

## 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 storage of food and radioactive materials.
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 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 or 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 lab coats, gloves, closed toe shoes and safety glasses.
7. Dosimeters shall be worn when working with 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 with tape or a tag bearing the radiation logo and the word 'Radioactive'.
10. All contaminated waste items shall be placed in a container specifically designated for radioactive wastes which are provided by the EHS.
11. A contamination survey shall be performed at least daily when procedures involving radioactive materials are performed. All items found to be contaminated either shall be placed in the radioactive waste container or other designated area. The EHS shall be notified immediately if personnel or other extensive contamination is found.
12. A record of the types and quantities of radionuclides possessed by each principal investigator shall be maintained.
13. Radioactive materials shall be protected from unauthorized removal or access at all times.

### Emergency procedures

#### Minor spills:

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

1. Notify all other persons in the vicinity.
2. Clear the area of non-essential personnel.
3. Confine the spill immediately.
  - Liquids: Place absorbent paper over the spill.
  - Solids: Dampen thoroughly, according to your lab protocols, taking care not to spread contamination.
4. Monitor and decontaminate the spill area as necessary.
5. Notify the EHS at 480-965-6140 or DPS at 480-965-3456 after hours, if extensive contamination is found or a personnel contamination e.g., skin or personal clothing, occurs.

#### Major spills:

Incidents which involve the release of more than 100uCi of a radionuclide in a nonvolatile form, the release of a large liquid volume or the release of any amount of a radionuclide in a volatile form, should be considered major spills.

In such cases:

1. Evacuate the room immediately shutting doors and windows on the way out.
2. Notify the laboratory supervisor at once.
3. Notify EHS at 480-965-6140 during normal working hours or DPS at 480-965-3456 on nights and weekends. Post all the laboratory door with a 'Keep Out' sign.
4. Assemble those persons who were present in the laboratory near the laboratory entrance.
5. Wait for assistance.

### Radiation safety assistance

- During regular office hours, contact Environmental Health and Safety at 480-965-6140.
- After hours, contact ASU Department of Public Safety at 480-965-3456.