



# **Waste Management Plan**

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# Part 1: Hazardous Waste Management

Effective Date: November 2010

## Introduction:

Hazardous and chemical waste shall be disposed of in a manner that minimizes environmental impacts and potential liabilities of College personnel and campus activities.

The Hazardous Waste Management Plan will address the requirements of the EPA's (Environmental Protection Agency) RCRA (Resource Conservation and Recovery Act) that applies to all Louisburg College operations and academics. The purpose of this policy is to provide University Faculty, Staff, and Students with guidance in the safe and proper storage and handling of Hazardous Materials.

This plan incorporates employees and students who have the potential to handle hazardous chemicals/materials resulting in waste generation.

## EPA Sight Requirement Information

Table 1. Louisburg Collage Information

Facility Name	Facility Location	Facility EPA ID #	Type of Waste Generator	Hazardous Waste Accumulation Area
Louisburg College	501 North Main Street Louisburg NC 27549-2399	NCNC099130255410194	Conditionally Exempt Small Quantity Generator (CESQG)	Franklin Hall Room 102 Physical Plant Universal Waste shed

## EPA Regulatory Reference:

40 CFR Parts 260-270, 49 CFR Parts 170-172  
 North Carolina State 15A NCAC 13A.0107  
 North Carolina Hazardous Waste Rules  
<http://www.wastenotnc.org/HWHOME/WEBRules/NCHWRule.html>

## Responsibilities of Hazardous Material Management

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One this document has been thoroughly reviewed all those who produce or handle hazardous waste will certify that you have received and read thoroughly information pursuant to the Hazardous Chemical Information Act (Right To Know) and Louisburg College Chemical Hygiene Plan and Waste Management Plan.

To fully implement policies, the assistance and cooperation of all Louisburg College faculty, staff and students are necessary. The following descriptions outline key roles and responsibilities involved in the implementation and maintenance of this plan.

### **Hazardous Waste Producers:**

1. Reduce waste generation where possible.
2. Maintain accurate inventory of chemicals and associated Materials Safety Data Sheet (MSDS)
3. Maintain log of hazardous waste generated in the department and provide inventory to the Environmental and Safety Manager prior to waste removal and disposal.
4. Identify and train Hazardous Waste handlers for each area that generates chemical waste.
5. Ensure initial training for Hazardous Waste handlers is completed before assigning waste handling duties.
6. Contact Environmental & Safety Manager (ext: 3425) for assistance with waste removals, scheduling waste pick-ups, and other relative waste management tasks.
7. Maintain inventory of waste management supplies such as containers, labels, secondary containment, spill absorbent, handling tools, funnels, and so on.
8. Conduct regular inspections of areas where hazardous wastes are stored to ensure that hazardous wastes have been properly identified, labeled, segregated, and stored for collection and eventual removal. When the Inspection log sheet is full, it is placed in a three-ring binder that has a separate section for each inspection area stored in the Environmental & Safety Manager office.
9. Prevent the accumulation of old, unused, abandoned and unknown chemicals.
10. Removal of inappropriate, outdated, unknown and unnecessary chemicals appropriately.

### **Hazardous Waste Handlers** are required to:

1. Wear safety glasses/goggles and any other specified personal protective equipment when handling hazardous material wastes.
2. Identify all hazardous wastes as they are generated and keep separated by waste profile. This includes all chemicals, scraps contaminated with chemicals, and empty containers.
3. Accumulate used chemical products in designated containers and manage containers.
4. Inspect waste containers before use.
5. Ensure waste is properly identified and labeled.
6. Keep accumulation containers in designated containers and locations.
7. Segregate incompatible wastes, such as flammables and miscellaneous items from corrosives and oxidizers.

8. Identify materials, conduct waste characterization for disposal.
9. Maintain waste containers, accumulation and storage areas.
10. Use suitable containers to accumulate materials.
11. Maintain accumulation and storage facilities, accumulation container labeling, and collection records.
12. Ensure waste is properly identified and labeled.
13. Keep wastes separated by waste profile and compatibility.
14. Bond and ground containers when transferring flammable or combustible liquids.
15. Inspect hazardous waste accumulation areas weekly and document.
16. Properly dispose of empty containers.

**Faculty** are required to:

1. Have a clear understanding of how to correctly handle the hazardous waste they generate, and must in turn instruct their students in proper hazardous waste management at the beginning of their course.
2. Update an inventory of all hazardous substances and provide the inventory to the Environmental & Safety Manager annually.
3. Furnish MSDS for items on your chemical inventory to the Environmental & Safety Manager.
4. Furnish MSDS for chemicals students handle. This access must be as close to the work as is reasonably practicable.
5. Document training, as it is required by state and federal regulations.
6. Recycle or reuse chemicals when possible. If you have no further need of a hazardous material, determine whether your colleagues can use it. Forward copies of those communications to the Environmental & Safety Manager.
7. Notify the Environmental & Safety Manager should you leave the college, so plans can be made for the reassignment or proper disposal of chemicals and wastes under the responsibility of that faculty member.

**College Staff** are expected to:

1. Recognize hazardous waste and know whom to contact if they have a question or concern.
2. Report to the appropriate supervisor all facts pertaining to accidents that discharge hazardous chemicals and any unsafe action or condition that may cause an incident with hazardous chemicals
3. Follow emergency response notification procedures

**Receiving Personnel** are required to perform the following when a shipment is received:

1. Check the packing slip for MSDS before opening package.
2. Follow safety procedures listed on the MSDS for personal protection before opening package.
3. If the material is damaged, a joint inspection or examination of the contents. Public Safety should be notified of the damaged shipment.
4. Submit the Hazardous Waste Acceptance Form to the Environmental & Safety Manager and await approval before accepting hazardous material donations.

