Hazardous Waste Generator

Study Guide

(HP-RCRIGEN3)

TABLE OF CONTENTS

The purpose of the Hazardous Waste Generator Training course is to provide a basic understanding of the required procedures for managing hazardous waste.

All individuals who generate hazardous waste must have a thorough understanding of waste containment and labeling procedure in order to comply with regulations and to pass inspections from the U.S. Environmental Protection Agency and the New York State Department of Environmental Conservation

In the past, the DEC has issued several Notices of Violations (NOVs) against the Lab .

These findings against BNL are posted on the U.S. Environmental Protection Agency's enforcement and compliancy history online database or ECHO. This database can be viewed by the public. Aside from possible accidents and injuries and damage to the environment this kind of exposure hurts the labs mission in a number of ways.

This course will define various waste streams and discuss the regulatory requirements for their safe management.

Course Objectives

Upon completion of this course, you will be able to:

- Choose an appropriate container that is safe for handling, storing and transferring the waste.
- Properly label the container
- Establish a Satellite Accumulation Area in an appropriate location with sufficient secondary containment and the required postings
- Operate a Satellite Accumulation Area with proper waste segregation and control.
- Accurately complete all appropriate sections of the Nonradioactive Waste Control Form as well as the Process Knowledge Certification Form, if required.
- Segregate, package, label, and accumulate Polychlorinated Biphenyl (PCB) wastes.

Part 1: Managing Hazardous Waste

This lesson is designed to keep you and others at BNL safe when handling and storing hazardous wastes.

Lesson Objectives

At the end of this lesson you will be able to:

- Define hazardous waste
- Properly containerize, label, store and document hazardous waste according to applicable regulations and BNL procedures.

Let's start this lesson with a definition of hazardous waste, which comes from the Environmental Protection Agency.

Hazardous waste is defined as liquid, solid, contained gas, or sludge wastes that contain properties that are dangerous or potentially harmful to human health or the environment.

Hazard Characteristics

These four characteristics are: Ignitability, Corrosivity, Reactivity, and Toxicity.

Information regarding flash points, ph, reactivity and the concentration of toxic constituents can often be found in reference books and the Material Safety Data Sheet.

Ignitability

A waste is hazardous for ignitability if it has a flash point less than 140 F. Flash point is the temperature at which the material's vapors will ignite during a prescribed test. Waste acetone, gasoline, alcohols, and some paint thinners are common ignitable wastes generated at BNL. Wastes which are oxidizers are also characterized as ignitable due to their ability to support combustion.

Corrosivity

A waste is hazardous for corrosivity if it is a liquid and has a pH less than or equal to 2 OR greater than or equal to 12.5. Common corrosive wastes generated at BNL include acids and bases in the form of reagents, water treatment chemicals, certain cleaners, and paint stripper.

Reactivity

A waste is hazardous for reactivity if it reacts violently when exposed to air or water, is normally unstable or shock sensitive and may detonate at standard temperature and pressure, and when mixed with water or acid may generate toxic gases in sufficient quantity to present a danger to human health or the environment. At BNL these types of wastes are generated infrequently in small quantities and are typically associated with research activities. Examples of such wastes are sodium metal, cyanide compounds, explosives, and certain peroxide forming chemicals.

Toxicity

A waste is considered hazardous for toxicity if it contains certain constituents at or above certain concentrations as specified by the EPA. The list of toxic constituents contains various metals, such as lead and mercury; solvents such as benzene, carbon tetrachloride, and methyl ethyl ketone; and pesticides such as Endrin, Chlordane, and Toxaphene. At BNL, toxic hazardous wastes are generated by various operations including research, maintenance, building renovations, and some photo processing operations. They typically include broken mercury thermometers, laboratory waste reagents, lead based paint chips, silver containing photo developer, and discarded pesticides.

Handling and Storing Hazardous Waste

Hazardous waste needs to be managed according to government regulations to ensure the safety of BNL staff and to protect the environment. There are four basic steps a hazardous waste generator must follow to properly handle and store hazardous materials.

To properly handle and store hazardous wastes:

Step 1 – containerize; Step 2 – label; Step - 3 store; Step 4 - document.

