





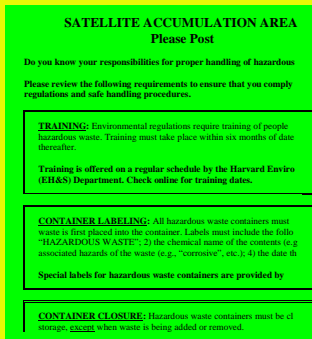

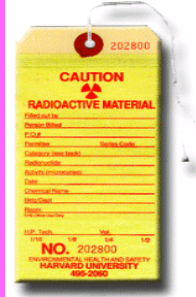




Waste Category	Radioactive Waste	Hazardous Chemical Waste	Biological Waste	Mixed Waste		
	 www.uos.harvard.edu/ehs/radiation/waste.shtml Phone: 617-496-3797	 www.uos.harvard.edu/ehs/environmental/hazardous_waste.shtml	 www.uos.harvard.edu/ehs/biosafety For BL3 waste, refer to your lab-specific SOP.	Mixed waste often requires special procedures. Please contact EHS for proper disposal procedures.		
	Liquid			Bio/Chem	Bio/Rad	Chem/Rad
	<p>Segregate waste by radionuclide e.g., ³²P, ¹²⁵I, ¹⁴C, ³⁵S, ³H</p> <p>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 the vials with activity less than 0.05 µCi per ml from those with more than 0.05 µCi per ml. Use tape or the completed radiation waste tag to close the bag. Specify the brand name of the scintillation fluid on the tag.</p> <p>Pack aqueous, non-hazardous, segregated liquid waste (other than scintillation fluid) in EHS-provided liquid containers. Follow instructions on the bottle label. Do not mix organic and inorganic liquids. Ensure the container does not have free-standing liquid. Place the container into a clear plastic bag. Use tape or the completed radiation tag to close the bag.</p> <p>Secondary aqueous liquid waste within <u>sink disposal limits</u> may be disposed into a designated and posted lab sink. Log all sink disposals on the posted radioactive sink log sheet.</p>	<p>Collect chemical waste in containers at a Satellite Accumulation Area (SAA) labeled with a green SAA instruction sign. Attach a completed hazardous waste tag to each waste container.</p> <p>Each waste container must be in a secondary container (e.g., gray bins provided by EHS). Place incompatible chemical waste containers in separate bins. Keep waste containers closed - do not allow waste to evaporate under the hood.</p> <p>When a waste container is full or ready for pickup, date the tag and request a pickup. Dated waste must be picked-up within 3 business days of date on tag.</p> 	<p>Treat all liquid waste containing biohazardous or viable material with an appropriate liquid disinfectant before sink disposal. The final concentration of disinfectant in liquid waste varies by disinfectant; e.g., 10% bleach, 1% Wescodyne, 1:125 Vesphene. Contact time is 20 minutes, in general. <i>Read the disinfectant label for proper use, dilution, and contact time (may vary depending on infectious agent).</i> Flush the drain with water after disposal.</p>  <p>An autoclave may be used instead of liquid disinfectants if spore testing is periodically performed to validate the autoclave (per Mass. DPH regulations). In general, avoid autoclaving liquid disinfectants, chemicals, or radionuclides.</p>	<p>Mixed biological/chemical waste can be disinfected by using carefully selected chemical treatments only if compatible with the other chemicals in the experiment. Handle resulting waste as hazardous chemical liquid waste. Call EHS at x2-1720 for advice on avoiding adverse chemical reactions.</p>	<p>Disinfect iodinated liquid waste with a phenolic disinfectant; e.g., Lysol™. Disinfect all other liquid waste with bleach (10% final concentration.)</p> <p>If the waste is within <u>radiological sink disposal limits</u>, dispose of in designated and posted sink.</p> <p>If levels are above <u>radiological sink disposal limits</u>, then package in EHS-provided containers.</p> 	<p>Please call the Radiation Protection Office at x6-3797 for advice.</p>
	<p>Segregate waste by radionuclide e.g., ³²P, ¹²⁵I, ¹⁴C, ³⁵S, ³H</p> <p>Deface (tear off/scratch out/cover with a marker) "radioactive" symbols/labels/markings. Collect defaced, segregated solid waste (excluding iodine and 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 the radioactivity per bag. Use tape or the completed radiation waste tag to close the bag.</p> <p>Place animal carcasses and animal and human pathological waste in a black 4-mil thick plastic bag. Use tape or the completed radiation waste tag to close the bag, and store in a designated freezer.</p> <p>Package lead "pigs" or lead shielding separately in plastic bags for pickup.</p>	<p>Collect solid chemical waste in containers (pails or plastic bags) at an SAA labeled with the green sign. Attach a completed hazardous waste tag to each waste container. Keep waste containers closed - do not allow liquid waste mixed with solid waste to evaporate under the hood.