



Guidelines for Working Alone in a Laboratory

Approved: FSU Campus Lab Safety Committee, SHERM (October 2022)

SCOPE:

These guidelines apply to all work with hazardous chemicals, biohazardous materials or hazardous equipment in laboratories at Ferris State University. A person is considered as working alone if they are working by themselves in such a way that assistance is not readily available should injury, illness, or emergency occur. This can occur during normal working hours as well as in the evening or on weekends. Working alone outside of typical business hours (M-F 7:00 am-6:00 pm) is especially problematic due to the increased likelihood of no one being available to assist if an unexpected event was to occur.

NON-AFFILIATED STUDENTS:

Non-affiliated individuals must be appropriately supervised at all times when in the laboratory and are not permitted to conduct certain hazardous activities. See "Policy on Non-Affiliates in Laboratories."

UNDERGRADUATE STUDENTS:

All undergraduates must be under supervision of a Principal Investigator, Lab Manager, or instructor when working with hazardous materials in a laboratory.

LABORATORY RESEARCHERS (Graduate and Professional Students, Postdocs, Lab Staff, Principal Investigators):

Although not recommended, laboratory researchers may need to work alone in laboratories and should follow these guidelines to do so safely. Colleges will maintain written records of those approved to work alone in laboratories, including safety plans and training requirements.

Prohibited Materials and Equipment When Working Alone:

In general, researchers shall not work alone in a laboratory with the following hazardous materials of any quantity or hazardous equipment, including:

Explosive/Highly Reactive Compounds

Acutely Toxic Chemicals and Gases

Biohazardous materials

Large Volumes of Concentrated Corrosive Chemicals

Pyrophoric Chemicals

High pressure equipment

Shop equipment

Radioactive materials or devices (I.e. x-ray equipment)

Lasers (I.e. Welding)

General Guidelines on Working Alone

All laboratory researchers who may work alone in a laboratory should follow these general guidelines:

Notify others. Notify Campus police when entering and exiting the building. Let your PI, manager, or supervisor know when you will be working alone and what you will be doing. Participate in the risk assessment of this activity with your PI prior to working alone, as necessary.

Implement a **buddy system**. Check in with someone regularly while working alone in the lab, including at the start of your work session and when you leave.

Be alert and aware of your surroundings. Wearing ear buds or headphones should be avoided as it reduces situational awareness.

Wear required PPE in the laboratory, even after hours. This includes long pants, enclosed shoes, lab coat, and safety glasses.

Know the location of and access to emergency equipment (e.g. safety shower, eye wash, and fire alarm).

Avoid walking alone. Remember that Public Safety offers a 24/7 Walking Escort Service to accompany you from one campus location to another, to your parked vehicle, to a Bus Stop, or to an on-campus regional transit stop. Call campus extension 5000 to request.

GLOSSARY/Definitions:

Acutely toxic chemicals

Describes the adverse effects of a substance which result either from a single exposure or from multiple exposures in a short space of time (usually less than 24 hours). A list of highly hazardous acutely toxic substances can be found here: <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.119AppA>

Biohazardous materials

Infectious agents that present a risk or potential risk to the health of humans or other animals, either directly through infection or indirectly through damage to the environment.

Compressed Gas

A gas or mixture of gases that, in a container, will have an absolute pressure exceeding 40 psi at 70°F or 21.1°C. A gas or mixture of gases having an absolute pressure exceeding 104 psi at 130°F or 54.4 °C regardless of the pressure at 70°F. A liquid having a vapor pressure exceeding 40 psi at 100°F or 37.8°C.

Hazardous Chemical

A hazardous chemical is defined by MIOSHA as any chemical, chemical compound, or mixture of compounds which is a physical and/or health hazard.

A chemical is a physical hazard if it is classified as posing one or more of the following hazardous effects:

- Explosive
- Flammable (gases, aerosols, liquids or solids)
- Oxidizer as a (liquid, solid or gas)
- Self-reactive
- Pyrophoric as a (gas, liquid or solid)
- Self-heating
- Organic peroxide
- Corrosive to metal
- Gas under pressure
- In contact with water emits flammable gas
- Combustible dust
- Radioactive

A chemical is a health hazard if it is classified as posing one of the following hazardous effects:

- Acute toxicity (any route of exposure)
- Skin corrosion or irritation
- Serious eye damage or eye irritation
- Respiratory or skin sensitization
- Germ cell mutagenicity
- Carcinogenicity
- Reproductive toxicity
- Specific target organ toxicity (single or repeated exposure)
- Aspiration hazard
- Radioactive

Hazardous Equipment

Machines or other equipment generally known to be dangerous to untrained or unskilled operators.

Laboratory

A facility where hazardous materials, equipment or processes are utilized.

Laboratory Scale

Work with substances in which the containers used for reactions, transfers, and other handling of substances are designed to be easily and safely manipulated by one person.

Minor

A person under the age of 18 years.

Pyrophoric

Liable to ignite spontaneously on exposure to air.

REFERENCE:

MIOSHA GENERAL INDUSTRY AND CONSTRUCTION SAFETY AND HEALTH STANDARD PART 431.
HAZARDOUS WORK IN LABORATORIES.

https://www.michigan.gov/-/media/Project/Websites/leo/Documents/MIOSHA5/CIS_WSH_part431.pdf?rev=a298bccde4284a9f9cbb5ea2ffee0a51

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