

## Chemical Waste Disposal for 14<sup>th</sup> floor (green containers)

### 1. Definition:

- a. Chemical waste includes solids, liquids or gases containing or contaminated with any of:
  - flammable solvents (e.g., acetone, alcohols, acetonitrile)
  - leachate toxic materials (e.g. heavy metals, pesticides)
  - corrosives (e.g., hydrochloric acid, potassium hydroxide pellets)
  - reactive materials such as oxidizers, cyanides, sulphides, explosives, unstable materials and water-reactive materials (e.g., sodium metal, benzoyl peroxide)
  - toxic materials including mutagenic, carcinogenic, acute or chronic toxicity materials (e.g., chloroform, ethidium bromide)
  - polychlorinated biphenyls (> 50 ppm concentration)
  - non-returnable gas cylinders

### 2. Scope:

- a. This SOP pertains to solid chemical waste collected in the green bins.

### 3. Responsibility:

- a. The laboratory is responsible for providing appropriate containers, labels and materials.
- b. The waste generator is responsible for the proper collection and labelling of chemical waste using the most chemical-appropriate container. If unsure, the generator should contact their laboratory manager or contact EHS at 416.978.7000 for guidance.
- c. EHS is responsible for scheduled waste collection and returning the emptied containers
  - **Exception:** containers will not be removed if improperly labeled or waste protrudes from container to prevent proper closing of lid.

### 4. Precaution:

- a) Never mix incompatible materials together in a single container (see *Section 5.2.4.1* of U of T's Laboratory Hazardous Waste Management and Disposal Manual for chemical compatibilities: <https://ehs.utoronto.ca/laboratory-hazardous-waste-management-and-disposal-manual/chemical-waste-disposal/#5.2.4.1> or consult EHS staff (at 416.946.3473).
- b) Waste must be stored in containers that are chemical-compatible. For example:
  - **Do not** store hydrofluoric acid waste in glass containers.
  - **Do not** store corrosive chemicals in metal containers.
- c) **Do not** insert precipitates, solids or other non-fluid waste into safety cans.
- d) **Do not** package solid chemical waste into biohazard bags, because this incorrectly indicates a hazard that is not present.
- e) Use solvent safety cans to collect and temporarily store large volumes (10-20 litres) of flammable organic waste solvents.
- f) Package halogenated and non-halogenated solvents separately, if possible.
- g) Dispose of aging containers promptly. Some chemicals are time sensitive and may degrade into very hazardous by-products; e.g. ethers may degrade to form explosive organic peroxides.

## 5. Storage and Disposal:

a) **The green bins:** for the storage of contaminated glass and plastic waste.



Figure 1: Green Bin

- Green bins are located in multiple areas around the lab. Additional bins are available upon request – notify [admin.tbep@utoronto.ca](mailto:admin.tbep@utoronto.ca) or [reception.tbep@utoronto.ca](mailto:reception.tbep@utoronto.ca).
- Line every green bin with a black garbage bag before using for disposal. Black garbage bags are available in the waste disposal area near room 1473.
- When full, tie up and transfer the garbage bag into a waste drum [Figure 2] located in the waste disposal area next to the yellow solvent waste bin.

**Note:** solid chemical waste that can puncture garbage bags should be collected separately (see Special Cases section 4a below).

b) **Waste drums:** for collecting full waste bags transferred from the green bins



Figure 2: The waste drums

- U of T's Environmental Protection Services empties the drums every Thursday.

## 6. Special Cases

a) Solid chemical waste that can puncture garbage bags (glass and plastic ware) should not be collected in the lined bins. Instead, use an **unlined** green bin.

- When full, seal and label the bin as 'contaminated solids', place beside the waste drum.
- For more information, see *section 5.5.2.2 (b)* of U of T's Laboratory Hazardous Waste Management and Disposal Manual.
- Chemically contaminated needle and blade waste should be collected in a yellow sharps container. (see SOP on [Sharps Waste Disposal](#))

- Ensure that hazardous liquids are drained from the syringes, collected in the appropriate container and stored in the yellow cabinet (*see SOP: [Chemical Waste Disposal – Yellow cabinet](#)*).
- b) The chemical waste listed below require special handling and should be separated from other waste wherever possible. Please refer to *section 5.2.5* of U of T's Laboratory Hazardous Waste Management and Disposal Manual for additional information on special cases: <https://ehs.utoronto.ca/laboratory-hazardous-waste-management-and-disposal-manual/chemical-waste-disposal/#SpecialCases>.
- Asbestos
  - Batteries
  - Empty drums
  - Ethidium Bromide
  - Explosives
  - Gas Cylinders
  - Mercury Thermometers
  - Paint Cans
  - Peroxidizable Compounds
  - Polychlorinated Biphenyls

**7. Reference:**

- a. <https://ehs.utoronto.ca/laboratory-hazardous-waste-management-and-disposal-manual/chemical-waste-disposal/> .