**Students** for the duration of laboratory assemblies are expected to:

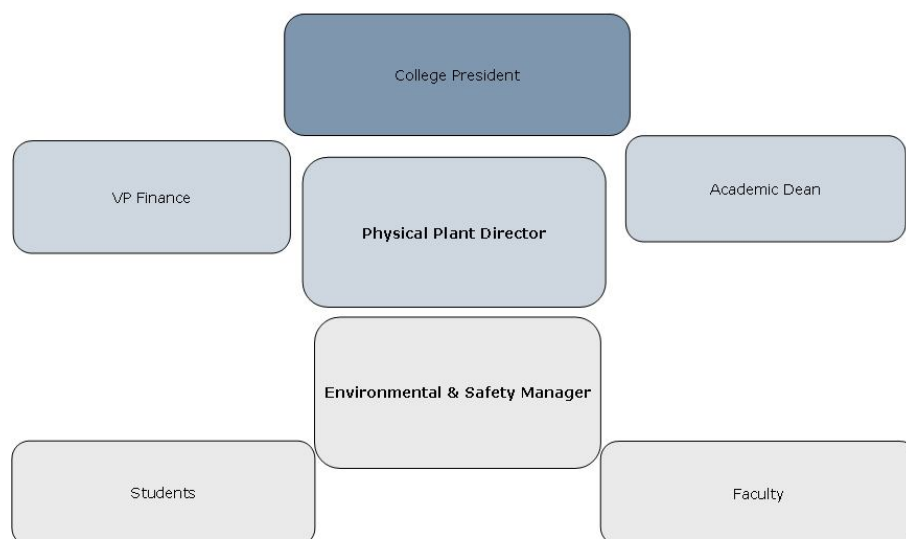
1. Receive required training to discover, understand, and observe all policies and recommended practices.
2. Conform to best standard lab practices by receiving current literature, available MSDS for the chemicals they use.
3. Wear appropriate personal protective equipment.
4. Use engineering controls and safety equipment properly.
5. Report to the appropriate supervisor all facts pertaining to accidents that discharge hazardous chemicals, and any unsafe action or condition that may cause an incident with hazardous chemicals.
6. Follow emergency response notification procedures.

**Environmental Management Systems (EMS) Core Roles and Responsibilities:**

The **EMS Core** consist of two permanent members and an unspecified number of members who shall be representatives providing technical expertise from the affected departments or operations. The permanent members are as follows:

1. The Environmental and Safety Manager
2. The Director of Facilities Management

**Environmental Management System Organizational Chart**



**Members will:**

The **EMS Core** will meet before the conclusion of fall and spring semesters, to review compliance with current rules, codes, and regulations; to discuss accident prevention, methods, safety education and training; to evaluate compliance inspections. The EMS Core will then develop practical recommendations for controlling or correcting them. The EMS Core, will present these recommendations to the College administration on various safety related issues brought to the attention of Committee members.

In addition, the **Environmental and Safety Manager** will:

1. Serve as a point of contact for United States Environmental Protection Agency (EPA) and North Carolina Department of Environment and Natural Resources (NCDENR).
2. Obtain analysis of waste streams.
3. Develop and maintain hazardous waste profiles MSDS's for all chemical supplies on campus.
4. Package and label containers of Hazardous Waste per Department of Transportation requirements.
5. Offer all hazardous wastes for shipment on EPA Uniform Hazardous Waste Manifests.
6. Retain copies of all signed manifests.
7. Receive and file return copies of manifests within 35 days from date of shipment, or contact transporter.
8. File an exception report with the United States Environmental Protection Agency Regional Administrator if the return copy of a manifest is not received within 45 days, including actions taken to locate the missing manifest/waste.
9. Process hazardous waste shipments per the requirements of this document.
10. Disposal of hazardous waste requires the use of a Uniform Hazardous Waste Manifest to document the chain of custody of a hazardous waste shipment from the hazardous waste generator to the final disposal site.
11. Persons who sign this manifest are certifying that the materials described on the manifest are classified, packed, marked, and labeled in accordance with all U.S. Department of Transportation Hazardous Material Shipping regulations and that they have a waste minimization program in place.
12. Educate and offer suggestions to the campus community about the environmental side of the College's programs and its Physical Plant.
13. Direct ongoing development of a campus wide recycling program

### Applicable Regulations and Training for Proper Waste Handling:

#### **Federal Regulation 40 CFR 262.34(d)(5)(iii)**

Generators must train their personnel. Any generator accumulating waste on site is required to train his or her personnel. This requirement is part of the "accumulation rules" at 40 CFR 262.34.

Fully-regulated generators (those who generate > 1,000 kg (2,200 lbs.) total of all hazardous waste in any given month) are regulated under §262.34(a). Such generators are subject to the same training standard as treatment, storage, and disposal facilities (TSDFs). In fact, §262.34(a)(4) refers generators to TSDF training rules at 40 CFR 265.16. This rule requires specific training, according to a written, site-specific training plan and requires written records of all training given.

"Small quantity generators" (those who generate 100–1,000 kg (220–2,200 lbs.) total of all hazardous waste in any given month) are not subject to the detailed requirements of §265.16, but they are still required to *"ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relevant to their responsibilities"* [40 CFR 262.34(d)(5)(iii)]. If a small quantity generator exceeds the threshold and becomes a fully-regulated generator in any given month, he or she must comply with fully-regulated generators' rules immediately. If you believe that you are likely to become fully regulated, all aspects of compliance, including the written training plan, should be in place and ready.

