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ENVIRONMENTAL HEALTH AND SAFETY

## Hazardous Waste Guide for Facilities, Operations & Management (FOM) and Non-Research Areas

**Purpose:** to correctly manage hazardous waste generated by Facilities, Operations & Management (FOM) and other Non-Research areas of Dartmouth College. This waste may be generated while performing routine maintenance or construction on the buildings, grounds and equipment. This procedure applies to all shops of FOM: Building Repair (Carpenter & Paint Shops), Electronics, Electrical, Equipment Maintenance, Fire Safety Systems Maintenance, Grounds and Labor Shops, Science Center Facilities Group as well as the Athletic Department, Golf Course and DMS facilities.

### Procedure:

#### *Hazardous Waste Determinations:*

Dartmouth College employees are legally obligated to identify and properly dispose of any material deemed hazardous. The Environmental Protection Agency (EPA) deems anything that may be flammable, corrosive, toxic or reactive as "hazardous" and if this material is no longer wanted or usable, it must be disposed of as "hazardous waste". Safety Data Sheets (SDS) are useful in determining the materials properties but in some instances testing may be required.

If in doubt whether something is hazardous or not, please contact EHS for a hazardous waste determination.

### *Training:*

Anyone working with hazardous chemicals could potentially generate a hazardous waste. Training requirements for anyone working with hazardous chemicals and/or waste are listed below (both trainings are web-based).

*Classroom trainings can be done by request:*

1. Hazard Communication Training (every 3 years):  
<https://dartmouth.bioraft.com/node/19656>
2. Hazardous Waste Management for Non-Research Employees (annually):  
<https://dartmouth.bioraft.com/node/139424>

*How to Arrange for a Hazardous Waste Pick-up:*

Contact Environmental Health & Safety (EHS) either by calling 646-1762 or emailing [ehs@dartmouth.edu](mailto:ehs@dartmouth.edu) to request a waste pick-up. Please state what you have for pick-up, the volume and the location. (*FOM may place waste containers in the MacKenzie hazardous waste storage area as long as it is labeled with a completed hazardous waste label.*)

*How to Collect Hazardous Waste:*

**Acid solutions –**

Any acid solutions used for the cleaning of bathroom tiles or bricks must be collected as hazardous waste and cannot be drain disposed. This includes muriatic acid. It must be collected in a container that can be sealed and labeled with a completed hazardous waste label. Please see *SOP #16 Standard Operating Procedures for personnel when using corrosive chemicals* for additional information.

**Aerosol Spray Cans –**

If cans are completely empty, place in the regular trash. If the can contains liquid, pressure or you are unsure – collect as hazardous waste.

**Automotive Antifreeze/Transmission Fluid-**

Collect in pails or drums and attach a completed hazardous waste label. For drums, place on spill pallets and leave in place.

**Closed-Looped Heating and Cooling systems –**

Closed looped heating and cooling systems such as chillers, cooling towers and boilers may contain glycol, lithium bromide or some other chemical for its operation. These chemicals may become contaminated with additives that cause the properties of the virgin product to change. If these systems require maintenance where the material must be replaced and disposed of, testing will be required to assess the hazards. Please contact EHS for more information.

**Compressor Oils/Vacuum Pump Oil/Transformer Oil –**

For routine maintenance on compressors or pumps, the waste oils must be collected in a smaller container that can be sealed for transport. These smaller containers will be carried from the various mechanical spaces and placed in the main collection drum located in the FOM hazardous waste area in the McKenzie yard. Do not leave these smaller collection containers in mechanical spaces. They must be removed immediately after the maintenance operation has been performed and taken to the hazardous waste area in the FOM yard. Some

areas may collect in a 30 gallon drum (***NO PCB CONTAMINATED OIL***). If so, the drum must be placed on a spill pallet. If you know the waste oil contains PCB, please indicate that on the waste label.

#### **Exit signs –**

Some exit signs contain radioactivity. If replacing radioactive exit signs, please contact EHS for more information.