Step 1: Containerize

The first step is to containerize the hazardous waste. Ensure that waste is placed in a container that is

...in good condition

...can be securely sealed

...and is compatible with the waste's characteristics

Common Types of Containers

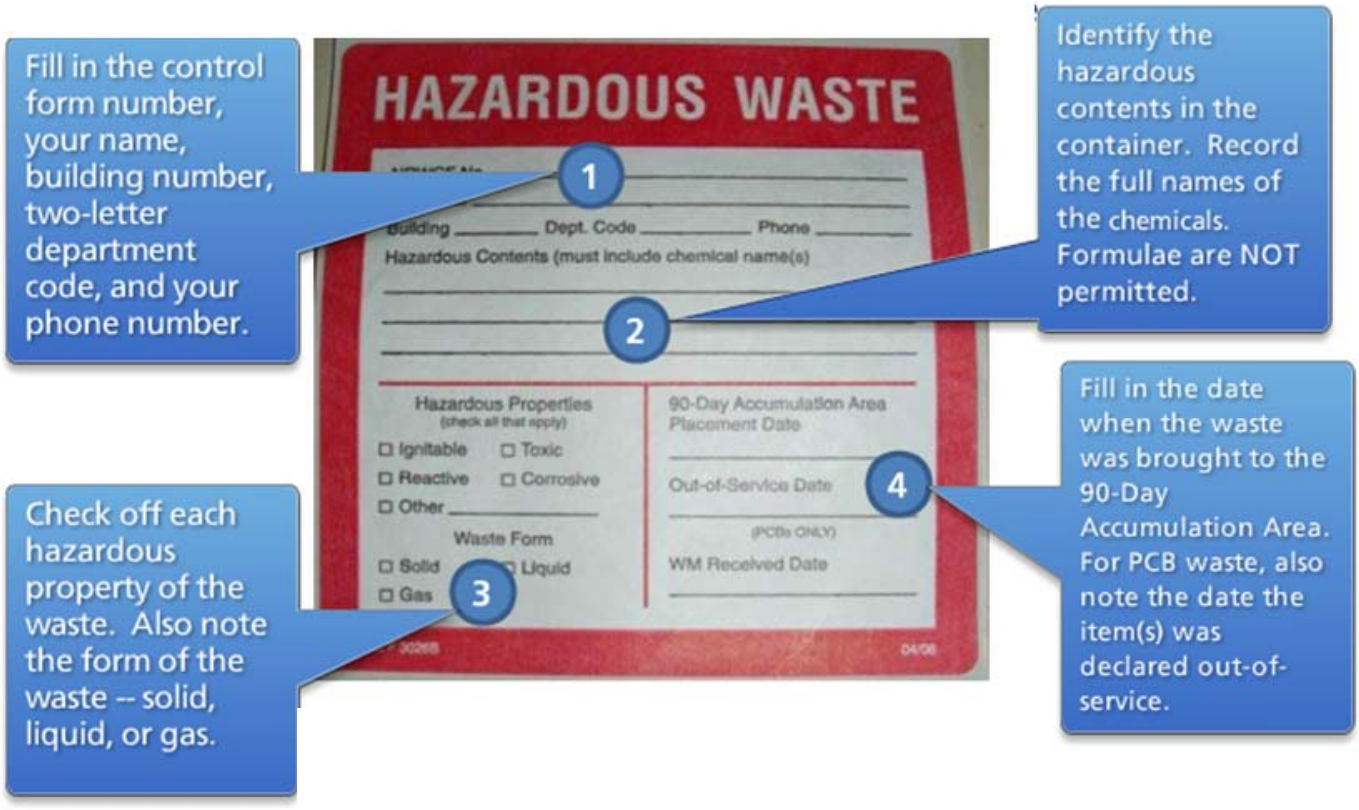
There are many types of containers suitable for hazardous waste. Here are examples of containers commonly used at BNL.

There are many types of containers suitable for hazardous waste. Here are examples of containers commonly used at BNL.

It is very important that all containers be kept closed at all times except when adding or taking out waste. This is both a safety and regulatory requirement. The cardboard container is not properly closed and was cited in an audit finding.

Labeling

Step two is to label the container in which hazardous waste was just placed. Correct labeling is critical to safety in the workplace and to proper waste disposal. Labeling must be done immediately after any addition of hazardous waste to a container.



Use “Non-hazardous” waste labels only with the approval of your Environmental Compliance Rep, Waste Management Rep, or the Hazardous Waste subject matter expert.

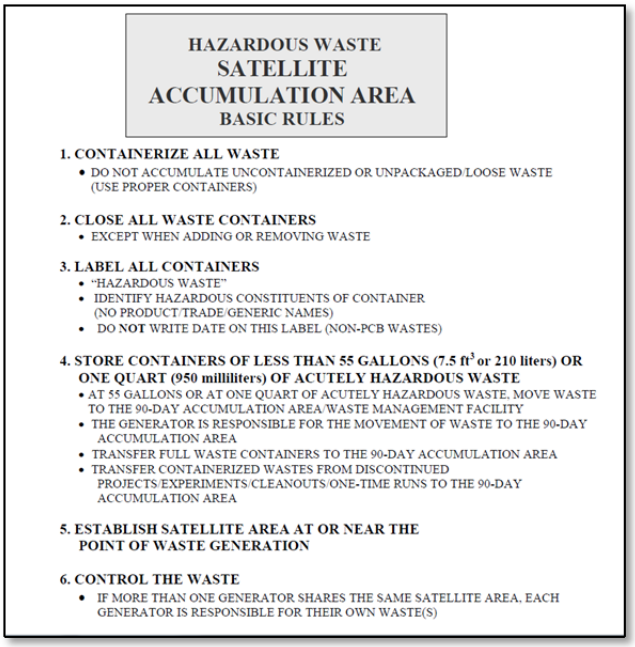
If waste requires refrigeration, a blue "Store in Refrigerator" or “Store in Freezer” label must be placed on the container in addition to the proper hazardous waste label. The Chemical Management team has these labels.