NOTE: Since Louisburg College is a Conditional Exempt Small Quantity Generator (CESQG) and will be for the foreseeable future, we are opting to follow these regulations as a best business practice.

Under 40 CFR 265.16, generators must have records of appropriate training for all "facility personnel." This includes *"all persons who work at, or oversee the operations of, a hazardous waste facility and whose actions or failure to act may result in noncompliance..."* It should be noted that this definition is not limited to actual full-time employees, but may include part-time or temporary workers, contractors, consultants, and others at your facility. It may also include off-site.

The EPA specifies at 40 CFR 265.16(c) that personnel *"...must take part in an annual review of the initial training required..."* Again, particulars as to how detailed the annual retraining must be are left to the discretion of the individual manager. Some training may be appropriate to repeat in its entirety. Other training may require only a brief overview.

The rules provide that new personnel may work under the direct supervision of a trained person for up to six months. If you have occasional one-time contractors on site for less than six months, you may satisfy their training requirements by assuring that they are supervised in all waste management-related aspects of their jobs.

Chemical hazard training standards include:

The Hazard Communication Standard (sometimes referred to as "employees' right to know") requires general workplace chemical hazard training, as well as chemical labeling and material safety data sheets [29 CFR 1910.1200].

The Hazardous Waste Operations Standard (HWOS or HAZWOPER) requires specific training for persons involved in site cleanup, permitted TSDF operations, or chemical emergency response outside their ordinary workplace [29 CFR 1910.120].

Documented training is required:

- Training records shall be maintained in the department and in the department and the Environmental and Safety Managers Office.

- Training includes proper management of waste streams, labeling, and containers, emergency procedures outlined in the Crisis Management Plan, Chemical Hygiene Plan and Hazardous Waste Management Plan.
- Hazardous waste handlers and their supervisors / managers must complete training or on-the-job instruction relevant to their duties to include hazardous waste management procedures and contingency plan implementation.

## Training for Proper Waste Handling

### Containers and Labeling:

Generators of waste are responsible to maintain sufficient supplies to store their waste. This includes but is not limited to:

- Chemical Waste Containers (approved for accumulation of chemical waste)
- Sharps Containers (hard plastic with lid)
- Bio-hazard bags (with autoclave indicator)

The need for adequate labeling extends far beyond the immediate requirements of the individual user, since the individual user may not be present in case of fire or explosion or in the event containers are broken or spilled. The individual user may not be around years later when the containers have deteriorated or otherwise lost their value. Therefore, do not use wax pencil markings, abbreviations, formulas only, code names, or numbers.

Whenever possible, store the waste in the container you will ship it in or the container the product came in. This practice saves work and eliminates the possibility of spills during waste transfer.

- Containers used to accumulate hazardous waste must be in good condition and comply with Department of Transportation (DOT) specifications.
- Containers shall be kept closed except when adding waste.
- All manufacturers' labels shall be removed or completely covered.
- The containers must be clearly and properly labeled and identified. Label all containers per Table 1. The container must have the waste name (no abbreviations or chemical symbols) and accumulation start date.
- The accumulation start date is the date in which the container is placed in the accumulation area.
- Labels must permanently affixed.
- If small or odd shaped containers are used to store chemical waste for pick-up or used to store chemical wastes during a laboratory use the labels accessible from the Quick Reference page at the end of this document. If the container is too small for a label, place the container in a larger container, seal, and then properly label the larger container.
- Do NOT put corrosives or reactive chemicals in a metal cans

Table 2. EPA required phrasing for waste containers.

Type of waste	Required Labeling
Hazardous Waste	<i>Hazardous Waste</i>

Used Lamps/Bulbs	<b><i>Used Lamps</i></b>
Used Batteries	<b><i>Used Batteries</i></b>
Used Aerosol Cans	<b><i>Used Aerosol cans</i></b>

For employees and students to handle hazardous waste properly, they must be trained on key points, including but not limited to:

- Managing hazardous waste containers: choosing proper containers, marking and labeling containers, proper container handling.
- Accumulating waste: storage time limits, satellite accumulation, adequate aisle space, keeping containers closed, separating and segregating incompatible wastes.
- Inspecting stored waste, documenting weekly inspections.
- Container shipping: preparing containers, shipping procedures, use of manifests and other tracking/disposal records
- Responding correctly to emergencies: to recognizing the emergency, and notifying the proper person of the emergency, and assist as directed or vacate the area.

### **Material Safety Data Sheets**

To guard yourself against chemical hazards, you must first understand the chemicals you are working with. This is done by reading and understanding Material Safety Data Sheets (MSDSs). The role of MSDSs is to provide detailed information on hazardous chemicals. This information includes its potential hazardous effects, its physical and chemical characteristics, and recommendations for appropriate protective measures. All chemical manufacturers and importers must obtain, develop, and provide a MSDS for each hazardous chemical they produce or import.

There are three very important uses of MSDSs:

1. They are used to inform employees of the hazards of the chemicals in their workplace.
2. They are especially valuable when used by supervisors and others in pre-job planning to determine what precautions need to be taken when working with a hazardous chemical.
3. They are used by emergency personnel responding to a chemical overexposure/accident.

