

RADIOACTIVE WASTE GUIDE

1. Segregate Waste By Half-Life

Short Lived ($T_{1/2} < 120$ days)

F-18, P-32, S-35, Cr-51, Tc-99m, I-125, etc.

Long Lived ($T_{1/2} > 120$ days)

H-3, C-14, U, Th, etc.

If an experiment involves mixing short and long lived radionuclides, then all waste should be placed in the "long-lived" category.

2. Segregate Waste By Material Category

After segregating by half-life, waste must be sorted by the physical and chemical form into the categories listed below. Do not mix different categories together. All waste containers must be properly marked as Radioactive Waste.

NOTE: For Short-Lived waste, you must obliterate or remove all radioactive material labels, stickers, and markings on items before putting them into the waste container.

A. Sharps

DO:

- Needles (must go in plastic sharps container)
- Glass and plastic pipettes, tips, and Pasteur pipettes
- Glassware
- Razor blades, etc.
- Glass ampules

DON'T:

- Lead
- Liquids
- Animal waste

Packaging:

Plastic sharps container or plastic bag in cardboard box



B. Dry Solids

DO:

- Dry, solid material
- Gloves, diaper paper
- Empty plastic LSC, centrifuge, or stock vials

DON'T:

- Lead
- Liquids
- Animal, biological material
- Sharps, glass
- Hazardous chemicals
- Glass or plastic pipettes/tips

Packaging:

Clear, heavy duty, plastic bag



C. Animal/Biological

DO:

- Frozen animal carcasses, parts
- Excreta, bedding, tissue, blood
- Separate animals from other bio waste
- < 10 kg (22 lbs) per package

DON'T:

- Unfrozen animals
- > 10 kg (22 lbs) per package
- Mix with other waste forms (sharps, dry solid, etc.)

Packaging:

Clear, heavy duty, plastic bag or cardboard box



D. NHNT Liquids

(Non-Hazardous, Non-Toxic)

DO:

- NHNT liquids, including full LSC vials or cocktail (e.g., Optifluor)
- Bulk liquid or full vials
- Separate "hot" and "cold" vials

DON'T:

- Mix with hazardous, toxic, or flammable liquids
- Dispose of any full LSC vials or cocktail in regular trash or drain

Packaging:

Full vials in cardboard trays in original box (preferred) or in clear, heavy duty bag; liquid in bulk container provided by RHD (emptied plastic vials in dry waste or glass vials in sharps)



E. Flammable, Hazardous, or Toxic Liquids

DO:

- Avoid or minimize creating "mixed" hazardous and radioactive waste
- Toluene, xylene, hexane, etc.
- Acids, bases, Hg, Pb, etc.
- Separate flammable from non-flammable liquids

DON'T:

- Dispose in regular trash or drain
- Mix with NHNT liquids

Packaging:

Full vials in trays in original box (preferred) or in clear, heavy duty bag; liquid in bulk container provided by RHD



3. Arrange for Waste Pickup

1. Make sure waste is properly segregated and packaged, as described above
2. Securely close and survey each package
3. Complete a waste tag for each package
4. Schedule a waste pickup on-line (see www.rso.utah.edu for instructions)



RADIOLOGICAL HEALTH DEPARTMENT
THE UNIVERSITY OF UTAH

Questions? Contact the Radiological Health Department at 801-581-6141 or see information at www.rso.utah.edu

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Completing a Waste Tag

Each individual waste package must be accompanied by a complete and legible waste tag affixed to the package. The waste tag must be completed in pen, legible on all 3 copies, and signed and dated by the preparer. Waste with missing, incomplete, or illegible waste tags will not be picked up.

No 58759

CAUTION - RADIOACTIVE WASTE

ONLY ONE MATERIAL CATEGORY ALLOWED PER PACKAGE!
KEEP LEAD CONTAINERS SEPARATE FROM WASTES!

DRY, COMPACTIBLE, SOLID WASTE
 SHARPS (NEEDLES, PIPETS, ETC.)
 ANIMAL OR OTHER BIOLOGICAL WASTE
 NON-HAZARDOUS, NON-TOXIC AQUEOUS LIQUID
 FLAMMABLE, HAZARDOUS OR TOXIC LIQUID
 TOXIC OR HAZARDOUS, NON-FLAMMABLE LIQUID
 OTHER MATERIALS (DESCRIBE BELOW)

FOR LIQUIDS:
 Mini
 Standard
 Bulk container: _____ Gallon
 Volume of contents: _____ Gallon

DESCRIBE MATERIAL - give names of ALL chemicals and fluors

 If any constituent is a "HAZARDOUS MATERIAL" as defined by the EPA, complete and ATTACH a HAZARDOUS WASTE DESCRIPTION

INCLUDES ACTIVITY Circle Units
 A B C
 _____ $\mu\text{Ci/mCi}$ _____ $\mu\text{Ci/mCi}$ _____ $\mu\text{Ci/mCi}$

CHECK ALL APPLICABLE CATEGORIES:
 Long-lived, half-life > 120 days
 Short-lived, half-life < 120 days
 BETA-GAMMA Emitters
 ALPHA Emitters or Mass > 204

DOES THIS PACKAGE CONTAIN ANY "RADIOACTIVE MATERIAL" LABELS? Circle one: Yes No

I certify under penalty of law that to the best of my knowledge this information is accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility for fine and imprisonment.
 Name of Responsible User (print): _____

Prepared by: _____ Ready/Call-in Date: _____

RADIOLOGICAL HEALTH USE ONLY:
 Acceptance Date: _____ By: _____
 Compacted Stored in bin Emptied into bulk jug
 Cremated Absorbed or Solidified Bostabilized
 Crushed vials Container #: _____
 Process Date: _____ By: _____
 Shipped drum Released liquid Released solid short-lived
 Released to EH&S Released to ARC
 Maximum Exposure Rate at Contact: _____ mR/hr
 Survey Instrument ID: _____ Calib. Date: _____
 Disposal Date: _____ By: _____

RPR 13E (3/03) **Generator's Copy No 58759**

Check the correct box for the type of waste

List:
 (A) Each radionuclide (H-3, P-32, S-35, etc.)
 (B) the total activity of each
 (C) the correct activity units (uCi or mCi)

Sign and date the completed waste tag.

If LSC vials, circle either "Mini" or "Standard" size

For bulk liquids, indicate the volume of the container and waste amount (gallons)

Describe the material, including all known chemicals and fluors

Check all applicable decay characteristics

Indicate if the package contains any Radioactive Material Labels

Print the name of the Responsible User