

DOOR POSTINGS FOR POTENTIALLY HAZARDOUS LOCATIONS

(For assistance, please contact EHS at (402) 472-4925, or visit our web site at <http://ehs.unl.edu/>)

Accurate door postings facilitate emergency response actions by providing immediate information to firefighters, paramedics, and others. Incorrect postings may place others in danger and/or delay implementation of measures to control and minimize certain emergency situations (e.g., fire, explosion, etc.), thereby increasing the damage to the room and/or other portions of the building. Door placards are also an effective means of routine hazard communication.

This SOP describes door placard procedures and methods for UNL locations that are potentially hazardous. The methodology used to post laboratories is different than that which is used to post other types of work locations. The National Fire Protection Agency (NFPA) diamond method is used for all potentially hazardous locations that are not laboratories. Laboratories are placarded with relative risk information for physical and chemical hazards, as well as other pertinent safety information.

To obtain a door posting, complete the door posting request form included as Appendix A to this SOP and transmit to EHS. Each form should represent a single room. Use multiple forms to request placards for multiple rooms. Use the directions provided on the following pages to accurately complete appropriate hazard rating sections of the form. Following review and verification of the information in the form, EHS will send a door placard in electronic form, hard copy, or both. Place a color hard copy in the holder provided (or a page protector, if no holder is provided) outside of each door into the work area.

Review door postings at least annually. Send updated request forms to EHS when hazards change. Emergency door postings do not replace the need for a current chemical inventory.

Instructions for Completing the Door Posting Request Form

Section I: This section applies to all types of UNL work spaces (laboratory and non-laboratory)

Building Name: Enter the official building name.

Room Number: Enter the room number. If the room has more than one entrance, list all assigned door numbers.

Department: Enter the name of the department or unit.

Room Type: Enter the room type, i.e., chemistry lab, dark room, cold room, laboratory chemical storage room, biological laboratory, teaching laboratory, shop, mechanical room, custodial closet, etc.

Faculty/Responsible Party: Enter the name of the Principal Investigator or person who has responsibility for the room, followed by their office telephone number and an alternate contact number. The alternate contact number can be a home phone, cell phone, or the University Operator if the department has submitted emergency contact phone numbers to the University Operator. Common areas must also be posted with contact/alternate contact names and numbers.

Alternate Contact Person: Enter the information for an alternate contact.

Access Limitations: Enter restrictions for entering the area, such as but not limited to, prior training, entry by escort-only, prior notification/authorization by calling [name, phone number], etc.

Section II: This section applies ONLY to laboratory spaces – Skip to Section III for non-laboratory spaces

Personal Protective Equipment: Choose or describe the personal protective equipment required for entry into the room for non-emergency situations. Choices include: Eye, Foot, Hand, Hearing, Respiratory Protection and/or Other protection. Specifically describe the PPE needed if the choice is "Other" (i.e., Ty-Vek suit, hard hat, etc.)

No Food or Drink Allowed. This item should be checked if **ANY** hazardous (toxic) chemical, biological agent, or radioactive materials are present in the laboratory. No employee is permitted to bring food or beverages meant for human consumption into a laboratory or any area exposed to hazardous (toxic) materials. Food or beverages used for experimentation must be marked to clearly indicate "Not for Human Consumption".

Chemical Hazards – See Laboratory Hazard Risk Tables. Enter low, medium, high, or NA in each chemical category.

Biological Hazards- See Laboratory Hazard Risk Tables. Enter BL1, BL2, BL3, or NA in the containment level space. Doors to BL2 or BL3 containment areas need to be demarcated with a biohazard symbol.

Ionizing Radiation Hazards - See Laboratory Hazard Risk Tables. In addition to the information contained in this door posting form, additional posting may be required in specialized areas (e.g., If an x-ray machine is in use, then a specific caution placard is required). The Radiation Safety Officer (RSO) will specify additional required postings at the time of licensing.

Other hazards - if other hazards are present, complete the last section of the form as needed.