</p> <p>When waste container is full, date the tag and request pickup. Dated waste must be picked up within three days. Empty <u>acutely hazardous (P-listed)</u> chemical bottles must be tagged as hazardous waste.</p> 	<p>Collect BL2 solid waste in rigid, closable containers lined with a red autoclave bag (label containers "biohazard"). After autoclaving BL2 waste, place in a double-lined biowaste cardboard box. It is not necessary to autoclave BL1 solid waste before placing it in a biowaste box.</p> <p>If an autoclave is not available, disinfect BL2 solid waste (except agar plates) by soaking in an appropriate disinfectant for a sufficient contact time. Dispose of the disinfectant in the sink, and place the solid waste in a biowaste box.</p> <p><i>Note: Cover all biowaste containers when not in use. Don't put plates or tubes with liquid in solid biowaste containers (see above for liquid disposal). Write your bldg. and room # on the biowaste box before pickup.</i></p>	<p>Treat non-infectious animal or human tissue in 10% formalin as liquid chemical waste and label the hazardous waste tag "10% formalin + non-infectious animal tissue" or "10% formalin + non-infectious human tissue."</p> <p>Call EHS at x2-1720 for advice on other bio/chemical waste.</p>	<p>Disinfect biologically contaminated radiological solid waste by soaking in suitable disinfectant. Discard disinfectant waste in designated and posted sink if radiological contamination is within sink disposal limits.</p> <p>Monitor solid waste for radioactivity. If activity exceeds 1.5X the room background, treat material as radioactive waste.</p>	<p>Please call the Radiation Protection Office at x6-3797 for advice.</p>
	<p>Place all radiologically-contaminated sharps in a biosharps container labeled: "Caution Radioactive Waste Sharps"</p> <p>Place the biosharps container in a clear 4-mil thick plastic bag. Use tape or the completed radiation waste tag to close the bag.</p>  	<p>Collect sharps, e.g., needles, scalpels, razor blades, slides, coverslips, Pasteur pipettes, and capillary tubes with minimal residue (not dripping or thickly encrusted) in a biosharps container. When the container is ¾ full, close it, and place it in a double-lined biowaste box.</p> <p>Dispose of empty glass bottles that never contained <u>acutely hazardous (P-listed)</u> material in a cardboard box labeled "glass bottles for trash." When full, tape box and leave in lab for custodial pickup. Place empty controlled-substance bottles that never contained <u>P-listed</u> material in a biosharps container.</p>	<p>Collect sharps (e.g., needles, scalpels, razor blades, slides, coverslips, Pasteur pipettes, capillary tubes, broken contaminated glass) in a biosharps container. Note: plastic serological pipettes are not considered "sharps" unless they are broken and have a sharp point.</p> <p>When the container is ¾ full, close it, and place it in a double-lined biowaste box. DON'T OVERFILL BIOSHARPS CONTAINERS.</p> <p>Place empty uncontaminated glass media bottles in a cardboard box labeled "glass bottles for trash." When full, tape the box and leave in the lab for custodial pickup.</p>	<p>Biological sharps with minimal chemical residue can be placed in biosharps container.</p> <p>If there is significant chemical residue, please call EHS at x2-1720 for advice.</p>	<p>Please call the Radiation Protection Office at x6-3797 for advice.</p>	<p>Please call the Radiation Protection Office at x6-3797 for advice.</p>
Waste Pickup and Supplies	<p>Use the <u>Radiation Protection Office online form</u> to request a waste pickup. Waste supplies will be available from staff during pick-ups. To request biosharps containers, use the <u>hazardous waste online form</u> or call x2-1720.</p>	<p>Use the <u>hazardous waste online form</u> or call x2-1720 to request a waste pickup or supplies (green SAA instruction sign, tags, or bins).</p>	<p>To request biosharps containers, use the <u>hazardous waste online form</u> or call x2-1720. To request biowaste boxes, call Custodial Services: HMS x2-1028/x2-1567; HSPH x2-4270.</p>	<p>This guide applies to many, but not all, substances/situations</p> <p>Version 1.2: 7/17/2008</p> <p>www.uos.harvard.edu/ehs/longwood/HarvardLongwoodLabWasteGuide.pdf</p> <p>Copyright © 2008 The President and Fellows of Harvard College</p>		