Fact Sheet

OSU
ENVIRONMENTAL
HEALTH & SAFETY

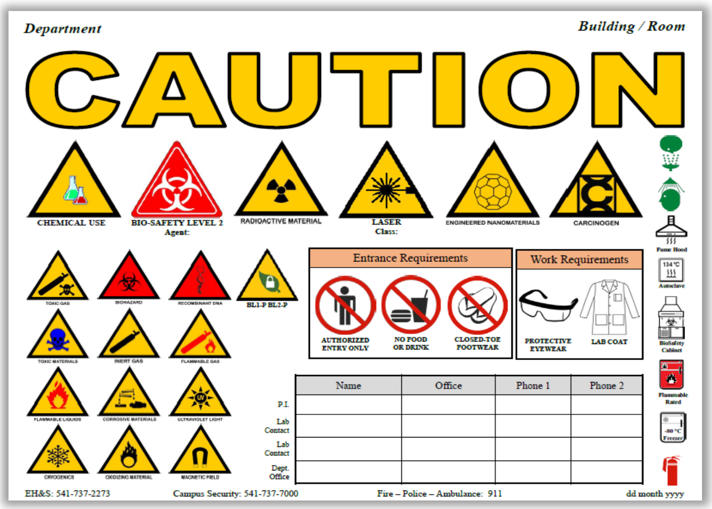
Safety Instruction

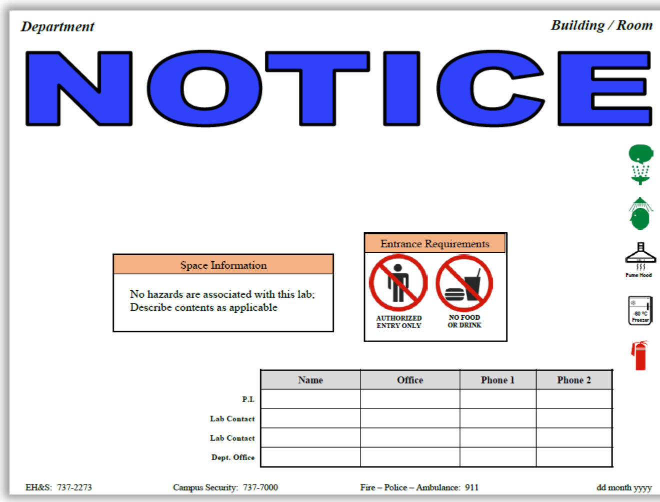
Lab Caution Sign & Notice Sign

General

- A standardized lab caution sign has been established at OSU; its purpose is to warn employees and visitors entering laboratories and other hazardous areas. The notice sign is to notify employees and visitors that the space is a lab or shop but lack any safety or health hazards, such as hazards you would typically associate with a lab.
- **A sign is required** (sample depicted below) **at each main entrance to:**
  - Laboratory rooms or complexes, teaching labs, shops, and workrooms with materials not commonly found in an office environment.
- A sign ***is not required*** in:
  - Offices, break rooms, general purpose classrooms, rest rooms, or food prep areas.
- Signs are generated by EH&S. However, personnel responsible for the hazardous area (i.e. PIs, Lab and Shop Managers) are responsible for providing EH&S with current and accurate information via the ONID accessed Lab Caution Sign Request.

Sign Components





Hazard Warning Icons

- A **hazard warning icon** is required for each piece of equipment or material stored or used **at or above the amounts listed** in the following **Hazard Warning Icon Definitions** section.

Restricted Area Icon

- A **restricted area icon** is required for all labs with an active permit (i.e. laser permit, radiation permit, chemical/inventory permit, biosafety level-2 permit, carcinogen permit, etc.) or for any spaces where you must be granted access beforehand to enter.

No Food or Drink Icon

- A **no food or drink icon** is required for all labs with an active permit (i.e. laser permit, radiation permit, chemical/inventory permit, biosafety level-2 permit, carcinogen permit, etc.).

Emergency Contact Information

- This information assists EH&S in the event of an emergency and may help to **save your research and/or equipment.**
- Include the names of the individual(s) responsible for the space.

Contact EHS:
www.ehs.oregonstate.edu
ehs@oregonstate.edu
541 • 737 • 2273

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Hazard Warning Icon Definitions

Biohazard

- The room contains a biological agent, capable of self-replication, which presents or may present a hazard to the health or well-being of humans.

- The agent is a human blood borne pathogen or work with the agent has been assigned to be handled in a Biosafety Level (BSL) 2 or , BSL-3 , or BSL-4 laboratory based on the guidelines established in the CDC / NIH book "Biosafety in Microbiological and Biomedical Laboratories".
- The name of the agent(s) may be entered on the hazard sticker if lab is a BSL-2 lab or higher

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Plant Materials

- Researchers have an IBC protocol that specifies BL1-P or BL2-P containment.
- Researchers that work with transgenic plants. Main species are Arabidopsis thaliana, tobacco maize, tomato, and grapevine. These are not necessary to the only types of plants in use.
- Researchers who work with non-exotic plant pathogens
- Researchers who have USDA / APHIS / PPQ transport or import permits.