Section II: This section applies ONLY to non-laboratory spaces

Selecting from the descriptions provided in the table below, enter a number from 0 to 4 for Health (left, blue), Fire (top, red) and Reactivity (right, yellow) categories. Note: This is a compilation of all the hazards present in the room so the highest hazard number should be selected from each category based on reviewing the individual characteristics of each product's Material Safety Data Sheet (MSDS).

NFPA Hazard Ratings	4	3	2	1	0
Health	Deadly.	Extreme danger.	Hazardous.	Slightly hazardous.	Normal material.
Fire (Flash Point)	Below 73° F	Below 100° F	Below 200° F	Above 200° F	Will not burn.
Reactivity	May detonate.	Shock & heat may detonate.	Violent chemical change.	Unstable if heated.	Stable.

As applicable, choose Specific Hazard information for the bottom (white) category of the NFPA diamond. There may be more than one Specific Hazard that needs to be selected to adequately represent the room's contents.

Other Specific Hazards (may choose more than one):

- CAR** Carcinogen
- COR** Corrosive
- CYL** Compressed Gas Cylinder
- OX** Oxidizer
- W** Water Reactive (Use NO Water)

Laboratory Hazard Risk Table:

Hazard	Low	Medium	High
Chemical:			
<p>Carcinogens Any agent that can initiate or speed the development of malignant neoplastic proliferation of cells, or cells that possess such material. Examples: Benzene, Chloroform, Formaldehyde.</p>	Occasional use of small amounts or dilute solutions. Example: Entomology lab using small quantities of dilute formaldehyde/water solutions to preserve specimens.	Routine use of material in neat form, such as Acrylamide powder or Diaminobenzidine (DAB), or use of several liters per week of carcinogenic solvents, such as phenol/chloroform extraction procedures.	Routine use of large quantities of carcinogenic material where the risk of exposure is high because the material can be absorbed through skin or inhaled. Example: veterinary embalming facility
<p>Compressed Gases (other than flammable or toxic compressed gases) Containers of compressed, liquefied, or solidified gases which pose a risk of asphyxiation, and/or the risk of rapid freezing of tissue. Examples: Helium, argon, nitrogen. <i>Flammable and Toxic Gases are listed in another category below.</i></p>	Use/storage of compressed gas not described in the medium or high risk categories.	(1) Use/storage of 3 or less typically sized compressed gas cylinders (T and K sized) in an area with general ventilation; or (2) presence of a compressed gas supply system in a well ventilated room that exhausts to the outside.	(1) Use/storage of compressed gases in a small and/or un-ventilated space or (2) Use/ storage of 4 or more typically sized compressed gas cylinders (T and K sized). Example: Use of compressed gases in a cold room or environmental chamber. (Note: This applies to rooms/chambers with circulating fans. They do not supply fresh air.)
<p>Corrosives Materials that destructively attack the skin, lungs and mucous membranes. Examples: Sulfuric Acid, Acetic Anhydride, Nitric Acid, Sodium Hydroxide</p>	Routine use of dilute acid and base solutions; or, infrequent use of concentrated acids and bases; and storage of 2 Kilogram (solids) or 4 Liters (liquids) or less (total for each type of corrosive- acid and base/ organic and inorganic)	Routine use of a variety of strong acids and bases in concentrated form; or storage of 2-10 Kilograms (solids) or 4-16 Liters (liquids) (total for each type of corrosive- acid and base/ organic and inorganic)	Labs with large quantities (more than 16 Liters liquids or 10 Kilograms solids) of concentrated acids or bases in frequent use, and bench-top use of large acid baths (greater than 16 Liters)
<p>Cryogens (other than flammable or toxic inhalation compressed gases) Containers of compressed, liquefied, or solidified gases which pose a risk of asphyxiation and the risk of rapid freezing of tissue. Examples: Compressed oxygen, liquid nitrogen, and dry ice (solid carbon dioxide).</p>	Use/storage of small dewers or lecture sized cylinders.	(1) Use/storage of 3 or less typically sized (50 liters or less) dewers or cylinders in well-ventilated locations.	(1) Use/storage of dewers or cylinders in an unventilated area; (2) Use/storage of 4 or more typically sized dewers (50 liters or less); or any very large supply system (more than 50 liters capacity) regardless of ventilation. Example: Use of liquid nitrogen or dry ice in a cold room or environmental chamber. (Note: This applies to rooms/chambers with circulating fans. They do not supply fresh air.)
<p>Explosives Chemical that causes a sudden,</p>	Explosives that require a strong initiating force and in quantities	Explosives in quantities that can lead to serious injury or non-	Explosives in quantities that will likely lead to death or structural damage to the