#### **Glycols –**

Glycols used in heating and cooling systems may or may not be hazardous according to the EPA. However, drain disposal is not an option. Local sewer ordinances do not allow it. If glycol is to be disposed of, please contact EHS. Testing will be required to assess the hazard and then disposal options can be addressed.

#### **Lead and Polychlorinated Biphenyls (PCBs)–**

- *Lead pipes* must be collected and placed in the "metals" recycling dumpster or the "metals" recycling can in the ME shop. (Contact Dartmouth Recycles for the current location of the dumpster.)
- *Lead/Silver solder*– All lead containing wire/solder and lead/silver solder must be collected for recycling. Please contact EHS for recycling options.
- *Lead Paint Chips* –
  - a. For any lead paint chips generated from routine maintenance activities: Place them in a 5 gallon plastic bucket with a lid or plastic bag liner. If a bag is used in lieu of a bucket, it must be double-bagged with the bag taped closed, goose-neck method. Place a completed EHS Hazardous Waste Label on the sealed bag or bucket.
  - b. For large or contract projects involving larger amounts of lead paint: Collect in a 55 gallon steel drum. If poly is used for collection, it can be rolled up and placed into drums. Label all drums with hazardous waste labels. Keep drums under cover from the weather. (*An account string must be provided for all waste generated from a project.*) If this work is done by an outside contractor, the contractor must provide the steel drums for collection, ensure that drums are labeled and kept protected from the elements. Contact EHS for a waste pick-up.
- *Lead Paint Chips with potential PCB contaminated caulking/sealants*: Follow the procedure for lead paint chips as above. Make the sure the hazardous waste label includes Lead and PCB as constituents. Small amounts of waste may also be disposed in the Paint shop satellite waste container.

### **Mercury Switches –**

Mercury is found in some switches and other electrical devices. Place all switches in the labeled white pail located in the Mechanical or Electronics Shop. For larger devices, contact EHS for proper handling.

### **Miscellaneous Items –**

Miscellaneous items include paints, solvents, cleaners, epoxys, glues, adhesives, mastics, water sealers, insulating foams and caulking. If the Safety Data sheet indicates the material is flammable, corrosive, toxic or reactive, please dispose to EHS.

### **Motor Oil (automotive engine) –**

Place engine motor oil in a 30 gallon closed head drum. Only motor oil and small amounts of gasoline can be placed in this drum. **NO PCB CONTAMINATED OIL.** The drum must be kept closed at all times except when adding contents. If filters are draining, please make sure the drum is closed by the end of the shift. **DO NOT OVERFILL THE DRUM.**

### **Oil Spill Material, Filters, Rags, Speedi-Dri, Absorbants –**

Place all items into drum or pail. Label container with a completed hazardous waste label.

### **Oil Tank Clean-Outs –**

When oil tanks are to be cleaned out or removed, there are 2 different waste streams that can be generated. If the tank is just cleaned out, then a water/oil mixture is generated. When tanks are removed, the waste generated may also include an oily sludge, rags, speedi-dri, etc. This type of operation is usually subcontracted out. For Oil Sludge, Rags, Speedi-dri, Filters and any Spill Absorbant place into an open-head drum. There should be no excessive liquid. For the Oil & Water Mixture from the tank clean-outs use a closed-head drum. It should contain oil and water only with no rags, filters, debris or sludge. Label all containers with a completed hazardous waste label and notify EHS for a waste pick-up.

### **Parts Cleaner –**

Contact EHS when the parts cleaner becomes ineffective and no longer usable. Please provide the Safety Data Sheet for the material. The original chemical used to clean parts may be non-hazardous but with use, it becomes contaminated with hazardous materials.

