

Module 6

Radioactive Waste Handling, Storage and Disposal

Storage of Radioactive Waste

- Store waste in only approved bags and containers.
- Approved waste containers can be obtained from the Radiation Safety Office.
 - Pennington Biomedical Research Center may obtain approved waste containers from Pennington Stores.
- **Do NOT use anything that can be mistaken for an ordinary trash container.**

Approved Waste Containers



Storage of Radioactive Waste

- Do not mix aqueous and organic liquid waste together.
- Do not mix liquid and dry waste, i.e., do not dispose of such items as pipette tips in liquid waste nor vials with liquid in dry waste.
- Segregate dry waste by half-lives equal to or less than 100 days and that with half-lives greater than 100 days.

Storage of Radioactive Waste

- Do not mix scintillation vials that contain different radionuclides.
- Do not use coke bottles, milk bottles, etc. for storage of liquid waste.
- **Do NOT use anything that can be mistaken for an ordinary trash container.**

Legal Methods of Disposing of Radioactive Waste

- Hold for Decay,
- Dump to Sanitary Sewer,
- Dispose of as if not radioactive,
- Ship to Disposal Site.

Hold for Decay

- Waste items that have been directly exposed to radioactive material with a short half-life can be held for decay.
 - You can store waste in the laboratory (with prior approval from the RSO) if the half-life is no greater than 36 days.
 - The Radiation Safety Office can hold waste with half-lives up to 100 days.

Dump to Sanitary Sewer

- A limited amount of low activity aqueous liquid waste may be put into the sanitary sewer system.
- ***Prior approval from the Radiation Safety Office is REQUIRED.***
- Must be water soluble or a readily dispersible biological material in water.
- Concentration is limited by regulations, please check with the Radiation Safety Office.

Dispose of as if it not Radioactive

- Items containing negligible activities of radioactive material can be treated as if they contained no radioactive material.
- Scintillation cocktail and animal tissue may be disposed of as if not Radioactive. Items to be disposed of must contain **Less** than 0.05 microcuries per ml/g of C-14 or H-3.
- Disposal of such items by appropriate methods will pose negligible concern from radioactivity.

Ship to an approved disposal site

- Items that can not be disposed of by any other method will be transferred to a legally approved disposal facility for final disposition.
 - Sealed sources in gauges, detectors or counters and check sources are sent to approved disposal site.
 - The cost of radioactive waste disposal will be the responsibility of the generator.

Waste Disposal Tag

- All items bound for waste collection by the Radiation Safety office must have a proper affixed waste tag. (i.e., liquid waste bottles; dry waste bags or boxes).
- All waste tags must identify the PI's name, room #, isotope(s), estimated activity, date and appropriate volume (cubic feet or liters).

Principal Investigator: _____
 Location: _____
 Date radwaste rec'd: ____/____/____

Check category of package and describe below.

	H-3 and/or C-14	Half-life less than 100 days	Heavy Elements Mass > 209	Any other nuclides
1. Dry solid				
2. Aqueous waste				
3. Organic waste			XXX NOT ALLOWED	XXX
4. Vials				
5. Other liquids				
6. Other materials				
7. Animal or other biological				

Description of mat'l
 Isotope Amount mCi

Liquid Containers
 Bulk: _____ gal.
 _____ liters
 Vials: _____ total vials

Dry Waste
 _____ cubic ft.

For Radiation Safety Office use only
 Total Volume: _____ % of barrel