Carcinogen

- The room contains ***any amount*** of High or Extreme hazard chemical carcinogens as described by the University's Chemical Carcinogen Safety Program.
  - Examples: Arsenic, Chloromethyl methyl ether, Ethylene oxide, Cadmium, 1,3-Butadiene, Beryllium, Dimethyl sulfate, Tetramethyllead, Lead chromate, Azathioprine and Erionite

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Chemical Use/Chemical Storage

- Chemicals are used or stored in the room; this symbol is typically used in conjunction with one of the smaller hazard warning icons.

Corrosive Material

- The room contains ***1 gallon (liquid) / 1 pound (solid)* or more** of corrosive materials in one or more containers
- A corrosive material is defined as a solid caustic substance or a liquid which has a 2 < pH < 12.

Cryogenics

- The room contains ***4 liters or more*** of cryogenic liquids
- Cryogenic materials are liquefied gases that are kept in their liquid state at very low temperatures. These liquids have boiling points below -238°F (-150°C).
  - **Examples** Liquid nitrogen

Flammable Gas

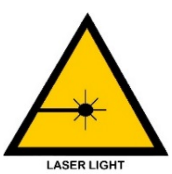
- The room contains ***100 cubic feet or more*** (at STP) of a flammable gas in one or more containers.
- A flammable gas is defined as any gas that has a flash point below 100 °F (37.8 °C) with a container pressure of 40 psig at 100 °F.
    - **Example:** A compressed gas cylinder of Helium or Argon

Flammable Liquids

- Room contains ***1 gallon or more*** of flammable liquids in one or more containers.
- If the control room contains ***10 gallons or more*** of flammable liquids, then a flammable cabinet is needed to store the flammables.
- A flammable liquid is defined as any liquid that has a flash point below 100 degrees Fahrenheit (°F) or 37.8 degrees Centigrade (°C).
    - **Example:** Acetaldehyde, Isopropanol, Ethyl chloride, Acetone, Benzene, Petroleum ether, Ethyl acetate, Xylene, Ethanol, and gasoline.

Inert Gas

- The room contains ***100 cubic feet or more*** (at STP) of an inert gas in one or more containers.
- An inert gas is a gas which does not undergo chemical reactions under a set of given conditions (generally is non-reactive with other substances).
    - **Example:** A compressed gas cylinder of Helium or Argon



Laser Light

- The room contains ***class 3B or 4*** lasers as defined by ANSI Standard Z136.1.
- ***Class 3B or 4 lasers*** should be noted; some Class 3B and all Class 4 laser installations emit power exceeding 0.5 W also require a special sign issued by EH&S. Notify the LSO when using this sign.

Magnetic Field

- The room contains ***any sources*** that produce magnetic fields of 0.5mT or greater (for both static fields and time varying fields over 30kHz)
- A magnetic field is the magnetic effect of electric currents and magnetic materials. Magnetic fields result from the flow of current through wires or electrical devices.
    - **Examples of sources:** Magnetic Resonance Imaging (MRI) machines, electrical wiring (such as power lines)

Nanomaterials

- The rooms contain **unbound** (not affixed to a surface or imbedded in a matrix) engineered nanomaterials that may pose occupational health risks by means of inhalation, ingestion or dermal exposure.
- Nanoparticles are defined as a material with at least one dimension, ranging between 1 to 100 nanometers in size.

Oxidizing Material

- The room contains **1 pound or more** of any class of oxidizers.
- An oxidizer is defined as a substance that will cause any increase in the burning rate of a combustible material.
    - **Examples:** Bromine trifluoride, Perchloric acid, Chromic acid, Nitric acid.
- **More than 100 cubic feet** (at STP) of an oxidizing compressed gas.
    - **Examples:** Oxygen, Oxides of Nitrogen.

Radioactive Material

- The room contains ***any amount*** of radioactive material. Use of this sign must be approved by the Radiation Safety group.

X-Ray Equipment

- The room contains a machine which **produces X-Ray radiation.** Use of this sign must be approved by the Radiation Safety group.

Recombinant DNA

- If the lab contains ***any work*** involving recombinant DNA. A biohazard symbol will accompany this symbol.

Toxic Gas

- The room contains ***any amount*** of a toxic gas (inhalation 200 < LC50 < 2000 ppm) or highly toxic gas (inhalation LC50 < 200 ppm).
    - **Examples (toxic gas):** Cyanogen, Germane, Nitric oxide, Hydrogen sulfide.
    - **Examples (highly toxic gas)**: Arsine, Boron trifluoride, Chlorine, Hydrogen cyanide, Hydrogen selenide, Fluorine, Nitrogen dioxide.

Toxic Materials

- The room contains ***1 pound or more*** of toxic chemicals.
- A toxic chemical is a substance with an oral LD50 of less than 50 mg/kg or skin toxicity of less than 200 mg/kg.
    - **Example:** Acrylamide, Chloroform, Phenol, Methylene chloride, Ethylene oxide, Sulfur dioxide, Benzene, Methanol, and Sodium Hydroxide.

Ultraviolet Light

- The room contains a machine that produces ***any amount*** of Ultraviolet light.
- UV light is an electromagnetic spectrum that falls between visible light with wavelengths of 400 nanometers and x-rays at 4 nm and below.