



RADIATION SAFETY



Laboratory Rules

1. Smoking, eating or drinking shall not be permitted in radionuclide laboratories.
2. Food or food containers shall not be permitted in the laboratory and refrigerators shall not be used for common
3. Radionuclide work areas shall be clearly designated and should to the extent possible, be isolated from the rest of the laboratory. The work area shall be within a hood if the radioactive material to be used is in a highly volatile form.
4. All work surfaces shall be covered with absorbent paper which should be changed regularly to prevent the buildup of contamination.
5. Work involving relatively large volumes of activities of liquid radioactive material should be performed in a spill tray lined with absorbent paper.
6. Protective clothing shall be worn when working with radioactive materials. This includes laboratory coats, gloves and safety glasses (when working with liquids which could be hazardous to the eyes).
7. Dosimeters shall be worn when working with relatively large quantities of radionuclides which emit penetrating radiations.
8. Mouth pipetting shall not be permitted in radionuclide laboratories
9. All containers of radioactive materials and items suspected or known to be contaminated shall be properly labeled (i.e., with tape or tag bearing the radiation logo and word "radioactive).
10. All contaminated waste items shall be placed in a container specifically designated for radioactive waste. Sharp items such as needles or razor blades shall be place in a cardboard box, glass bottle, or "sharps" container.
11. A radiation survey shall be performed by the radionuclide user at the end of each procedure involving radioactive materials. All items found to be contaminated shall be labeled and decontaminated as soon as possible. EH&S shall be notified immediately if extensive contamination is found with the laboratory.
12. A record of the types and quantities of radionuclides possessed by each principal investigator at a given time shall be maintained.

Emergency Procedures

Minor Spills

Incidents involving the release or spillage of less than 100 microcuries of a radionuclide in a nonvolatile form can generally be regarded as minor. In such cases:

1. **Notify** all other persons in the room at once.
2. **Clear** the room of all persons except those needed to deal with the spill.
3. **Confine** the spill immediately.

Liquids: Drop absorbent paper or chemical (e.g., calcium bentonite) on the spill.

Solids: Dampen thoroughly taking care not to spread contamination. Use water, unless a chemical reaction would release air contaminants; otherwise use oil.

4. **Notify** the laboratory supervisor
5. **Notify** Public Safety, 273-4000

Major Spills

Incidents which occur outside of the hood and involve the release of more than 100 microcuries of a radionuclide in a nonvolatile form, or the release of any amount of a radionuclide in a volatile form, should be considered, "major." In such cases:

1. **Evacuate** the room immediately shutting doors and windows on the way out.
2. **Notify** the laboratory supervisor.
3. **Notify** the Department of Environmental Health and Safety. Phone: 273-3445/cell phone 230-6315.
4. **Post** the laboratory door with a "Keep Out" sign.
5. **Assemble** those persons who were present in the laboratory near the laboratory entrance.
6. **Wait** for assistance



**FOR RADIATION SAFETY
ASSISTANCE CALL:**
Environmental Health and Safety
273-3445 (During regular hours)
UNI Public Safety 273-4000 (After hours)

