

Working Alone in the Laboratory

STANDARD OPERATING PROCEDURE (SOP)

Type of SOP: ☒ Process ☐ Hazardous Chemical ☐ Hazardous Class

All personnel who are subject to these SOP requirements must review a completed SOP and sign the associated training record. Completed SOPs must be kept with the UC Davis Laboratory Safety Manual or be otherwise readily accessible to laboratory personnel. Electronic access is acceptable. SOPs must be reviewed, and revised where needed, as described in the [UC Davis Laboratory Safety Manual](#).

Date SOP Written:	<u>4/12/23</u>	Approval Date:	<u>4/12/23</u>
SOP Prepared by:	<u>Logan Himes</u>		
	<u>CLSC SOP Task Force</u>		
SOP Reviewed and Approved by (name/signature):	<u>Logan Himes</u>		
Department:	<u>ECE</u>		
Principal Investigator/ Laboratory Supervisor:	<u>Neville Luhmann Jr.</u>	Phone:	<u>5307545414</u>
Lab Manager/ Safety Coordinator:	<u>Logan Himes</u>	Phone:	<u>530-957-0389</u>
Emergency Contact(s):	<u>Logan Himes</u>	Phone:	<u>5309570389</u>
	<u>Lynette Lombardo</u>		<u>5307549069</u>
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Location(s)	Building:	<u>2900 Spafford</u>	Lab
covered by SOP:	Room #(s):	<u>All</u>	Phone: <u>~</u>

1. HAZARD OVERVIEW

According to [Prudent Practices in the Laboratory](#), the definition of “alone” is beyond visible or audible range of another individual for more than a few minutes at a time.

Incidents are unexpected by definition. If a person is working alone when an incident occurs, their ability to respond appropriately can be severely impaired. This could result in personal injury, death, and/or catastrophic facility damage. Indeed, working alone in any laboratory creates increased risk including not having access to basic first aid and the possibility of being unable to summon help in an emergency.

If the design of your workspace/laboratory makes both audible and visual range questionable, contact chem-safety@ucdavis.edu for consultation.

2. HAZARDOUS CHEMICAL(S)/CLASS OF HAZARDOUS CHEMICAL(S) RESTRICTIONS

Dispensing, manipulating or quenching Pyrophoric Materials are prohibited while alone in the laboratory. Using Acutely Toxic Gases are prohibited while alone in the laboratory.

3. ENGINEERING/VENTILATION CONTROLS & EQUIPMENT RESTRICTIONS

Solo work in the Wet Laboratory, Main Wave Lab, Machine Shop, Laser Lab, or Electronics area must be cleared with either Logan Himes or Calvin Domier beforehand.

4. ADMINISTRATIVE CONTROLS & RESTRICTIONS

The following elements are required:

1. Complete the [UC Laboratory Safety Fundamentals](#) (or approved equivalent) training prior to working in the laboratory;
2. Complete laboratory-specific safety orientation and training on laboratory-specific safety equipment, procedures, and techniques to be used, including any applicable laboratory-specific Laboratory Safety Plan(s), prior to receiving unescorted access to the laboratory;
3. Demonstrate competency to perform the procedures to the Principal Investigator (PI), Laboratory Supervisor, laboratory-specific Safety Officer, or trainer;
4. Be familiar with the location and content of any applicable Safety Data Sheets (SDSs) for the chemicals to be used (online SDSs can be accessed from [UC SDS](#));
5. Implement good laboratory practices, including good workspace hygiene;
6. Inspect all equipment and experimental setups prior to use; and
7. Follow best practices for the movement, handling, and storage of hazardous chemicals (see Chapters 5 and 6 of [Prudent Practices in the Laboratory](#) for more detail). An appropriate spill cleanup kit must be located in the laboratory. Chemical and hazardous waste storage must follow an appropriate segregation scheme and include appropriate labeling. Hazardous chemical waste must be properly labeled, stored in closed containers, in secondary containment, and in a designated location.