It is important that you understand how to read a MSDS. Take the time to understand the sections of MSDSs (sections may vary):

- Chemical product and company identification
- Ingredients and occupational exposure limits
- Health hazard data
- First aid measures
- Fire fighting measures
- Accidental release measures
- Handling and storage
- Exposure controls/Personal protection
- Physical and chemical properties
- Stability and reactivity
- Toxicological information
- Ecological information
- Disposal considerations
- Transport information
- Regulatory information
- Other information

Each department must maintain MSDSs for each chemical used in their department and ensure that each MSDS is readily available. The Environmental and Safety Office maintains a master file of MSDSs. For information on obtaining a MSDS or questions regarding MSDSs, contact the Environmental and Safety Manager, -3425.

## Hazardous Waste Accumulation Areas

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### Central Hazardous Waste Accumulation Areas:

There are 2 Central Accumulation Area on Louisburg Campus. The Central Accumulation Areas are located at Franklin 100A (Science) the other at the Facilities shed.

These areas are locked and only authorized personnel have key access.

- Secondary Containment for spills is required for all Accumulation Areas. All storage for liquid waste will be within a containment area.
- Containers that hold incompatible wastes must be separated from each other by means of spill containment.
- The spill containment area should have a sufficient capacity for 10% of the stored volume, designed to prevent mixing of incompatible wastes if the containers leak.
- The Accumulation Area shall be posted with warning signs with the following: **DANGER** - Unauthorized Personnel Keep Out, Hazardous Waste Management Area, and responsible individual's contact information.

Containers shall have a tight-fitting cap and shall be sealed at all times, except when additional waste is being added. Under the EPA 15-minute rule, no container shall remain open for more than 15 minutes at any given time and adequate ventilation shall be provided whenever the container is being opened.

All hazardous material waste storage areas shall be inspected weekly to ensure that all containers used to store hazardous waste shall be of an appropriate size, in sound condition, sturdy and durable, leak-resistant, and constructed of a material that is compatible with the waste material.

Inspection results or observations shall be recorded on the **Weekly Hazardous Waste Inspection Log** and maintained on file within the generating department.

**Weekly inspections** are conducted by the following:

- Chemistry faculty conducts weekly inspection of the Chemical Storage Area room.
- Microbiology faculty conducts weekly inspection of microbiology labs when class is in session.
- Art Faculty conducts weekly inspection of Art area.
- Physical Plant staff conducts weekly inspection for the Universal Waste Shed.

Situations requiring corrective action shall be reported immediately to the department perpetrator or the Environmental and Safety Manager. Emergency situations (spills or leaks) should be reported to University Police at -3400 or Emergency Coordinator: Jason Modlin at -3210.

### **Satellite Accumulation Areas**

The Science's laboratory Hazardous Waste Accumulation areas identified as "Satellite Accumulation Areas. They are defined as an area in the laboratory where small quantities of hazardous waste are accumulated prior to collection. A satellite area may be a segregated storage room, a bench top, or a separate laboratory. Satellite areas are in the science laboratories, as well as the Art Studio, Athletics areas, and Physical Plant shop.

Satellite accumulation areas must be located at the point of generation of a hazardous waste and must be under the control of the operator of the process generating hazardous waste. There can be only one container of each waste type in each satellite area. Satellite accumulation containers storing incompatible hazardous wastes must be physically segregated and be kept on impervious surfaces. Segregation and containment is provided by storing the capped labeled containers in plastic trays or bins.

Individual departments are responsible maintain a clean and uncluttered Satellite Areas. Satellite Areas must maintain less than 55 gallons of hazardous waste or the area is then determined an Accumulation Area. If 55 gallons is collected within the Satellite Area or if a waste container is full, the container label must list the Accumulation Date. The Accumulation Date is the date in which the container is full or is being moved to the Accumulation Area to wait for disposal. The container must be moved to the Accumulation Area within 3 days. Each department is responsible to maintain and control inventory of waste volume per Satellite Area.

If waste is to be removed from the Satellite Areas, in all but Science labs, the generating department must contact The Environmental and Safety Manager at -3425 to schedule a removal. The Science faculty will contact their Chemistry faculty for removal of waste from their Satellite Area to Chemistry's Accumulation Storage Area.

Each Satellite Accumulation Area shall contain a spill control kit containing, at a minimum, the following items:

- Absorbent pads
- Spill warning tape
- Personal protective equipment (PPE) including, at a minimum, gloves, splash goggles, and a laboratory coat or apron
- Appropriate, sealed containers to store cleaned-up materials
- Labels to identify cleaned-up materials storage containers
- Specialty clean-up kits required for specific chemicals in use in the laboratory. Consult the chemical manufacturer's MSDS to determine if a specialty spill clean-up kit is required for a particular chemical.

### **Hazardous Materials Segregation:**

Chemicals in Central and Satellite Waste in Accumulation Areas needed to be stored according to their hazard class, both in labs and in the other Waste Accumulation areas. Segregation prevents dangerous situations from occurring if containers break and their contents are mixed. See Table 3 for **Incompatible Materials**. Store like chemicals together and away from other groups of chemicals that might cause

reactions if mixed. Do not simply store chemicals in alphabetical order. Flammable supplies should be stored in an approved, dedicated, flammable materials storage cabinet.

Use separate containers for each of the following types of waste:

- halogenated organic solvents
- non-halogenated organic solvents
- acids
- bases
- heavy metals
- mercury
- reactives
- oxidizers
- toxic (poison)

NOTE: The following is a short list of **incompatible** materials **NOT** a complete list of incompatible materials. Always research the materials you work with in order to be safe.

