

Safe use of Radioactive Materials

Purpose: To outline general safety requirements for the use of radioactive materials. Specific policies have been established covering other aspects of radiation use at UTHSC including procurement, waste disposal, user authorization, training, security and other topics.

General: The sections below address the use of unsealed radioactive materials as well as the use of sealed sources.

Rules for the use of unsealed radioactive materials:

1. Eating, drinking, smoking, or using cosmetics is not permitted.
2. Never keep or store food or beverages in the laboratory or in refrigerators or freezers containing radioisotopes.
3. Always use appropriate rubber or plastic gloves, a lab coat and safety eyewear when handling radioisotopes.
4. Materials which could become airborne or which are volatile must be used in a fume hood. Hood ventilation should be left ON at all times.
5. All radioactive materials (or containers thereof) should be labeled. Isotope, approximate activity and date should be included.
6. Update the inventory record each day radioactive stock materials are used.
7. Never pipette anything (even water) by mouth.
8. Whenever possible use spill trays and absorbent material in work areas to contain spills and contamination.
9. Use proper secondary containment when storing or transporting radioactive materials.
10. Notify the Radiation Safety Office of all radioisotope spills.
11. Wash hands after handling any radioactive material.
12. Radioactive wastes are to be disposed of in accordance with the Radiation Safety Office procedures.
13. Before leaving the laboratory, return stock solutions of radioisotopes to designated storage areas, clean up your work area and dispose of radioactive waste.
14. Survey work areas during and after work with radioactive materials. *Surveys will consist of scans with an appropriate meter and wipe tests as appropriate.*
15. Appropriate shielding (as specified by Radiation Safety) should always be used.

REMINDER: Radioactive materials may not be transported by vehicle or off campus without prior approval from Radiation Safety.

Rules for the use of Sealed Sources:

1. Sealed sources must be labeled. The label must include the radiation symbol, isotope(s), calibration date and activity. (Most sources are labeled at time of manufacture)
2. Minimize contact time when handling sources.
3. Use long handled tools or remote handling devices when handling sources to reduce exposure (if warranted by isotope and/or activity).
4. Sources must be secured or attended at all times by a knowledgeable individual.
5. Use appropriate and adequate shielding to reduce radiation exposures.
6. Notify Radiation Safety immediately in the event that a source is damaged or if there is evidence that the source is leaking.
7. Notify Radiation Safety immediately if a source is missing.

REMINDER: Sources may not be transported by vehicle or off campus without prior approval from Radiation Safety.