The following are also required for working alone in a laboratory:

8. Minors (*i.e.*, under age 18) are not allowed to work alone in the laboratory;
9. Mobile contact information (*e.g.*, PI/Laboratory Supervisor, Department Safety Coordinator, Laboratory Manager, Laboratory Safety Coordinator, etc.) must be available to any personnel allowed to work alone in the laboratory in case of emergency. Office phone numbers are not sufficient; and
10. No deviations from the restrictions described in this SOP are allowed without documented approval from the Principal Investigator/Laboratory Supervisor.

Solo work in the Wet Laboratory, Main Wave Lab, Machine Shop, Laser Lab, or Electronics area must be cleared with either Logan Himes or Calvin Domier beforehand.

The following activities and laboratory processes are **prohibited** while alone in the laboratory:

Use of strong acids or bases, or other chemical process that are high risk

Lifting heavy equipment or operating the forklift

Using high powered lasers or microwave sources

Any work or experiment that is inherently high risk in terms of injury or accident

Various sources for SDS can be found at:

<https://safetyservices.ucdavis.edu/units/ehs/research/safety-data-sheets>

5. SPILL AND EMERGENCY PROCEDURES

Follow the guidance for chemical spill cleanup from [SafetyNet #13](#) and/or the [UC Davis Laboratory Safety Manual](#), unless specialized cleanup procedures are described below. Emergency procedure instructions for the UC Davis campus and UCD Medical Center are contained in the [UC Davis Laboratory Safety Manual](#), [campus Emergency Response Guide \(ERG\)](#), and [UCD Health System ERG](#). The applicable ERG must be posted in the laboratory. All other locations must describe detailed emergency procedure instructions below.

If an incident occurs when someone is working alone, the PI/Lab Manager and lab personnel **must** review the process and determine whether or not changes need to be made to the process. The lab policy on working alone should also be reviewed.

Cleaning up a chemical spill while alone in the laboratory can present additional challenges. Before proceeding with spill cleanup ensure that you have identified all the hazards associated with the chemical spill and any other ongoing laboratory activities/equipment. Assess the risks posed by the spill and other hazards. Only proceed with spill cleanup if the risks can be effectively managed, you have appropriate Personal Protective Equipment (PPE), you have the skills to clean up the spill properly, and you choose to complete the cleanup procedure. Contaminated clothing or PPE should not be worn outside the lab. Soiled lab coats should be sent for professional laundering. Grossly contaminated clothing/PPE and disposable gloves must not be reused.

6. AREA RESTRICTIONS

7. ADDITIONAL INFORMATION & RESTRICTIONS

When working alone in the Spafford Lab we require that the person working alone have quick and easy access to a phone, for emergency purposes. This can take the form of a cellphone in ones own pocket or a land line lab phone within easy reach.

TEMPLATE REVISION HISTORY

Version	Date Approved	Author	Revision Notes:
1.0	12/1/2014	CLSC Task Force	New template
1.1	4/16/2015	Chris Jakober	Changed SDS link, language relating to soiled PPE
1.2	3/10/2016	Chris Jakober	Updated URLs following website redesign, added URL to UCDHS ERG
1.3	11/30/2016	Lindy Gervin	Unlocked editable fields
1.4	5/10/2017	Lindy Gervin	Updated email address in section 1

LAB-SPECIFIC REVISION HISTORY

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Documentation of Standard Operating Procedure Training

(Signature of all users is required)

- ✓ Prior to **Working Alone in the Laboratory**, laboratory personnel must be trained on the laboratory-specific activity and chemical restrictions that must be followed when working alone.
- ✓ Ready access to this SOP must be made available.
- ✓ The Principal Investigator (PI), or the Laboratory Supervisor if the activity does not involve a PI, must ensure that their laboratory personnel have attended appropriate laboratory safety training or refresher training within the last three years.
- ✓ Training must be repeated following **any** revision to the content of this SOP. Training must be documented. This training sheet is provided as one option; other forms of training documentation (including electronic) are acceptable but records must be accessible and immediately available upon request.

Designated Trainer: *(signature is required)* Logan Himes

I have read and acknowledge the contents, requirements, and responsibilities outlined in this SOP:

Name	Signature	Trainer Initials	Date

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