

# RADIOACTIVE WASTE GUIDE

## 1. Sort by HALF-LIFE ( $T_{1/2}$ )

### Short Lived ( $T_{1/2} \leq 175$ days)

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

### Long Lived ( $T_{1/2} > 175$ days)






H-3, C-14, Uranium, Thorium, etc.

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

## 2. Sort by RADIOACTIVE WASTE TYPE

After sorting by half-life, waste must then be sorted by their physical and chemical form into the categories listed below. Do not mix different categories together. All waste containers must be properly marked as "radioactive".

NOTE: For Short-Lived waste, deface or remove all radioactive material labels, stickers, and markings on items before putting them into waste containers.

WASTE TYPE	DO INCLUDE	DO NOT INCLUDE	PACKAGING
A. <i>SHARPS</i>	<ul style="list-style-type: none"> <li>• Needles (must go in plastic sharps container)</li> <li>• Glass and plastic pipette, tips, and Pasteur pipettes</li> <li>• Glass ampoules, other glassware</li> <li>• Razor blades, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Lead</li> <li>• Liquids</li> <li>• Animal/biological waste</li> </ul>	<ul style="list-style-type: none"> <li>• Plastic sharps container or plastic bag in cardboard box</li> </ul> 
B. <i>DRY SOLIDS</i>	<ul style="list-style-type: none"> <li>• Dry, solid radioactive material</li> <li>• Gloves, absorbent pads or paper</li> <li>• Empty plastic vials</li> </ul>	<ul style="list-style-type: none"> <li>• Lead</li> <li>• Liquids</li> <li>• Animal, biological material</li> <li>• Sharps, glass</li> </ul>	<ul style="list-style-type: none"> <li>• Clear, heavy duty, plastic bag</li> </ul> 
C. <i>ANIMAL / BIOLOGICAL</i>	<ul style="list-style-type: none"> <li>• Frozen animal carcasses, parts</li> <li>• Excreta, bedding, tissue, blood</li> <li>• Separate animals from other bio waste</li> <li>• &lt; 10 kg (22 lbs) per package</li> </ul>	<ul style="list-style-type: none"> <li>• Unfrozen animals</li> <li>• &gt; 10 kg (22 lbs) per package</li> <li>• Other waste types</li> </ul>	<ul style="list-style-type: none"> <li>• Clear, heavy duty, plastic bag or cardboard box</li> </ul> 
D. <i>LIQUIDS (Non-Hazardous, Non-Toxic)</i>	<ul style="list-style-type: none"> <li>• NHNT liquids, including full LSC vials or cocktail (e.g., Optifluor)</li> <li>• Bulk liquid or full vials</li> </ul>	<ul style="list-style-type: none"> <li>• Hazardous, toxic, or flammable liquids</li> <li>• Non-radioactive vials/liquids</li> </ul>	<ul style="list-style-type: none"> <li>• Full vials in cardboard trays in original box (preferred) or in clear, heavy-duty bag;</li> <li>• Bulk liquids in carboy containers</li> </ul> 
E. <i>MIXED WASTES (Hazardous, Toxic)</i>	<ul style="list-style-type: none"> <li>• Avoid or minimize creating "mixed" hazardous and radioactive waste</li> <li>• Toluene, xylene, hexane, etc.</li> <li>• Acids, bases, Hg, Pb, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-hazardous, non-toxic material</li> </ul>	
F. <i>SEALED SOURCES</i>	<ul style="list-style-type: none"> <li>• Non-dispersible radioactive material in original configuration</li> <li>• Single solid piece of radioactive material</li> </ul>	<ul style="list-style-type: none"> <li>• Dispersible radioactive material</li> <li>• Radioactive material in bottles/vials</li> </ul>	<ul style="list-style-type: none"> <li>• Original container with sealed source documents</li> </ul> 