


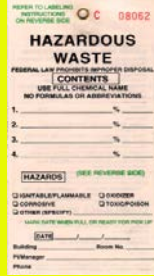






Waste Category	Radioactive Waste	Chemical Waste	Biological Waste	Waste Mixtures		
	<i>These wastes requires special procedures. Contact EH&S for advice.</i>			Bio/Chem	Bio/Rad	Chem/Rad
Liquid	<p>Segregate waste by radionuclide, e.g., ³²P, ¹²⁵I, ¹⁴C, ³⁵S, ³H. Collect segregated, tightly-capped scintillation vials in double-bagged 4-mil plastic bags. Pack no more than 200 vials or 400 mini vials per container. Collect scintillation vials with ³H and ¹⁴C in one bag and segregate vials with activity less than 0.05 µCi per mL from those with more than 0.05 µCi per mL. Use tape or completed radiation waste tag to close the bag. Specify brand name of scintillation fluid on tag.</p> <p>Pack aqueous, non-hazardous, segregated liquid waste (other than scintillation fluid) in EH&S-provided liquid containers. Follow instructions on bottle label. Do not mix organic and inorganic liquids. Ensure container does not have free-standing liquid. Place container into clear plastic bag. Use tape or completed radiation tag to close bag. Secondary aqueous liquid waste within sink disposal limits may be disposed into designated and posted lab sink. Log all sink disposal on posted radionuclide sink log.</p>	<p>Collect chemical waste in containers at Satellite Accumulation Area (SAA) labeled with a green SAA instruction sign. Attach completed hazardous waste tag (without date) to each container.</p>  <p>Keep all waste containers in secondary containers (purchased at VWR in Cambridge or provided by EH&S in Longwood). Separate incompatible chemical waste. Keep waste containers closed: <i>don't let waste evaporate under the hood</i>. When waste container is full or ready for pickup, date the tag and request pickup (if not pre-scheduled). Dated waste must be picked-up within 3 business days.</p>	<p>Treat liquid waste containing BL1 or BL2 materials with 10% bleach (final concentration) or other approved disinfectant for 20 minutes before sink disposal. For waste with a high organic content, use 20% bleach. Flush the drain with water after disposal.</p> <p><i>Culture plus bleach (20 minutes) to sink</i></p>  <p>BL3 labs must follow laboratory-specific SOPs for liquid waste disposal.</p>	<p>Mixed biological/chemical waste can be disinfected by using carefully selected chemical treatments only if compatible with other chemicals in the experiment. Handle resulting waste as hazardous chemical liquid waste. Call EH&S for advice on avoiding adverse chemical reactions.</p>	<p>Disinfect liquid waste with bleach (10% final concentration), except iodinated liquid waste (in which case, use phenolic disinfectant). If waste is within radionuclide sink disposal limits, dispose of in designated and posted sink. If levels are above radionuclide sink disposal limits, then package in EH&S-provided containers.</p> 	<p>Please call Radiation Protection Office at x6-3797 for advice.</p>
Solid	<p>Segregate waste by radionuclide, e.g., ³²P, ¹²⁵I, ¹⁴C, ³⁵S, ³H. Deface (tear off/scratch out/cover with marker) "radioactive" symbols/labels/markings. Collect defaced, segregated solid waste (excluding iodine or animal carcasses) in 4-mil thick clear plastic bag. Place iodine waste into two individually-taped 4-mil thick clear plastic bags. Maintain running estimate of radioactivity per bag. Use tape or completed radiation waste tag to close bag. Place animal carcasses and animal and human pathological waste in a black 4-mil thick plastic bag. Use tape or completed radiation waste tag to close bag, and store in designated freezer. Package lead "pigs" or lead shielding separately in plastic bags for pickup.</p>	<p>Collect solid chemical waste in pails or plastic bags in a labeled Satellite Accumulation Area (green sign). Attach completed hazardous waste tag (without date) to each container. Keep pails or bags of waste tightly closed. When waste container is full, date the tag and request a pickup (if not pre-scheduled). Dated waste must be picked up within three days. Empty chemical bottles that contained acutely hazardous (P-listed) materials must be tagged as hazardous waste.