

RULES FOR THE SAFE USE OF RADIONUCLIDES

Incoming Shipments:

1. Shipments of unsealed sources which could evaporate or result in the release of aerosols during normal opening must be opened in a laboratory hood.
2. Survey all shipping containers for contamination before disposal. Record the results of this survey on the shipping papers.
3. Dispose of any radioactively contaminated shipping containers as you would any other radioactive contaminated solid waste.

All Radionuclides:

4. Use caution signs and labeling tape to identify potentially contaminated areas and objects.
5. Label all radioactive containers or sealed sources correctly with date, radionuclide, and activity. Replace label if it becomes illegible.
6. Return sealed sources to secured storage areas immediately after use. No radionuclide, sealed or unsealed, may be left unattended in an unrestricted area.
7. Do not eat, drink, chew gum, smoke or apply cosmetics in the lab. (keep your hands away from your face)

External Radiation Hazards:

8. Have calibrated radiation monitoring instruments available and in use.
9. Use time, distance, and shielding to protect yourself and others from unnecessary exposure.
Practice ALARA - As Low As Reasonably Achievable.
10. Handle remotely if the radiation is greater than 10 mRem/hr at one inch.
11. If they have been issued to you, wear personal radiation dosimeters, either whole body and/or extremity badges.

Unsealed Sources:

Prevention of Internal Contamination: Toxic materials, including radionuclides, are internalized by Inhalation, Ingestion, Absorption, and Injection. Alpha emitters are the most dangerous radiologically because of the large size of the particle and the large

amount of energy released directly into body cells. Beta particles are also an internal hazard but do not do as much damage as alpha particles because of their smaller size and lower amount of energy.

12. Practice good personal hygiene habits. Clean and orderly laboratory work spaces are necessary to prevent contamination. Good handling techniques are essential.
13. Do not store food in the same refrigerator as the radionuclides - or any other hazardous material.
14. Use lab coats and disposable gloves. Change before taking samples into the counting room.
15. Confirm the laboratory hood is working correctly before using it for radionuclides or any hazardous material.
16. Use a laboratory hood if an aerosol could be created. Reduce generation of potentially contaminated dust by eliminating dry sweeping and brushing.
17. Wash hands frequently and thoroughly with soap - especially before eating. (at least 2 to 3 minutes washing time is suggested.)
18. Never mouth pipette - Not even when using extension tubes and filters.
19. Do frequent surveys to discover any unplanned spread of contamination.
20. Clean spills up immediately after discovery.
21. Dispose of waste in accordance with current procedures.

Medium and High Level Laboratories (at present there are none at UNH in this category)

22. No one may enter the laboratory without a radiation dosimeter.
23. An area monitor must be turned on at all times.
24. All persons entering a medium level laboratory must be radiation workers.
25. All objects must be surveyed before leaving the laboratory.