**Table 3. Incompatible Materials**

<p style="text-align: center;">ALKALI METALS such as calcium, potassium, and sodium</p> <p>with: water, carbon dioxide, carbon tetrachloride, and other chlorinated hydrocarbons.</p>	<p style="text-align: center;">ACETIC ACID</p> <p>with: chromic acid, nitric acid, hydroxyl containing compounds, ethylene glycol, perchloric acid, peroxides, and permanganates.</p>
<p style="text-align: center;">ACETONE</p> <p>with: concentrated sulfuric acid and nitric acid mixtures.</p>	<p style="text-align: center;">ACETYLENE</p> <p>with: copper (tubing), fluorine, bromine, chlorine, iodine, silver, mercury, or their compounds.</p>
<p style="text-align: center;">AMMONIA, ANHYDROUS</p> <p>with: mercury, halogens, calcium hypochlorite, or hydrogen fluoride.</p>	<p style="text-align: center;">AMMONIUM NITRATE</p> <p>with: acids, metal powders, flammable liquids, chlorates, nitrates, sulfur, and finely divided organics or other combustibles.</p>
<p style="text-align: center;">ANILINE</p> <p>with: nitric acid, hydrogen peroxide, or other strong oxidizing substances.</p>	<p style="text-align: center;">BROMINE</p> <p>with: ammonia, acetylene, butadiene, butane, hydrogen, sodium carbide, turpentine, or finely divided metals.</p>
<p style="text-align: center;">CHLORATES</p> <p>with: ammonium salts, acids, metal powders, sulfur, carbon, finely divided organics or other combustibles.</p>	<p style="text-align: center;">CHROMIC ACID</p> <p>with: acetic acid, naphthalene, camphor, alcohol, glycerine, turpentine, and other flammable liquids.</p>
<p style="text-align: center;">CHLORINE</p> <p>with: ammonia, acetylene, butadiene, benzene and other petroleum fractions, hydrogen, sodium carbides, turpentine, and finely divided metals.</p>	<p style="text-align: center;">CYANIDES</p> <p>with: acids.</p>
<p style="text-align: center;">HYDROGEN PEROXIDE</p> <p>with: copper, chromium, iron, most metals or their respective salts, flammable liquids and other combustible materials, aniline, and nitromethane.</p>	<p style="text-align: center;">HYDROGEN SULFIDE</p> <p>with: nitric acid, oxidizing gases.</p>
<p style="text-align: center;">HYDROCARBONS</p> <p>generally, with: fluorine, chlorine, bromine, chromic acid, or sodium peroxide.</p>	<p style="text-align: center;">IODINE</p> <p>p&gt;with: acetylene or ammonia.</p>
<p style="text-align: center;">MERCURY</p> <p>with: acetylene, fluminic acid, or hydrogen.</p>	<p style="text-align: center;">NITRIC ACID</p> <p>with: acetic, chromic, or hydrocyanic acids, aniline, carbon, hydrogen sulfide, flammable liquids or gases, or other substances which are readily nitrated.</p>

OXYGEN  with: oils greases, hydrogen, flammable liquids, solids, or gases.	OXALIC ACID  with: silver or mercury
PERCHLORIC ACID  with: acetic anhydride, bismuth and its alloys, alcohol, paper, wood, and other organic materials.	PHOSPHOROUS PENTOXIDE  with: water.
POTASSIUM PERMANGANATE  with: glycerine, ethylene glycol, benzaldehyde, or sulfuric acid.	SODIUM PEROXIDE  with: any oxidizable substances, for instance: methanol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerine, ethylene glycol, ethyl acetate, furfural, etc.
SULFURIC ACID  with: chlorates, perchlorates, permanganates, and water	

### **Waste Aerosol Cans** (e.g. spray paint, cleaning products) :

All waste aerosol cans are considered hazardous waste until completely empty. Departments that store used aerosols will do so in a secure area prior to pickup. Used aerosols will be collected at the physical plant shed, emptied of their contents, depressurized, and recycled for scrap metal when feasible. The liquid is consolidated with other flammable liquids into a 30-gallon drum for safe disposal.

### **Laboratory Chemical Clean-outs:**

Ensure that all chemicals are correctly identified and labeled. If possible, segregate waste chemicals into boxes or cabinets or areas of the lab. If there is too much material to move to the waste collection area on the day of the pickup, this will at least minimize the time that the contractor will need to be in the lab.

Whenever there is a significant process change in a laboratory procedures that generates waste chemicals or whenever a laboratory space is closed, Science Faculty are not to vacate a lab unless and until they have accounted for all chemicals, labeled them in such a way that everyone in the lab can identify them, and has either disposed of wastes or made arrangements to dispose of waste.

## Part 2: Non Hazardous Waste Management

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### Waste Determination & Characterization:

It is the generators responsibility to determine when waste is a waste.

In a coordinated effort between the generator, the owner of the waste, and the E&S Manager, waste characterization will be determined and a profile will be developed if not existing.

The definition of (solid) waste is in [Section 261.2](#) of the Resource Conservation & Recovery Act of 1976 (RCRA Regulations). The four broad characteristics that make a waste a hazardous waste are Corrosivity, Reactivity, Ignitability, and Toxicity. The exclusions from the definition of solid waste are listed in §261.4(a). If a material is listed under §261.4(a), it is not a solid waste and thus, under the regulations, cannot be a hazardous waste. The analysis of the waste stops there if it is excluded— it does not matter if the material exhibits a characteristic as set out in §§261.21 through 261.24 (i.e., ignitable, corrosive, reactive, or toxic), or would otherwise be a waste listed in Part 261, Subpart D.