</p> 	<p>Collect BL1 and BL2 solid waste in red bag-lined containers labeled with the biohazard symbol.</p>  <p>Follow laboratory-specific SOPs for BL2+ and BL3 solid waste.</p>	<p>Animal and human tissue in 10% formalin (3.75% formaldehyde) is treated as hazardous chemical waste. Label the hazardous waste tag: 10% formalin & non-infectious human or animal tissue. Call EH&S for advice on other bio/chemical waste.</p>	<p>Disinfect biologically contaminated radiological solid waste by soaking in a suitable disinfectant. Discard disinfectant waste in designated and posted sink if radiological contamination is within sink disposal limits. Monitor solid waste for radioactivity. If activity exceeds 1.5 x room background, treat as radioactive waste.</p>	<p>Please call Radiation Protection Office at x6-3797 for advice.</p>
Sharps	<p>Place all radiologically-contaminated sharps in red sharps container labeled: "Caution Radioactive Waste Sharps."</p>  <p>Place the red sharps container in clear 4-mil thick plastic bag. Use tape or completed radiation waste tag to close bag.</p> 	<p>If biological sharps also generated in lab, see info for Bio/Chem Waste Mixtures. Chemically-contaminated sharps: collect in black sharps container (get from VWR stockroom or online), label as hazardous waste, and arrange pickup by hazardous waste vendor. Sharps with minimal chemical residue (after chemicals are poured or rinsed off) and empty controlled-substance bottles that never contained P-listed material can be collected in black sharps containers, markings crossed off/covered with non-hazardous waste label (available from hazardous waste vendor), and picked up by hazardous waste vendor on request. Empty glass bottles that never contained acutely hazardous (P-listed) material and used with non-hazardous materials: collect in cardboard box labeled "glass."</p>	<p>Sharps (e.g., needles, scalpels, lancets, slides, coverslips, glass Pasteur pipettes, capillary tubes, or broken contaminated glass) contaminated with BL1 or BL2 material: collect in red sharps containers. When ¾ filled, close the sharps container:</p> <ul style="list-style-type: none"> If disposable, place it in a biowaste box/bin (see above). If reusable, waste vendor will pick up filled, closed containers. <p>Follow laboratory-specific SOPs for BL2+ and BL3 sharps waste.</p> 	<p>Sharps contaminated with BL1 or BL2 material (that never contained P-listed chemicals, and other chemicals are poured off): place in red sharps container. Sharps with significant chemical contamination or P-listed wastes: disinfect and collect in black sharps container and label as hazardous waste. Follow laboratory-specific SOPs for BL2+ and BL3 sharps waste.</p>	<p>Please call Radiation Protection Office at x6-3797 for advice.</p>	<p>Please call Radiation Protection Office at x6-3797 for advice.</p>
Waste Pickup/Supplies	<p>Use Radiation Protection Office online form to request waste pickup. Waste supplies are available from staff during pick-ups. To request disposable sharps containers on Longwood Campus, use hazardous waste online form or call x2-1720.</p>	<p>Use hazardous waste online form or call EH&S (2-1720 Longwood or 6-3322 Cambridge) to request a waste pickup or supplies (e.g., green SAA sign, tags, bins, or sharps containers).</p>	<p>To request biowaste containers, call x2-1028/x2-1567 (HMS) or x5-2345 (Cambridge Campus). To request disposable or reusable sharps containers on Longwood Campus, use hazardous waste online form or call x2-1720.</p>	<p>This guide applies to many, but not all, substances/situations.</p> <p>lab_safety@harvard.edu www.ehs.harvard.edu</p> <p>Revision Date: 8/6/13</p>		