gently hold the base of the holder, around the area of the sponge, and move slowly to destination.

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Safety/Soldering Equipment

- Fume Hood, Fan [Ventilation].
 - o The Fan is located to the right of the microscope, at the front of the lab from the entrance.
 - o The Fume hood is located on the right table facing the entrance, next to the magnifying glass.
- First Aid Kit, Water Station. [Medical]
 - o The first aid kit and water station are located to the left corner of the lab facing from the entrance. The water station has not-potable water, but is usable for burns.

- Safety Goggles, Respirators.
 - o The Safety Goggles and Respirators are on a shelf to the right of the water station.

Control Plan

Read and become familiar with machine's operating procedures before operating!

Using Soldering Iron

- Never touch the element or tip of the soldering iron
- Wires may be heated, and appropriate tools should be used to hold them when soldering.
- Hold the soldering iron like a pen
- Always return the soldering iron to its stand when not in use. Never put it down on the workbench.
- Only turn on hot air gun when needed for use. Keep it off at all other times.
- Always know where the power off switch is located in case of emergency
- Always turn switch to off position when not operating soldering station
- Always disconnect the soldering station from the power source before servicing, repairing, or making any adjustments

Safety Concerns

- Soldering irons can spit, use eye protection when necessary.
- Work in a well-ventilated area. Smoke can form from the flux which can be irritating (one may need to use a fume extractor if smoke increases)
- Avoid breathing in any smoke by keeping your head to the side of, not above, your work.
- Keep all electrical cords away from the heated tip while soldering
 - Work on a fire-proof or nonflammable surface that is not easily ignited
- Always know where the nearest fire extinguisher is and know how to use it
- Do not wear gloves, necktie, jewelry, or loose clothing, as they could come into contact with the soldering tips.
- Tie up long hair or wear protective hair covering to prevent hair from coming in contact with the heated tips of the soldering station.
- Always wash your hands with soap and water after soldering

General Procedures:

Put on all necessary safety equipment and tie back loose hair or clothing before operating.

- Check to make sure all parts of machine are working and functioning properly. Make sure heated tip of soldering station is in holder.
- Turn on soldering station to desired temperature and let soldering tool warm up

Make sure workspace area is clean.

Make sure all safety equipment is on correctly.

Once solder tool is heated, use heated tool to solder work pieces

- o Hold the solder tool like a pen

When finished, turn off solder station immediately and return heated tip to its stand

Leave work piece on workspace to cool down

Clean soldering station and workspace. Dispose of any unused solder or other debris (see Waste Management Procedures)

Return tool to its appropriate locations, as designated in the lab.

Waste Management Procedures:

When finished with the soldering station, always clean the area. There should be no unattached solder, or remnants on the work table or floor.

Place all tweezers, clamps, and solder back in the appropriate place.

Spill and Accident Procedures:

If an accident occurs, report immediately to the lab supervisor or other appropriate staff member. If no one is around, dial 911. There is a landline phone next to the exit of the lab.

If there is a burn, immediately cool the affected area under cold water. Do not apply any creams or ointments. Cover with a band-aid. Seek immediate medical attention.

Sections of this document were sourced from:

<http://www.mdc.umn.edu/facility/files/electrical/Elec%20SOPs/SOP009%20-%20Soldering%20Station.pdf>