The four basic questions you need to ask when making a hazardous waste determination.

1. Is it a solid waste?
2. Is it excluded?
3. Is it listed, on the EPA's Lists of Lists? (<http://www.epa.gov/swercepp/pubs/title3.pdf>)
4. Is it characteristic?

### Other Determination Principles

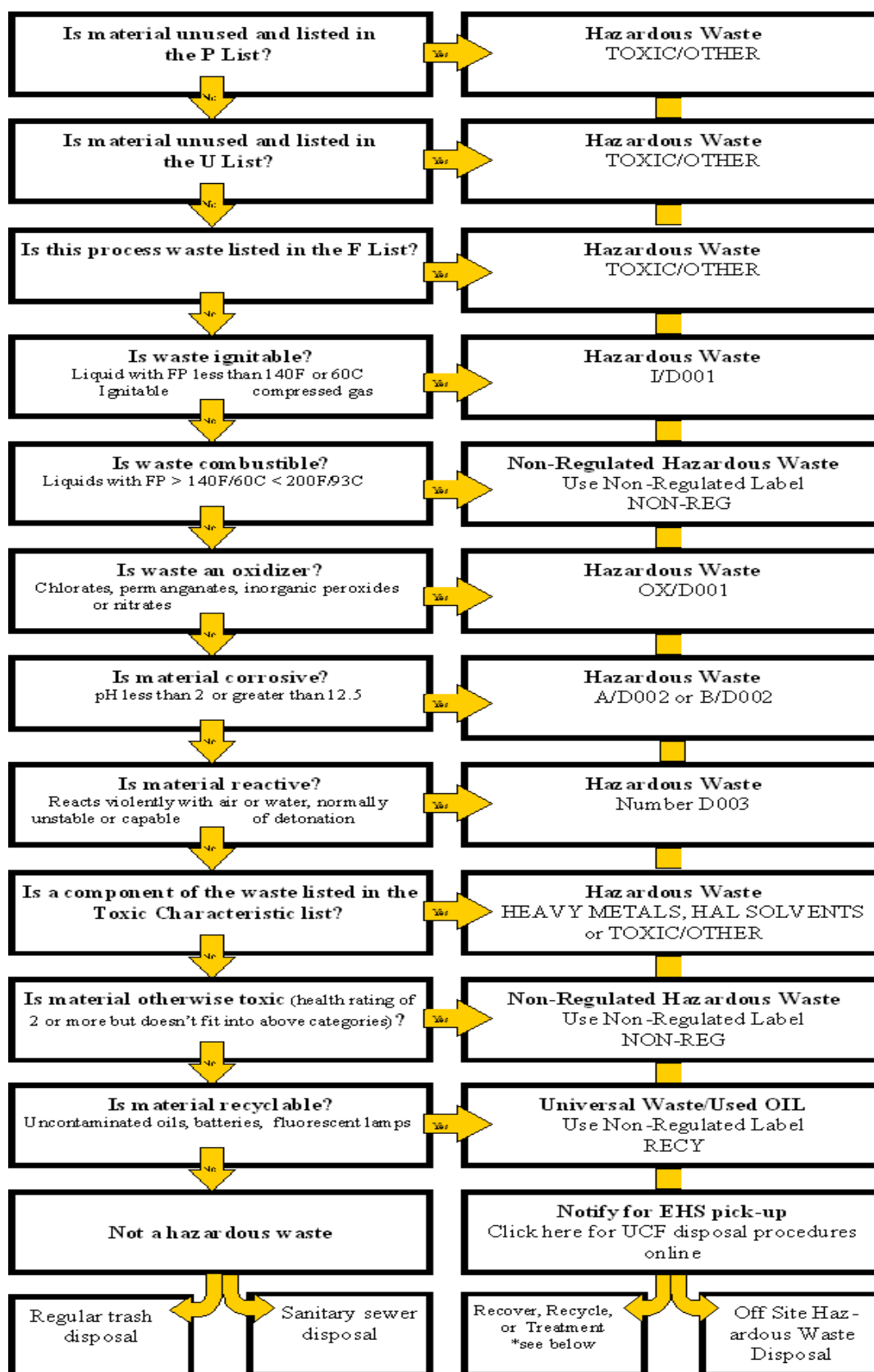
- Many non-RCRA chemical wastes are best handled as RCRA waste. Decisions on counting waste and managing it are not always congruent under present rules.
- **non-RCRA waste does not count against your generator status**, even if it goes into the same RCRA waste for treatment or disposal.
- Acute hazardous wastes are not mixed with other materials for disposal because the entire mixture becomes acute hazardous waste.

If there is negligence in defining when a waste is a waste, the E&S Manager will request the owner to make the waste determination. If there is a direct non-compliance with waste determination and characterization, the Environmental and Safety Manager will make determination for the owner.

**Table 4. General Management Plan**

Waste Type	Managing Method
Hazardous Waste	Recycled Or Licensed Transportation/Disposal Facility
Liquid Non-Sewerable Hazardous Waste	Licensed Transportation/Disposal Facility
Liquid Sewerable Hazardous Waste	Sink Drain To Sewer With Notification
Hazardous/Infectious "Dual" Waste	Licensed Transportation/Disposal Facility
Hazardous/Radioactive Mixed Waste	None Generated
Infectious Waste	Licensed Transportation/Disposal Facility
Noninfectious/Nonhazardous Waste	Industrial Solid Waste Pick Up To Local Dump

Use the following flowchart to further assist you in determining if your waste is a RCRA regulated waste, non-regulated hazardous waste, or a material that must be processed for recycling/reclamation.



