**I.** **Scope**

This program applies to all William & Mary faculty, staff and students who by the nature of their work generate, handle, store or prepare hazardous waste for disposal.

**II**. **Purpose**

The purpose of this program is to provide guidelines to ensure that all hazardous waste is properly and safely managed from generation to disposal.

**III. Definitions**

Central Accumulation Area: an on-site hazardous waste accumulation area where containers of hazardous waste generated anywhere on campus are stored for a temporary period. At the end of the period, the hazardous waste is packaged and transported by a licensed waste handler to a treatment, storage, and disposal facility (TSDF).

Container: any portable device in which a material is stored, transported, treated, dispose of, or otherwise handled.

Corrosive: harmful or destructive, having the quality of corroding or eating away; erosive. Substances with a pH < 2 or pH > 12.5.

Disposal: the action or process of throwing away or getting rid of something. The discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water.

Elementary Neutralization: the process of neutralizing wastes that are dangerous wastes only because they exhibit the characteristic of corrosively.

Generator: any person, by site, whose act or process produces hazardous waste identified or listed in [40 CFR Part 260](http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol27/xml/CFR-2012-title40-vol27-part260.xml).

Hazardous Waste: waste this is dangerous or potentially harmful to public health or the environment. Hazardous waste can be a liquid, solid, gas, sludge, discarded commercial products or by-products of manufacturing processes.

Hazardous Waste Coordinator: The EH&S Director who performs a variety of filed and office duties to implement and maintain the hazardous waste management program.

Manifest: a set of forms, reports and procedures designed to track hazardous waste from the time it leaves the generator facility where it was produced, until it reaches the off-site waste management facility that will store, treat or dispose of the hazardous waste.

Ignitability: liquids with a flash point of 140 degrees Fahrenheit or below, oxidizers, or spontaneously combustible materials.

Neutralization: a chemical reaction in which an acid and a base react quantitatively with each other to produce a neutral solution with a pH of 7.

Reactivity: the tendency of a substance to undergo chemical reaction, either by itself or with other materials. Materials that readily explode or undergo violent reactions.

Solid Waste: any garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials including solid, liquid, semi-solid, or contained gaseous material, resulting from industrial, commercial, community activities (i.e. waste tires, oil, latex paints, empty aerosol cans).

Toxicity: the quality, relative degree, or specific degree of being toxic or poisonous. Wastes that have the tendency to leach dangerous concentrations of toxic chemicals into ground water.

Temporary Storage and Disposal Facility: a facility that is permitted to treat, store and/or dispose of hazardous waste in special l units. These units are commonly called hazardous waste management units.

Treatment: any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or to recover energy or material resources from the waste, or to render such waste non-hazardous, or less hazardous; safer to transport, store or dispose of.

**IV. Responsibilities**

1. Environment, Health and Safety Office: Responsible for overseeing the Hazardous Waste Management and Pollution Prevention Program (HWMPPP), will review and update the program as needed. Supervises the Central Accumulation Area located at the Integrated Science Center. Provides technical and administrative guidance to staff regarding generation and disposal of hazardous waste. Updates chemical inventory database and the University’s online safety data sheet library on an annual basis. Contacts an environmental company to transport and dispose of hazardous waste. Signs the manifest generated by the outside environmental company. Maintains copies of the documents at the EH&S Office.
2. Principal Investigators and Supervisors: Provides necessary training to employees and students prior to generating waste. Ensures personnel working under his/her direction follow procedures established in this program and minimize the generation of hazardous waste. Submits a chemical inventory to EH&S on an annual basis. Ensures safety data sheets for materials used in an area are available to faculty, staff and students.
3. Generators: Faculty, staff and students that generate, store, transport and prepare hazardous waste for disposal. Actively minimizes the generation of hazardous waste. Identify any and all hazardous waste that he/she may produce, and assures that waste is handled in accordance to this program. Actively minimizes the generation of hazardous waste. Ensures that all work is conducted in accordance with established safety and health precautions as published in the product’s safety data sheet (SDS) and this program.

