

SAFETY RULES FOR A RADIOISOTOPE LABORATORY

1. No smoking, eating, drinking, application of cosmetics, or storage of food is permitted in the area where radioactive materials are used or stored.
2. Personal belongings (i.e., books, purses, and clothing) must not be placed on laboratory workbenches.
3. Maintain good housekeeping at all times. Label all containers (i.e., beakers, test tubes, etc.) as to radioisotope, activity and date.
4. Usually the highest activity is handled when the radioisotope stock bottle (primary vial) is opened. If the material is such that there is a possible pressure build-up during shipment or storage, or if the material has volatile components such as tritium gas or iodine, the container must be opened in a fume hood with an adequate face velocity (>100 lfm < 150 lfm). Open any container with millicurie-level activity in a fume hood. Always assume the outside of the container/vial is contaminated once it is opened, and handle accordingly.
5. If possible, locate a radioisotope work area away from heavy traffic and doorways. Always line trays, benches, and hoods with plastic-backed absorbent paper before using radioactive material. This will help to confine spills and facilitate easy decontamination.
6. No pipetting of radioactive materials is to be done by **mouth**; use a syringe, pipettor, or other remote control device.
7. Use plastic or rubber gloves and lab coats whenever handling radioactive material; remove gloves before leaving the area where radioactive material is being used to prevent spread of contamination. Double gloves are recommended and should be changed frequently in order to limit the spread of contamination. Other protective clothing (e.g., aprons, safety glasses, etc.) should be worn when necessary.
8. Before leaving the laboratory always wash and then monitor your hands with the appropriate survey meter.
9. Shield all hard beta and gamma emitting radioisotopes to an exposure dose rate below 2 mR/hr at 1 foot. Use long-handled equipment when working with highly radioactive materials.
10. Wear your personnel monitoring device at all times while working in the laboratory. A personnel monitoring device should be worn on the chest.

11. All radioactive waste should be collected in suitable containers. These containers shall be labeled "CAUTION - RADIOACTIVE MATERIAL" and must show the isotope, amount, date and Principal Investigator's name. Liquid radioactive waste jugs must be stored in a container large enough to confine the volume of liquid.
12. All injuries occurring while handling radioactive materials shall be reported immediately to Radiation Safety.
13. Radioactive material shall be used and stored in such a manner as to prevent unauthorized persons from using or removing such material.
14. Report all spills and other incidents to the Radiation Safety Office immediately.
15. **Waste Disposal:** All potentially contaminated material must be disposed of as radioactive waste. The radioactive waste will be picked up by a member of the Environmental Health and Safety staff. In order to have a radioactive waste pick up, you must submit a [pick-up request](#) online. EH&S provides two cubic-foot cardboard boxes and labels. Clear plastic liners (4 ml and available from Central Storehouse) are required to prevent contamination of the boxes. EH&S provides five gallon jerry jugs with labels. No other containers are authorized. Only liquid material should be placed in the jerry jugs. No glassware. Biological waster material must be contained in double plastic bags and stored in a freezer until picked up. Scintillation Vials and Other Small Containers with Liquid Contents keep separately from other types of waste.