**Universal Waste** is a category of waste materials not designated as "hazardous waste", but containing materials that need to be prevented from free release into the environment. It is defined in 40 CFR part 273, by the United States Environmental Protection Agency. Generators of such waste are required to provide for their proper disposal

Universal Waste includes:

- Batteries
- Pesticides
- Mercury-containing equipment (including many thermostats)
- Lamps containing mercury (e.g. fluorescent lamps, including compact fluorescent lamps)

### **Nonhazardous Waste:**

Just because a waste is nonhazardous does not mean it is free from rules and regulations. It may not be appropriate to put nonhazardous waste into a dumpster or down a drain; the waste may require other handling methods.

### **Preparation for Chemical Container Disposal**

Producers are responsible for their waste and should consider the following when preparing the containers for recycling or disposal.

- Certification that the containers are empty
- Lids or caps are removed
- Containers hold no free liquids
- Hazard and warning labels are removed or blocked out once the containers have been cleaned for recycling or disposal.

No shipping and/or materials container or an inner liner removed from a container that has held hazardous chemicals shall be disposed of until:

- The chemical name and all hazard symbols have been removed or rendered unrecognizable,
- All contents have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating,
- The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate, or cleaned by another method that has been shown in the scientific literature, or by a test conducted by the generator, to achieve equivalent removal, RCRA Section 261.7 (b).

### **Law Enforcement:**

Controlled Substances are a classification of pharmaceuticals and poisons that require licensing. Under the license conditions there are restrictions on access, labeling and use. Disposal of DEA regulated materials on campus is the responsibility of the licensee. Lead slugs and Brass casings can be sold as scrap.

**Equipment:**

In order to ensure that equipment has been appropriately cleaned and managed, consult the checklist below. In addition, the College attempts to dispose of equipment through recycling options if possible. We desire to be up to date in our equipment but also environmentally responsible, therefore College equipment that has aged past its favorable efficacy, but that are still operational will trickle down to areas where they will be used less but will serve an important function. Some equipment may be stored for use as an emergency back-up; others may be donated to worthy causes. For those items that cannot or should not be used will be picked up for recycling or proper disposal.

When disposing of equipment, review the following prior to disposal:

1. Could the equipment be contaminated with hazardous chemicals? If possible, the equipment should be thoroughly cleaned prior to disposal.
2. Was the equipment used for biohazard material? If yes, the equipment should be decontaminated with appropriate cleaners prior to disposal.
3. Does the equipment contain a refrigerant? If so, contact Facilities Maintenance Steve Sparks (-3250) to arrange for removal of refrigerant prior to disposal.
4. Does the equipment contain oils, antifreeze, or other types of chemicals? If yes, the chemical/oil should be drained prior to disposal, put the drained fluid into a properly labeled hazardous waste container(s) for removal.
5. Could the equipment contain asbestos, such as an oven? If so contact Facilities Maintenance Steve Sparks (-3250) to arrange for removal.

**Toner and Other Office Supplies:**

Certain office supplies are hazardous to the environment, like inks, toners, liquid white-out, and cleaning solvents. Do not buy more of these supplies than you will use in a reasonable time. Cost savings by buying in bulk are lost in the cost of disposal.

Used ink and toner cartridges may be sent back to the manufacturer for recycling. Most manufacturers are including return boxes for shipment with orders. Questions on disposal may be directed either to the distributor, manufacturer, or Chief Technology Officer at (-3204).

Computers that are outdated but still operational will trickle down to areas where they will be used less. Some equipment will be stored as emergency back-up. Still others donated to worthy causes. And those that cannot or should not be used will be collected in the campus Universal Waste shed to be turned over to a vendor who will re-cycle some parts, and dispose of the rest in an environmentally-friendly manner.

## Waste Removal

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Proper waste removal from campus through a Licensed Transportation/Disposal Facility is required for:

- Mixed Chemical Waste (multiple chemicals combined in a common container)
- Individual Chemicals (unwanted, aged, or off-spec chemicals in pure form)
- Lab Trash (pipettes, wipes, filtrates, filter paper, contaminated plastic and glassware)
- Photo Waste (fixer and developer)
- Aerosol Spray Cans (empty or full)
- Toner Cartridges (mechanical units from computer printers)
- Ink Cartridges (from computer printers)
- Sharps: needles, syringes, lancets, scalpels, and blades (must be in sealed, hard sided containers)
- Used Oil
- Paints and Thinners (oil, latex, stains, lacquer, etc.)
- Paint Products (glues, adhesives, sealant, joint compounds, etc.)
- Fluorescent Light Tubes (mercury containing)
- Fluorescent Light Ballasts (PCB containing)
- Batteries

### Recordkeeping for Hazardous Waste Removal

NC Waste Removal Manifests have 6 pages; the transporter will leave the last 2 pages and take the top 4 pages to accompany the waste. Both pages left should have two signatures — campus personnel listed and the transporters. These are sometimes called the two-signature or initial pages. When the waste leaves campus, make a legible copy of the page labeled Generator Retains. Send the originals to the Environmental and Safety Manager office for filing.

The page then receive from the facility has three signatures on it — a campus personnel, the transporter's, and the receiving facility's. This is sometimes called the three-signature page, facility page or final page. Within 5 days of receiving this page, you must make a copy and send it to the appropriate address, if applicable. Send these pages to the Environmental and Safety Manager's office for filing.