**V. Program**

1. Hazardous Waste Generation
   1. Hazardous waste generated from maintenance, construction, laboratory and art studio practices on campus must be collected in clean, leak proof containers.
2. Container and cap liner must be compatible with the chemical waste inside the container. The EH&S Office has purchased a supply of one gallon glass and plastic bottles with screw top lids for distribution to departments and are available upon request.
3. Hazardous waste should not be placed in an unwashed container that previously held an incompatible waste or material.
4. If a container holding hazardous waste is not in good condition, or if it begins to leak, the generator must transfer the waste into another container that is in good condition.
5. Outside of the container must be clean and uncontaminated.
6. Beakers and flasks should not be used to collect hazardous waste.
   1. Containers holding hazardous waste shall be kept securely closed, so there is no leak of hazardous waste or escape of vapors during storage and transport; except when it is necessary to add or remove chemicals or waste.
7. Avoid placing a standard funnel onto the mouth of an open bottle and storing it under a fume hood. An eco-funnel with lid should be affixed to a bottle where liquid waste is constantly being added to the bottle. The lid closes and latches easily to prevent fumes from escaping and allows easy addition of liquid waste to the bottle. The EH&S Office has purchased a supply of eco-funnels for distribution to departments and are available upon request.
8. Bottle caps must be screw type and fit tightly. Vented bottle caps such as the Circumvent cap should be used for chemical waste that may cause a rapid build-up of gas that leads to an explosion. These caps are designed to relieve pressure in containers while maintaining integrity against liquid leaks/spills. The EH&S Office has purchased a supply of these caps for distribution to departments and are available upon request.
9. Stoppers and corks are not suitable devices for closing hazardous waste containers.
   1. Containers should be no more than 90% full to avoid spills; allow at least one inch expansion space.
   2. Separate solids and liquids. All liquids must be free of solid material and/or sludge to facilitate consolidation, recycling and disposal.
   3. Consolidate similar wastes into as few containers as possible.
   4. Segregate and store wastes in accordance with laboratory procedures for storage of hazardous chemicals.
10. Segregate acids from base oxidizers from organics.
11. Use separate containers for chlorinated and non-chlorinated waste solvents
12. Container Labeling
    1. All chemical waste that cannot be recycled, is past the manufactures expiration date, or is mixed or contaminated must be labeled with a hazardous waste label (Attachment 1). Contact EH&S for hazardous waste labels.
    2. Affix the label to the container prior to adding any waste material into the container.
    3. Write the proper chemical name(s) and the approximate percent of each component on the labels.
13. Total percent of components should equal 100.
14. Trade names, acronyms, abbreviations, or formulas are not acceptable.
    1. Fill in the name of the department and record the start date of collection on the label.
    2. Use separate hazardous waste labels for each container of hazardous waste.
15. Request for Waste Removal
    1. For all hazardous waste, a disposal request form (Attachment 2) should be completed and sent to EH&S.
    2. The requestor of the hazardous waste collection must fill out the form.
16. *Originator*: The name of the person submitting the form. This person should have knowledge of the waste in the event that EH&S have questions.
17. *Department*: The department in which the hazardous waste was generated.
18. *Date*: The date of generation of the hazardous waste.
19. *Building and Room #:* Area where the hazardous waste is stored for collection.
20. *Phone #*: A contact number for the originator or someone else with knowledge of the waste.
21. *ID# field*: EH&S completes this field.
    1. Departments may use this field for organizational purposes when gathering several containers of waste for disposal.
22. *Total quantity in container*: Include the volume or mass of the waste in the container.
23. *Size and type of container*: Record the size and container material for the hazardous waste.
    1. Sign the sheet to indicate that the material is properly labeled and prepared for handling.
    2. Assemble the waste to be disposed of in one area.
    3. Contact EH&S to request a hazardous waste pickup and submit the form.
24. Within 3 days of the request, the waste will be picked up from the area specified.
25. Inform EH&S if the waste needs to be removed immediately.
26. Waste Storage and Shipment
    1. When waste is collected by EH&S, each container is checked to ensure it is properly labeled and sealed.
    2. All waste containers are transported, in a secondary containment, to the central accumulation area located at the Integrated Science Center.
    3. All hazardous waste is managed by EH&S in the central accumulation area.
27. The containers are individually weighed.
28. The information from the hazardous waste disposal request form is logged into the hazardous waste management database.
29. Uncontaminated flammable solvents are consolidated into 55-gallon drums.
30. The types and amounts of waste generated is monitored.
31. Other waste is segregated and stored in the area.
    1. The EH&S Specialist will make all arrangements with an environmental company for proper off-site disposal of hazardous waste.