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Hazard	Low	Medium	High
almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.	that are unlikely to lead to serious injury or substantial property damage in the event of an accidental detonation.	structural property damage in the event of accidental detonation.	building in the event of accidental detonation.
Flammable Liquids Liquids with a flash point of less than 100 F. Examples: Ether, Gasoline,	Use of small quantities in a well ventilated area, and total storage of less than 4 Liters in the room.	Total storage of greater than 4 L and less than 40 L and use/storage in a well-ventilated area and away from ignition sources.	Storage of more than 40 Liters in a well ventilated area and away from ignition sources; or use of flammable liquids with open flames.
Flammable Solids Solids, other than blasting agents or explosives that are liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from a process, or which can be readily ignited.	Infrequent use of small quantities under controlled conditions and total storage quantity of less than 1 Kg.	Routine use of moderate quantities under controlled conditions and total storage quantity of less than 2 Kilogram.	Routine use of large quantities and/or total storage quantity of more than 2 Kilogram.
Flammable Gases Gases that ignite easily and burn rapidly. Examples: Hydrogen, Propane, Acetylene.	Use of small, individual, low-pressure containers or piped supply systems. Example: aerosol can of spray paint with a flammable gas as a propellant.	Routine use of high-pressure, flammable, typically sized compressed gas cylinders (T and K sized) Use and storage of up to 2 typically sized, high pressure cylinders of flammable gases.	Daily use of several typically sized (T and K sized), high pressure cylinders of flammable gas; Use and storage of 3 or more cylinders in a single room. Use or storage of Propane cylinders greater than 20 pounds.
Highly Toxic Chemicals Highly toxic (poison) chemicals by any route of exposure	Not Applicable. Highly toxic materials are either in the medium or high category.	Any use or storage of liquid or solid materials described by the MSDS as highly toxic.	Any use or storage of a compressed or liquefied gases described by the MSDS as highly toxic gas.
Oxidizers Strong reducing agents that cause fire and explosion when they come in contact with organic compounds or finely divided metals. Examples: Fuming Nitric Acid, Perchloric Acid, Ammonium Nitrate	Use of small quantities of moderately oxidizing substances and storage of 2 Kilograms (solids) or 4 Liters (liquids) or less.	Routine use of moderate quantities of moderate or strong oxidizers and storage of 2-10 Kilograms (solids) or 4-16 Liters (liquids).	Routine use of large quantities of moderate or strong oxidizers and total storage of greater than 10 Kilograms (solids) or 16 Liters (liquids). Examples: hot Perchloric Acid digestion, fertilizer storage areas.
Pyrophorics	Infrequent use of small quantities	Routine use of moderate	Routine use of moderate quantities under