Universal waste shipments and used oil shipments are managed by the generator/owning unit of the waste or recyclables. A copy of the (our Waste Removal Log, link to J:) original document of removal shipment are forwarded to the E&S Office for recordkeeping at the end of each academic year.

A completed manifest is the copy that has been signed by a representative of the disposal facility in **block 20** of the manifest. This signifies that the shipment has reached its destination. Once the completed manifest is received, it will be filed in the manifest binder were with whom.

- If a completed manifest is not received back within 35 days, the Environmental & Safety Manager, will contact the designated facility (Block 9 and Block H) and determine if the shipment has been received.

- If the completed manifest is not received by 45 days, the Environmental & Safety Manager will initiate notification to the Regional Administrator of the United States Environmental Protection Agency informing of this discrepancy.
- When the manifest package is complete the Environmental & Safety Manager will place this record into the Hazardous Waste file/binder.
- Record retention of manifests are 30 plus years of the life of the University; indefinitely.

**Table 4. Additional Record Keeping**

Issues Required by the OSHA Standard	College Information for Compliance
Designation of Hazard Communication Coordinator (mandatory)	Environmental & Safety Manager
Location of Hazard Communication Plan (mandatory – must be accessible to employees)	J: 1 Shared Collage folder, EPA subfolder
Location of Material Safety Data Sheet Master File or locations of Departmental Material Safety Data Sheets	Environmental & Safety Manager's office and Departmental files
Location of Training Records	Environmental & Safety Manager's office and Departmental files
Location of OSHA Laboratory Standard 29 CFR 1910.1450 (mandatory – must be accessible to employees)	J: 1 Shared Collage folder, EPA subfolder

Permanent Records	Retain Until Superseded	Three-Year Retained (Minimum) Records	Retained for Varying Times
<ul style="list-style-type: none"> <li>• Permit applications</li> <li>• Environmental incidents records</li> <li>• Uniform Hazardous Waste Manifests</li> <li>• Land Disposal Restriction (LDR) notifications or certifications</li> <li>• Waste Analysis</li> <li>• Training documents/job descriptions</li> <li>• Spill/release information and follow-up</li> <li>• Relevant MSDS</li> </ul>	<ul style="list-style-type: none"> <li>• RCRA Emergency/Contingency Plans</li> <li>• Chemical Inventories</li> </ul>	<ul style="list-style-type: none"> <li>*Weekly hazardous waste storage inspection forms</li> <li>* Correspondence, technical documents related to hazardous waste</li> </ul>	<ul style="list-style-type: none"> <li>• Tank records kept for the life of the tank</li> <li>* Shipment checklist forms, bulk shipment checklist kept for six months</li> </ul>

## **Hazardous Waste Contingency / Chemical Emergency Plan**

The Hazardous Waste Contingency Plan / Chemical Emergency Plan provide guidance for chemical emergencies. The provisions of the contingency plan must be carried out immediately in the event of an emergency. Personnel safety for hazardous waste emergencies is incorporated into the contingency plan. Qualified persons are designated as the Primary and Alternate Emergency Coordinators for the College. The Emergency Coordinator shall be on-site or on-call to respond to all emergencies. The Emergency Coordinator shall be familiar with the Hazardous Waste Contingency Plan / Chemical Emergency Plan, all operations, and the campus blueprint.

The Emergency Coordinator shall have the authority to commit resources necessary to respond to emergencies.

### **Primary & Secondary Emergency Coordinators:**

- Primary and Secondary Emergency Coordinators are identified in the Crisis Management Plan and in the Contingency Plan
- Shall be on-site or on call to respond to emergencies.
- Shall be familiar with all operations and the campus layout.
- Are authorized to commit resources necessary to respond to emergencies.

### **Spill Control:**

Hazardous chemical spills can be handled effectively when plans of action have been developed. Spill procedures should include the following:

1. the potential location of possible spills
2. the quantities of material that might be released
3. the chemical and physical properties of the material. This information may be obtained from the Material Safety Data Sheet or label

4. the hazardous properties of the material (consult the MSDS)
5. the types of personal protection equipment that may be needed for cleanup
6. the location and contents of spill kits that should be made available where possible. These kits might include the following:
7. neutralizing agents such as sodium carbonate, sodium bicarbonate or sodium bisulfate
8. nonreactive absorbents such as vermiculite, absorbent pillows or clay cat litter
9. plastic scoops and shovels, disposable mops, disposable protective clothing and containers to receive the spilled material and all items used in the cleanup

## **Waste Minimization**

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- Give top priority to technologies and methods that substitute non-hazardous materials and utilize other source reduction approaches in addressing all environmental issues.
- Pursue waste abatement programs such as recycling, reuse, and purchase of recycled materials to reduce the need for disposal of waste that cannot be reduced at the source.
- Encourage pollution prevention and waste abatement through improvements in purchasing policies and specifications.
- Periodically review waste characterization to ensure that all waste materials are properly classified.
- Review current efforts in order to determine if improvements can be made in the system of waste management, source reduction, and waste generation costs.
- Train employees regarding waste minimization and proper waste management.
- Maintain good housekeeping
- Practice substitution of high environmental impact chemicals with less hazardous properties such as: replacement of mercury containing equipment, replacement of formaldehyde with a formalin, replacement of acetone usage for cleaning purposes...etc

## **Annual Plan Review**

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The following items will be reviewed annually, for compliance and for necessary improvements with the management plan protocols.

- Inspection Records of accumulation areas/weekly
- Manifests (for signatures, return copies)/as needed
- Hazardous Waste Management Plan/ October