



Introduction

This document is intended to serve as general guidance for members of the OSU community in reducing the intrinsic hazards associated with soldering.

Potential Hazards

Ingestion / Inhalation of Lead Solder or Flux/Rosin Solder – Surface contamination of lead solder can result in ingestion of lead, a known neurotoxin. Over-exposure of lead fume inhalation can give rise to chronic health effects. Reduced ventilation when using a Flux/Rosin Solder can result in respiratory irritation and/or eye irritation.

Burns / Fire – Heated parts from the iron will be extremely hot and can easily burn through skin contact or could cause a fire if placed on flammable materials.

Electrical – Frayed electrical cords could be a fire and/or shock hazard.

General Safety Precautions

Whenever possible, use lead-free soldering. Be sure to conduct soldering work in a well-ventilated space. If you are using lead or rosin solder and are not sure if your space is adequately ventilated, contact EH&S for a consult.

Soldering Iron Safety

- Never touch the element, or tip, of the soldering iron.
- Ensure that tweezers, pliers or clamps are available to hold wires that are to be heated to avoid potentially receiving burns from objects that are heated.
- Always return the soldering iron to its stand when not in use. Never lay it directly on your workbench.
- Turn off or unplug the soldering iron when it is not in use.

Fire Prevention

- Conduct work on a nonflammable surface that is not easily ignited.
- Wear non-flammable clothing that covers your arms and legs.

Housekeeping

- Be sure to label all cleaning solvents clearly (ex. Isopropanol rather than IPA).
- Always wash your hands with soap and water after soldering.
- Wipe off tables where the soldering occurred with water or cleaning solvents after soldering is complete.
- Do not eat or bring food into any spaces where soldering occurs. Beverages must be lidded and kept in a separate area where soldering occurs.

Personal Protective Equipment (PPE)

Protective Clothing – To prevent burns from splashes or hot solder, long sleeve shirts and pants should be worn. Closed-toed shoes are required in all OSU lab spaces.

Eye protection – Safety glasses, goggles, or face shields must be worn when soldering and clipping wires.

Waste

Lead soldering waste is considered hazardous. Discard lead solder and dross in a container with a lid. The collection container should be labeled with an OSU approved hazardous waste label. Contact EH&S for any questions.

All lead soldering kits must be disposed of as hazardous waste – do not throw them in a regular trash can.

Training

Training of employees and students working with hazardous materials and soldering must be documented. Employees must understand the risks and hazards associated with soldering as well as controls and PPE use.

First Aid

If you touch the element or tip of a soldering iron, immediately cool the affected area under cold water for 15 minutes. Seek medical attention if the burns cover an area bigger than 3 inches across.

OR-OSHA – [Lead informational webpage](#).

Contact EHS:

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