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Hazard	Low	Medium	High
Compounds that spontaneously ignite in contact with air. Examples: Finely divided or activated magnesium powder, activated zinc dust, phosphorus, metal alkyls. Or pyrophoric gases such as silane.	under controlled conditions (i.e., inert atmosphere in a glove-box) AND total storage of 100 grams or less.	quantities of pyrophoric materials; OR use of small quantities under less controlled conditions (i.e., in a fume hood under a continuous flow of inert gas or under a liquid); OR total storage of more than 100 but less than 250 grams.	less controlled conditions; OR storage of greater than 250 grams; OR use/storage of any pyrophoric gases.
Water Reactives Chemicals that react with water to form heat and flammable or explosive gases. Examples: Potassium and Sodium Metals, Metal Hydrides, Aluminum Alkyls, Acid Anhydrides, Acid Chlorides.	Infrequent use of small quantities under controlled conditions and total storage of less than 500 grams.	Routine use of small quantities under controlled conditions and total storage of 500 grams to 1 Kilogram.	Routine use of moderate quantities under controlled conditions and/or total storage of greater than 1 Kilogram.
Other Hazards:			
Biological Agents/Organisms Organisms or their products that may cause harm to humans, animals or plants.	Microbiology lab using microorganisms that do not cause disease in healthy adults. Examples: K-12 derivatives of <i>E. Coli</i> bacteria, yeast, adeno-associated virus (AAV) types 1 through 4. "Biosafety Level 1"	Organisms that can cause moderate to serious illness in healthy adults. Infections seldom occur via inhalation unless the organism is dispersed into the air as an aerosol. Infections readily occur from needle sticks or accidental contact with mucous membranes such as eyes and mouth. Examples: Salmonella enteritidis, Hepatitis B, Cryptococcus neoformans. "Biosafety Level 2"	Organisms that can cause serious illness or death in healthy adults. Exposure by inhalation is a risk from any sort of handling procedures or from spills or contaminated waste. Infections also readily occur from needle sticks or accidental contact with mucous membranes such as eyes and mouth. Example: Mycobacterium tuberculosis, Rift Valley fever virus. "Biosafety Level 3".
Ionizing Radiation Devices and/or Materials Energy emitted from radioactive materials (alpha, beta, gamma radiation) or emitted by radiation producing equipment (X-rays).	Locations where an individual could not receive a harmful exposure to ionizing radiation under any circumstances. Examples: 1) laboratory where the total amount of radioactive material is less than the annual limit of intake for a radiation worker or 2) an X-ray diffraction unit that is entirely enclosed by shielding.	Locations where an individual will not receive a harmful exposure if basic precautions are followed. Example: use of several millicuries of radioactive material that emit gamma or high energy beta radiation that requires shielding.	Locations where an individual could receive a harmful exposure to radiation unless appropriate precautions are followed. Example: use of sealed sources that contain curie amounts of radioactive material.

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Hazard	Low	Medium	High
Electrical	Use of only new, grounded, commercially available electrical devices. GFI circuits in wet areas.	Use of electrical devices not commercially available that operate at or produce 40 to 240 Volts in a dry environment.	Any electrical device that operates at or produces greater than 240 Volts. Any area with electrical device/equipment under wet conditions or temporary power, unless protected by GFCI.
High Noise	Less than 80 dBA	80 to 85 dBA	Greater than 85 dBA
Laser	Only class I or II lasers in use. Beams from class I and II lasers are always visible. There is no risk of injury unless an individual looks directly into the beam for an extended period of time. Example: HeNe laser pointers used in classrooms	Class IIIa and IIIb Laser in use. Momentary viewing of the direct beam, or a beam reflected from a mirror-like surface, may produce serious eye injury. Beams may not be visible.	Class IV laser in use. Viewing of the direct beam and viewing of any type of reflection is likely to cause serious eye injury. Beams can cause skin burns. Beams can cause materials to burn and/or release hazardous materials to the air.
Magnetic	Magnet emits less than 0.5 mT (5 Gauss).	Magnet emits 0.5 mT to 2 T (5 Gauss) and is well demarcated.	Magnet emits greater than 2 T (20,000 Gauss) and is well demarcated
Microwave (Laboratory operations only) This warning sign is not intended or necessary for unmodified domestic type microwave ovens approved by the US Consumer Products Safety Commission..	Microwave source completely enclosed/guarded	Microwave source partially enclosed/guarded	Microwave source NOT enclosed/guarded. The equipment in the room is capable of generating microwave energy in excess of 10 mW/cm ² averaged over 0.1 hour.
Radio Frequency (RF) (Laboratory operations only)	Radio Frequency source completely enclosed/guarded	Radio Frequency source partially enclosed/guarded	Radio Frequency source NOT enclosed/guarded. The equipment in the room is capable of emitting radiofrequency currents greater than the OSHA allowable limits. Safe distances may need to be demarcated if the equipment cannot be shielded.
Ultraviolet Light	UV Light source completely enclosed/guarded.	UV Light source partially enclosed/guarded.	UV Light source NOT enclosed/guarded and is used at a duration, frequency, or intensity that may result in serious injury.

