

Standard Operating Procedure for Using (Name of Equipment)

Location of Equipment: Building Name, Lab Name/Room #

Print a copy and keep with your Safety Data Sheets and training documents with the Laboratory Chemical Hygiene Plan.

Department:	
Principal Investigator (PI):	
PI Phone #:	
Lab Manager:	
Lab Manager Phone #:	
Emergency Contact:	
Emergency Contact Phone #:	

1. Purpose

The purpose of this document is to provide the information necessary to safely use the Class IV laser cutter in the flex classroom (room 1020) in the Honors College (example only – fill out with your lab equipment information).

2. Hazard Identification: *In the space below, provide details on the hazards posed by the equipment.*

Prior to using the (laser cutter), users must read and sign this SOP. New users and students must be supervised by a lab manager or faculty member familiar with and trained on the use of this equipment. Use of the (laser cutter) includes the following hazards/risks:

- The unit uses a Class IV laser (Class I has the lowest risk, Class IV the highest). (Example only – fill out with the hazards specific to your equipment)
 - Risk: Eye damage.
 - Prevention: Class IV goggles must be worn at all times. A trained lab monitor or faculty must be present during use.

- **Materials may catch fire and burn when they come in contact with the laser.**
 - Risk: Fire.
 - Protocol: Leave lid closed and wait until fire goes out. If fire continues to burn and grow, get fire extinguisher, pull pin, open lid, aim extinguisher at base of fire and squeeze the handle, sweeping back and forth until the fire is out. If you do not feel comfortable using a fire extinguisher, or if fire is too large, dial 911, alert building occupants to evacuate and gather at your building's designated rally point.

- **The unit produces carbon dioxide (CO₂) fumes.**
 - Risk: High concentrations can cause increased respiratory rate, tachycardia, and impaired consciousness (due to oxygen displacement).
 - Protocol: The exhaust fan must be used at all times. It will blow the CO₂ outside.

- **Overheating.**
 - Risk: Overheating.
 - Protocol: The unit should not be run for more than 7 hours continuously. Distilled water should be placed in the water holder (which functions as a cooler). It should be turned on before one uses the laser cutter.

3. Engineering & Administrative Controls: *In the space below, provide details on the engineering and administrative controls used to mitigate hazards presented by the equipment.*

The laser cutter has a built-in interlock that prevents opening the device while the laser is in use and/or automatically shuts the laser off if the lid is opened while the laser is in use.

The door to the Flex Lab is posted with signage indicating the presence of a Class IV laser and the laser can only be used when a lab monitor and/or trained faculty member is present.

4. Personal Protective Equipment (PPE): *In the space below, provide details on the PPE required by all personnel using the equipment.*

Hand Protection: N/A

Eye Protection: Users must wear Class IV laser goggles

Skin and Body Protection: N/A

Respiratory Protection: N/A

5. Calibration/Settings:

The laser should be calibrated once a semester.

The laser placement is calibrated using a caliper measuring 1/100 mm.

6. Repair & Maintenance:

The manual lists this email address for assistance: Lasermachine@139.com

7. **Standard Operating Procedure:** *In the space below, provide details on how to safely operate the equipment.*

- a. First, do this
- b. Then do this
- c. And so on

8. First Aid Procedures

Persons with an actual or suspected laser-induced injury should be evaluated by a qualified medical professional immediately after the exposure. All UNM employees and students who are injured on the job must do the following:

- UNM employees should contact Employee Occupational Health Services (EOHS) at 505-272-8034.
- UNM students should contact Student Health Services at 505-277-7810.
- If the exposure occurs after hours, employees and students should seek medical treatment at a hospital emergency room.
- The supervisor of the injured person and Environmental Health & Safety (EH&S) must be notified as soon as possible after the exposure.
- The following three forms must be filled out and sent to EH&S:
 - Notice of Accident Form
 - First Report of Accident Form
 - Medical Authorization Form

9. Other Emergencies

Fire or Medical Emergency -- Dial 911

Life-Threatening Emergency, After Hours, Weekends and Holidays – Dial 911

Non-Life Threatening Emergency – Call UNM Police Department at 505-277-2241. During normal business hours, call EH&S at 505-277-2753 to seek assistance and report the incident. After hours, weekends and holidays, call the EH&S Duty Officer pager and enter your phone number after the outgoing message: 505-951-0194

10. References

The UNM (Laser Safety) Program, which is available on the EH&S website:

<https://EH&S.unm.edu/employee-safety/laser-safety/guidelines--registration.html>

11. Training Requirements

All PIs, lab managers and faculty members using the (laser cutter) must be trained via Learning Central's (Laser Safety) course. Additional equipment-specific training should be developed and provided by the PI and/or lab manager. PIs, lab managers and faculty members who use the (laser cutter) should also be familiar with the UNM (Laser Safety) Program. All training must be documented and available for inspection by EH&S.

Principal Investigator SOP Approval

By signing and dating here, the PI certifies that this SOP for the (Honors College Flex Lab Laser Cutter) is accurate and effectively provides standard operating procedures to be used by laboratory personnel.

Signature	Printed Name/Title	Date
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I have read and understand the content of this SOP:

Name	Signature	Date
