UNC CHARLOTTE
Department of Engineering Technology

LABORATORY SAFETY ANALYSIS

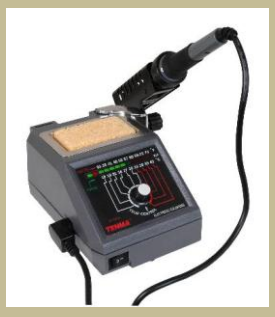
OPERATING A SOLDERING IRON

Location: Smith 330

Required Training: Soldering irons or guns are designed and intended for use by properly trained and experienced operators. If you are not familiar with the proper and safe operation of the equipment, do not use until proper training and knowledge have been obtained.

Required Personal Protective Equipment (PPE): Safety Glasses, Face shield, Long Pants and closed toed shoes

Reference Materials: Manufacturer's safety rules and operating instructions

PHOTOS	TASK	HAZARDS	CONTROLS
  	Wear clear safety glasses with side shields and if necessary use a dust mask.	Flying hot debris particles and irritating smoke.	• Students are required to provide their own safety glasses. • See laboratory instructor or laboratory manager if you do not have safety glasses before proceeding to use equipment.
	Inspect safety glasses for cracks, scratches or other defects. Ensure the ANSI standard Z87.1 is stamped into the side of glasses. If necessary inspect leather gloves and face shield.	Flying hot debris particles and irritating smoke.	• If defects are found report to your laboratory instructor before using.
	Put on PPE	Flying hot debris particles and irritating smoke.	• Always wear safety glasses. • Wear long pants and closed toed shoes to prevent potential burns to legs or feet.
	Inspect work area looking for debris and ensure proper lighting.	Slips, trips & falls	• Keep the work area around solder free from scraps, dust, oil and grease.
	Visually inspect the electrical power cord of soldering tool.	Electrical shock	• If the electrical cord is damaged or worn the electrical cord should be unplugged and tagged "Out of Service-Do Not Use". • This should be reported to your laboratory manager immediately. • Electrical cord replacement should only be conducted by a factory authorized technician.

	Ensure the electrical cord is connected to the outlet.	Electrical Shock	• Caution: Always remember to disconnect the electrical power cord when soldering is complete or when you leave the work station for an extended period of time.
	Soldering	Handling Raw Solder, Ingesting Oxides of Lead	• Read solder MSDS. Be aware of the hazards mentioned therein. • Use adequate ventilation while soldering. • Wash hands thoroughly with soap and water before eating, drinking or smoking after handling solder, to remove oxides of lead.
	Soldering	Eyestrain	• Read solder MSDS. • Use adequate lighting and optical magnification gear (microscopes, magnifying head gear, or magnifying glass, etc.)
	Soldering	Burn from Hot Tip	• Don't touch hot tips.
	Soldering	Hot Tip becomes an incendiary device.	• The ET department promotes situational safety awareness, which in this case means eliminating flammable clutter and any other flammable material in the work area prior to beginning the task. Elimination of combustible material eliminates the fire hazard.
	Turn Off Soldering Iron after use.	Hot Tip	• Allowing the soldering tool to cool down will remove the burn hazard and eliminate the Incendiary device.
	Clean work area and return all PPE to a clean storage area.	Injury	• Ensure adequate housekeeping measures to prevent accidents.

For more information about this LSA, contact the *Department of Engineering Technology* at UNC Charlotte (704) 687-2305
Please visit our website at: http://www.et.uncc.edu\

The development of Laboratory Safety Analyses is a very effective means of helping reduce incidents, accidents, and injuries in the workplace. It is an excellent tool to use for training purposes and can also be used to investigate "near misses" and accidents.