Chemical Waste Disposal

Purpose
This procedure specifies the proper identification, packaging, transportation and disposal of chemical waste to ensure the safety of lab personnel and ESF staff, and in compliance with all applicable legislation.

Scope
This disposal procedures applies to surplus hazardous chemicals or experimental chemical by-products which can be managed by the Environmental Services Facility (ESF).

The hazardous waste chemicals may be classified under the Transportation of Dangerous Goods (TDG) Regulations (classes 3, 4, 5, 6.1, 8, 9), Workplace Hazardous Materials Information System (WHMIS), or Globally Harmonized System (GHS).

Hazardous laboratory chemicals may include the following liquid or solid materials:
- Corrosive (acids, bases, etc)
- Environmentally hazardous (toxic to aquatic environment)
- Fatal or Toxic
- Flammable (solvents, flammable solids, etc.)
- Health hazard (carcinogen, mutagen, etc.)
- Leachable toxic waste
- Oxidizer
- Organic peroxide
- Pest control products
- Polycyclic aromatic hydrocarbons waste
- Spontaneously combustible (pyrophoric or self-heating)
- Tetrachloroethylene waste
- Water reactive

This procedure does not include hazardous wastes that ESF does not manage or handle:
- Unknown (unidentified) solid or liquid chemicals (any TDG or WHMIS/GHS class)
- Potentially explosive – very unsafe reactive chemicals (any TDG or WHMIS/GHS class)
- Gas cylinders compressed and lecture bottles (TDG class 2)
- Radioactive chemicals (TDG class 7)

Background
Disposal of hazardous chemicals in the landfill or sewer is prohibited by the BC Hazardous Waste Regulation, 2009 and by the Metro Vancouver Sewer Use Bylaw No. 299, 2007.

Hazardous waste is defined by the BC Hazardous Waste Regulation, 2009 as dangerous goods, if they are:
- no longer used for their original purpose, and
- meet the criteria for Class 2, 3, 4, 5, 6, 8, or 9 of the federal dangerous goods regulations.

ESF chemical packaging classes are based on the current TDG regulations Part 2, substances classification. ESF reserves the right to refuse the handling and disposal of improperly packaged, unidentified, unsafe/very reactive and/or incorrectly identified chemicals.
Hazardous Waste Disposal Procedure

Procedure

• Dispose of lab chemicals (i.e. all hazard classes acceptable at ESF) via the online Chemical Waste Inventory System (CWIS).
• Review the supplier Safety Data Sheet (SDS) – provide to ESF as necessary.
• Check if the chemicals you are disposing of are hazardous or non-hazardous.
  o Non-hazardous chemicals may be disposed of down the drain or in the normal garbage with caution.
• Provide the waste generator contact information and full chemical names (no abbreviations), per details below*.
• Await approval by ESF - disposal requests will be processed by an ESF technician and approval forms will be e-mailed back to generators.
  o Approval forms include: disposal authorization number, chemical hazard classification and date by which chemicals must be prepared for disposal.
• Package chemicals in strong cardboard boxes (or plastic Rubbermaid containers) according to chemical hazard classes (i.e. TDG classes) and compatibilities.
  o ONLY chemicals with the same hazard class can be packed in the same box!
  o Secure lids and caps and ensure there is no leakage.
  o Keep chemical containers upright inside the box to prevent spilling.
• Do NOT exceed 10 kg for each box.
• Secure waste containers with appropriate packing material to prevent breakages inside the box.
• Tape the box closed to prevent chemicals from falling out during transportation.
• Place the approval form in an envelope and tape the envelope onto the box.
• Write the department name, generator name, and contact information on the envelope.
• The inventory form must include all chemicals that are in the box.
• Write the chemical hazard classification class (code) on top of the box in large letters.
• Place the box(es) in the building’s designated waste area for pick-up by ESF.
• ESF will NOT pick-up unsafely packaged chemicals.
• Contact ESF at 604-822-6306 if you have any questions.

*How to Properly Use the Chemical Waste Inventory System (CWIS):

• User accounts required information:
  o UBC email addresses of waste generators and/or PIs
  o Chemical safety certification
• Find the best match to the name of your chemical from the online inventory list and only add a new name/description if there is no entry.
• Complete chemical information includes: full chemical names, concentration, physical state, volume, quantity.
• Do not use abbreviations, formulae, acronyms, trade names, foreign names. Remember that chemicals often have synonyms, including IUPAC names.
• Do NOT include the word “waste” in the chemical name.
• List the most hazardous component of highest concentration first, i.e. do not list water first.