

UNIVERSITY OF DELAWARE
SAFE HANDLING OF RADIOACTIVE MATERIALS

1. Obtain training in safe and compliant use of radioactive materials from the Department of Environmental Health and Safety prior to handling radioactive materials.
2. Limit the use of radionuclides to only those procedures that have been approved by the Radiation Safety Committee. Contact the Radiation Safety Officer to obtain approval for new uses of radioactive material.
3. Order radioactive material through the Department of Environmental Health and Safety. Get pre-approval from the Radiation Safety Officer for any transfers of radioactive material between labs or off-campus.
4. Survey incoming packages of radioactive materials for contamination.
5. Keep accurate records of all radioactive material received, in use, storage, transferred to another permit, or transferred for disposal.
6. Conduct radioactive work in labs that have been posted at the lab entrance with the radiation warning sign.
7. Use radioactive materials only on work surfaces within the room marked with radiation warning tape or signs. Do not place personal items such as keys, laptop, wallet/purse, etc on work surfaces where radioactive materials are used.
8. When using open containers of radioactive material, work over trays and/or benchpaper to minimize the spread of small spills and to facilitate decontamination.
9. Label items known or suspected to be contaminated with radiation warning tape and store them only in areas marked for radiation work.
10. Check work areas for contamination at the conclusion of radioactive material work each day. When contamination is found, clean area as soon as possible.
11. Follow good housekeeping practices in radiation work areas. Clean and organize work area after experiments, i.e. replace soiled benchpaper, dispose of trash, wash items intended for reuse, eliminate clutter.
12. Wear a long sleeved lab coat, disposable gloves, and ANSI approved eye protection whenever handling radioactive materials in open containers. Do not wear shorts, a short skirt, or sandals when conducting radioactive material work.
13. Survey hands, shoes, body and clothing for radioactivity and remove any contamination before leaving the laboratory.
14. Do not smoke, eat, drink, prepare food, or apply cosmetics in any laboratory where radionuclides are used. Do not store full or empty food containers in any laboratory where radionuclides are used.
15. Never pipette radioactive solutions by mouth.
16. Use time, distance, and shielding protection measures when handling high energy beta emitters and gamma emitters to minimize external radiation exposure. Use Plexiglas (plastic) shielding for beta emitters and high density shielding (e.g. lead) for gamma emitters.
17. Wear personnel dosimeters, if required, and comply with the rules concerning these dosimeters.
18. Properly label stored containers holding radioactive material with radiation warning tape. Also mark containers with the name of the radionuclide, the activity, and the storage date.
19. Report incidents and accidents involving radioactive material (e.g. spills, loss/theft, suspected/known ingestion) immediately to your Permit Supervisor and the Radiation Safety Officer.
20. Dispose of radioactive wastes in the proper containers. Segregate radioactive waste as required.
21. Maintain security of radionuclides in storage by locking the door to the lab when authorized workers are not present or by storing in padlocked freezers/refrigerators, locked storage boxes, or locked cabinets.
22. Challenge strangers that enter the radionuclide use area.