

# Working Alone

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## University of Tennessee Safety Guide LS-110

**Document Contact:** EHS-Lab Safety

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## Guidelines for Reduced Staffing in Research

This guide is for personnel working in any research context (laboratories, workshops, maker spaces, art studios) and their leadership to address working alone during reduced staffing situations. For the purpose of these guidelines, working alone is defined as “no visual or verbal contact”. During routine laboratory activities, no fewer than two people are required for safe laboratory work. During periods of reduced staffing in research laboratories, workshops, maker spaces, and studios, the safest approach is still for two people to be in close enough proximity to provide quick response to or assistance with an accident, injury, or exposure.

Guidelines for working alone are presented below:

1. Perform research-related activities only as outlined by approved standard operating procedures (SOP) and by personnel who have received prior approval by their local leadership.
2. Create a phone tree or email group to facilitate emergency communication among researchers, faculty, and staff. Ensure this information is current and readily available to relevant personnel.
3. The PI (center director, supervisor, etc.) or their designee shall review laboratory procedures with personnel that have been given prior approval for working alone including:
  - Training and experience
  - Controls to contain and/or lessen the severity of the hazard
  - Adequate supply and proper use of personal protective equipment (PPE)
  - Emergency response procedures and contact information for incidents (accidents, exposures, spills, fires, etc.)
  - The location of the nearest emergency equipment (eyewash, safety shower, and fire extinguisher). *Note: eyewashes must continue to be flushed/tested weekly.*
4. Have a system in place for someone to monitor personnel. This system should include check-in, periodic monitoring, and check-out. Mobile apps such as GroupMe, WhatsApp, and others may serve as a virtual “check-in, check-out” method. [The LiveSafe App](#) can be used with the [SafeWalk](#) feature to ensure someone “watches” you walk to and from the lab and is alerted if you don’t arrive at your destination at the appointed time.
5. Identify hazardous work that requires the presence of a second person, who is knowledgeable in the procedure. Such work includes but is not limited to:
  - a. Procedures involving highly toxic, reactive, or other highly hazardous chemicals as defined in standard operating procedures (SOPs) and/or chemical safety data sheets (SDS). Including but not limited to:
    - i. Working with HF or HF solutions



- ii. Corrosive chemicals over 500 mL, including aqua regia/piranha solutions (any volume) and acid/base bath (e.g., change outs or when used for cleaning).
  - iii. Toxic or corrosive gas purchased from a supplier OR as a byproduct from chemical reaction, e.g., hydrogen chloride, hydrogen sulfide, nitrogen dioxide, anhydrous ammonia, nitric oxide, cyanides, hydrogen selenide, phosphine, ethylene oxide. See [https://en.wikipedia.org/wiki/List\\_of\\_highly\\_toxic\\_gases](https://en.wikipedia.org/wiki/List_of_highly_toxic_gases) for an expanded list.
- b. Procedures involving high risk physical hazards such as high pressure, thermal extremes, mechanical hazards, etc.
  - c. Procedures involving cryogenic materials and equipment used to store or transfer cryogenic materials.
  - d. Transferring large quantities of any other type of hazardous material or conducting large scale work with hazardous materials.
  - e. Work with any volume of hazardous material in a lab or other space without direct access to an eyewash or safety shower (greater than 10 second walk and/or impeded pathways such as closed door).
  - f. Work with unenclosed Class 4 lasers
  - g. Work with radioactive materials (excludes X-ray machines)
  - h. Safe work practices must be in place to minimize the possibility of someone who is working alone coming into contact with energized parts and all other electrical hazards. Recommended practice is to have two people present when working with equipment voltage >50V. At least **two people** are required when working with voltages >600V so that one **person** can provide first aid or CPR to the other **person** if needed.

In the event of an incident/accident/exposure call:

- 911 (Fire, Medical, HazMat) or UTPD 865-974-3111 (Emergencies)
- UTPD 865-974-3114 (Non-Emergency)
- UTK EHS One-Call 865-974-9586 or submit your notification through “[LiveSafe – Report Other Issue – Lab Safety](#)”
- UTK Facilities Services One-Call 865-946-7777

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