## Paint –

- *Latex paint-*
  - a. For large quantities of latex paint, there is a 30 gallon closed head drum located in the Paint Shop. Only latex paint can be placed in this drum. (*No paints containing heavy metals such as lead, barium or chromium are allowed to be bulked.*) The drum must be kept closed at all times except when adding contents. **DO NOT OVERFILL THE DRUM.** A drum is considered full when **three inches of head space** remain in the drum.
  - b. For small quantities--a few cans-, you may leave open to air dry or use kitty litter to accelerate the drying process. Once a latex paint can is dry, it may be disposed to the regular trash.
- *Oil-Based Paint/Kerosene* - large quantities of oil based paint is collected in a 30 gallon closed head drum located in the Paint Shop. Only oil-based paint and/or kerosene can be placed in this drum. (*No paints containing heavy metals such as lead, barium or chromium are allowed to be bulked.*) The drum must be kept closed at all times except when adding contents. **DO NOT OVERFILL THE DRUM.** A drum is considered full when **three inches of head space** remain in the drum.
- *Empty Paint Cans (Oil-Based & Latex)* - Before paint cans are to be disposed of they must be empty and dry. A paint can is considered “empty” when there is less than 1 inch of dry sludge remaining. Once the paint cans have been scraped of any excess paint, place the individual cans on the shelving provided in the bay next to the hazardous waste area in the Mackenzie yard. Place cans on their sides to allow to air dry. Once the cans are dry then can be disposed of as regular trash.
- *Paint/Solvent Contaminated Rags* - Place any paint or solvent contaminated rags in the red flammable storage can located in the paint shop. Line the container with a plastic bag.

## Smoke Detectors –

Ionization smoke detectors contain a radioactive material and must be disposed of properly. If possible, all smoke detectors should be returned to the manufacturer. When the container is full, tally the number of detectors and contact the supplier for a return authorization number.

## Scrap Metal for Recycle –

Place all scrap metal in the labeled plastic drum. When full, contact the Labor crew for a waste pick-up.

### Universal/Recyclable Waste –

- Fluorescent light bulbs, projector lamps, batteries and cathode ray tubes (CRTs) are collected and recycled as universal waste. PCB and Non-PCB (metal and plastic) ballasts are collected and recycled as well. If bulbs, batteries or ballasts are found, always place in the **identified** trash recycling area, in the appropriate labeled container. DO NOT TAPE BULBS TOGETHER.
- Electronics for Recycle – This includes CRTs (television, computers, etc.) Please log a description of equipment, Asset Tag # and/or Serial Number (if available). Old electronic circuit boards must be placed in a box or container. When the area is full, e-mail: [Materials.Management@Dartmouth.EDU](mailto:Materials.Management@Dartmouth.EDU) for a pick-up. All the above information is required in the e-mail.
- See also the Universal Waste Plan and Universal Waste Collection SOP.

### Spill Clean-up

You should only clean up spills that can be contained safely with available spill materials on hand. Contact EHS at 646-1762 for assistance with larger spills. **If any spill is a fire or explosion risk – DIAL 911.**

- Eliminate all sources of ignition.
- Protect all floor drains.
- Wear disposable gloves
- Cover the spill with absorbent material. Ensure all liquid has been absorbed.
- Place all contaminated absorbent into the appropriately labeled waste container. If a container is not available, bag in a clear plastic bag, tape closed and label with a hazardous waste label. Call EHS for a waste pick-up.

*If spills reach drains, waterways or cannot be cleaned up immediately, call EHS at 646-1762.*

## **For Collection of Waste into Drums:**

- All drums must be labeled with an EHS Hazardous Waste Label.
- All drums must be kept closed except when adding to it.
- DO NOT OVERFILL. A drum is considered full when three inches of head space remain in the drum. Contact EHS as soon as the drum is full. Before transport, ensure that both bungs are securely tight.
- Do not mix oil with other wastes. For example, do not put kerosene into a drum that is for the collection of oil.
- Drums must be stored on spill platforms. Spill platforms must be kept clean. If material is spilled into the platform, clean up immediately.
- All drums must be maintained in good condition (clean, non-rusting, labeled). Use drums approved or provided by EHS.
- Clean up any spills immediately.

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