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Appendix A – Door Posting Request Form

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UNL Environmental Health and Safety · (402) 472-4925 · <http://ehs.unl.edu>

EHS Door Posting Request Form

Complete this form and transmit it to EHS (Email: ehs@unl.edu; Mailing Address: EHS, Att: Door Posting, AgW1, EC 0824; Fax: 472-9650). Complete only sections I and II for laboratory spaces. Complete only sections I and III for non-laboratory spaces.

Section I (To be completed by all)

Instruction to EHS - Return the door placard in Electronic pdf format Color hard copy Both

Today's Date: _____

Name of Person filling out this form: _____

Contact Phone Number: _____

Contact Address: _____

Contact Email Address: _____

Building: _____

Room Number: _____

Room Type: _____

Department: _____

Faculty/Responsible Party

Alternate Contact Person:

Name: _____

Name: _____

Office Phone: _____

Office Phone: _____

Alternate Emergency Phone: _____

Alternate Emergency Phone: _____

Access Limitations: (check as many as applicable)

None

Faculty, Staff and Students.

Authorized Users Only.

Door must be kept locked at all times.

Entry only with prior notification/authorization by calling (name, phone number).

Name _____

Phone _____

Entry by Escort Only

Other _____

Section II (To be completed only for Laboratories; all others skip to Section III)

Personal Protective Equipment: (check as many as applicable)

Eye Protection: Glasses Goggles Laser goggles Face shield w/glasses/goggles

Foot Protection

Hand Protection

Hearing Protection

Respiratory Protection

Other _____

Chemical Hazards:

Food or Drink Allowed Yes No

Carcinogens NA High Medium Low

Compressed Gases NA High Medium Low

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- | | | | | |
|------------------------|-----------------------------|-------------------------------|---------------------------------|------------------------------|
| Corrosives | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Cryogenics | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Explosives | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Flammable Liquids | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Flammable Solids | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Flammable Gases | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Highly Toxic Chemicals | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | |
| Oxidizers | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Pyrophorics | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Water Reactives | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |

Biological Agents/Organisms:

Specify exact genus & species _____

Choose containment level:

- Containment Level 1
 Containment Level 2
 Containment Level 3
 N/A

Ionizing Radiation Hazards:

- | | | | | |
|------------------------------|-----------------------------|-------------------------------|---------------------------------|------------------------------|
| Ionizing Radiation Devices | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Ionizing Radiation Materials | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |

Other Hazards:

- | | | | | |
|----------------------|-----------------------------|-------------------------------|---------------------------------|------------------------------|
| Electrical | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| High Noise | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Laser | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Magnetic | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Microwave | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Radio Frequency (RF) | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |
| Ultraviolet Light | <input type="checkbox"/> NA | <input type="checkbox"/> High | <input type="checkbox"/> Medium | <input type="checkbox"/> Low |

Section III (To be completed for all spaces other than laboratories)

NFPA Diamond Hazard Selection:

- | | | | | | |
|---------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Health | <input type="checkbox"/> 0 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 |
| Fire (Flash Point) | <input type="checkbox"/> 0 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 |
| Chemical Reactivity | <input type="checkbox"/> 0 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 |

Other Specific Hazards (choose all that apply)

- | | | |
|--------------------------|--------------------------------------|----------------------------------|
| Carcinogens | <input type="checkbox"/> Not Present | <input type="checkbox"/> Present |
| Corrosives | <input type="checkbox"/> Not Present | <input type="checkbox"/> Present |
| Compressed Gas Cylinders | <input type="checkbox"/> Not Present | <input type="checkbox"/> Present |
| Oxidizers | <input type="checkbox"/> Not Present | <input type="checkbox"/> Present |
| Water Reactives | <input type="checkbox"/> Not Present | <input type="checkbox"/> Present |