

Table 4.2
Laboratory Waste Disposal Procedures

Inorganic (usually acidic) laboratory wastes are stored in 1-gallon polyethylene bottles. Organic wastes are stored in 4-liter or 2.5-liter safety glass bottles. Safety glass bottles have a PVC skin on the exterior of the bottles that prevents the bottle from shattering if dropped accidentally. When a waste bottle is full, it is taken to the waste storage room and emptied in an appropriate drum according to waste type. All drums are labeled.

Samples that have been analyzed and reported, and flagged as hazardous (based on analyte concentration or flammability) are taken to the waste storage room and placed in an appropriate container according to the nature of the sample. Non-hazardous aqueous samples are poured down the sink drain while flushing with copious amounts of tap water. Non-hazardous solid samples are disposed in the garbage. Disposal of all samples is documented in the LIMS chain of custody record with the technician's name and date.

Table 4.3 lists the classes of laboratory wastes generated and all associated storage and disposal methods. Final disposal of organic and concentrated inorganic wastes is contracted through a hazardous waste (HW) contractor.

Chemistry Waste Disposal Procedures

Waste Type	Associated Analytical/Sample Prep Methods	Storage Procedures	Disposal Procedures
Halogenated Solvents & Waste	Pesticide/Herbicides, BNA	Store in glass bottles, then in drum	Disposal by HW contractor
Nonhalogenated Solvents & Waste	Pesticide/Herbicide, BNA, HPLC, VOC	Store in glass bottles, then in drum	Disposal by HW contractor
Mercury Contaminated Organic Solvent or Waste	Pesticide/Herbicide	Store in glass bottles, then in drum	Disposal by HW contractor
All neat standards & standards exceeding hazardous waste standards	All Organic & Inorganic Analyses	Store in original bottle	Disposal by HW contractor

Waste Type	Associated Analytical/Sample Prep Methods	Storage Procedures	Disposal Procedures
Mercury (>30 ug/L) from Inorganic Analyses	Metals, Nutrients	Store in plastic bottles, then in drum	Disposal by HW contractor
PCB Waste	Pesticides, BNA	Store in Glass bottles	Disposal by HW contractor
All samples containing Organics or Inorganics exceeding hazardous waste standards	All analytical groups	Store in original bottles or jars	Disposal by HW contractor
Trace Metal Waste (including Mercury) exceeding hazardous waste standards	Standard & Sample digestates	Store in plastic bottles, then in drum	Disposal by HW contractor
Acids: H ₂ SO ₄ , HCl & HNO ₃	All analytical groups	None stored	Acids ≤ 20%, dilute with tap water and rinse down sanitary sewer drain. Acids > 20% or unknown concentration, either neutralized before dilution or placed as-is in waste room for professional disposal.
Solid, Hazardous Wastes	Filters and filter cakes for BNA, Pesticides and herbicides	Lab-Pack	Disposal by HW contractor

Biology Waste Disposal Procedures

Waste	Storage and Segregation	Disposal
Acetone	Temporarily stored in a labeled bottle in an air-conditioned area of the laboratory. When full, transferred to the appropriate container in the Chemistry Program Hazardous Waste storage room.	Disposal by HW contractor

Waste	Storage and Segregation	Disposal
Ethanol	Temporarily stored in a labeled carboy in an air-conditioned area of the laboratory. When full, transferred to the appropriate container in the Chemistry Program Hazardous Waste storage room.	Disposal by HW contractor
Acids: H ₂ SO ₄ , HCl & HNO ₃	None stored.	Acids ≤ 20%, dilute with tap water and rinse down sanitary sewer drain. Acids > 20% or unknown concentration, either neutralized before dilution or placed as-is in waste room for professional disposal.
Methanol	None stored.	Disposal by HW contractor
NaOH	None stored.	Dilute with tap water and rinse down sanitary sewer drain.
Formalin	Temporarily stored in a labeled carboy in an air-conditioned area of the laboratory. Excess formalin recycled in a distillation unit on site or transferred to the appropriate waste container in Chemistry Program Hazardous Waste storage room.	Disposal by HW contractor
Lugol's Solution	Transferred to the Chemistry Program Hazardous Waste storage room.	Disposal by HW contractor. Excess algal sample diluted with tap water and rinsed down sanitary sewer drain.
Biohazard tubes and plates	Depending on bacterial species, stored at room temperature or refrigerated in culture tubes or plates.	Placed in biohazard bag, autoclaved for 45 min., disposed of in trash.
Excess and waste bioassay sample.	Excess sample is stored in original container in refrigerator until disposal. Waste sample from tests remains in test vessels until disposal.	Disposed of down sanitary sewer drain. Samples with noxious odors are washed down the drain under the fume hood.
Hazardous wastes (broken mercury thermometers, etc.)	Transferred to the appropriate container in the Chemistry Program Hazardous Waste storage room.	Disposal by HW contractor