Step 3: Store – Establish Accumulation Area

Storage of hazardous waste requires that a Satellite Accumulation Area be established.

Establishing a waste accumulation area

Hazardous waste must be stored near the point of generation in a dedicated **Satellite Accumulation Area.** Federal regulations spell out specific requirements for establishing and operating this area. Let us look at these two requirements separately. First, we will look at the requirements for establishing the area.



HAZARDOUS WASTE
SATELLITE
ACCUMULATION AREA
BASIC RULES

1. CONTAINERIZE ALL WASTE
   - DO NOT ACCUMULATE UNCONTAINERIZED OR UNPACKAGED/LOOSE WASTE (USE PROPER CONTAINERS)
2. CLOSE ALL WASTE CONTAINERS
   - EXCEPT WHEN ADDING OR REMOVING WASTE
3. LABEL ALL CONTAINERS
   - “HAZARDOUS WASTE”
   - IDENTIFY HAZARDOUS CONSTITUENTS OF CONTAINER (NO PRODUCT/TRADE/GENERIC NAMES)
   - DO **NOT** WRITE DATE ON THIS LABEL (NON-PCB WASTES)
4. STORE CONTAINERS OF LESS THAN 55 GALLONS (7.5 ft^3 or 210 liters) OR ONE QUART (950 milliliters) OF ACUTELY HAZARDOUS WASTE
   - AT 55 GALLONS OR AT ONE QUART OF ACUTELY HAZARDOUS WASTE, MOVE WASTE TO THE 90-DAY ACCUMULATION AREA/WASTE MANAGEMENT FACILITY
   - THE GENERATOR IS RESPONSIBLE FOR THE MOVEMENT OF WASTE TO THE 90-DAY ACCUMULATION AREA
   - TRANSFER FULL WASTE CONTAINERS TO THE 90-DAY ACCUMULATION AREA
   - TRANSFER CONTAINERIZED WASTES FROM DISCONTINUED PROJECTS/EXPERIMENTS/CLEANOUTS/ONE-TIME RUNS TO THE 90-DAY ACCUMULATION AREA
5. ESTABLISH SATELLITE AREA AT OR NEAR THE POINT OF WASTE GENERATION
6. CONTROL THE WASTE
   - IF MORE THAN ONE GENERATOR SHARES THE SAME SATELLITE AREA, EACH GENERATOR IS RESPONSIBLE FOR THEIR OWN WASTE(S)

There are two steps involved.

First, designate the area. When designating the area for storage, ensure it is close to process that generated the waste. It must be barrier free, away from heat or cold conditions and accessible for inspections.

Second, post the Satellite Accumulation area sign (shown here) in the designated area. Notify the 90- day hazard waste accumulation area manager when the satellite area is first established and when it is closed.

Step 3: Store – Operate Accumulation Area

There are four requirements which must be followed to ensure the safe handling and storage of the waste. These involve:

1) Keep containers closed at all times, except when adding / removing waste

2) Segregate the waste

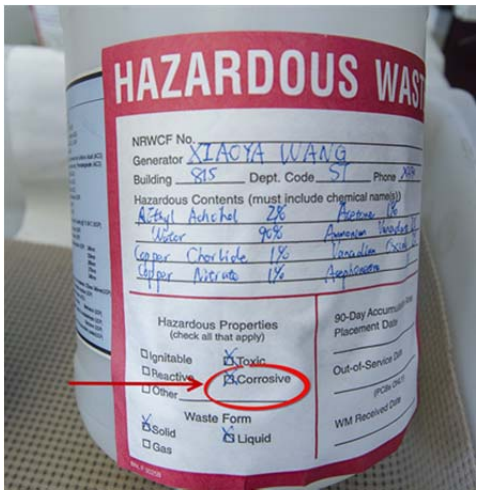
3) Ensure contents are properly contained

4) Transfer the waste in a safe manner

Closed Containers

Keep all containers closed at all times in order to prevent spills and chemical exposure to personnel. This applies to all containers, including boxes and pails, not just liquid containers.

A container with a funnel in its top is not considered closed unless the funnel itself is attached to the container and has a lid which is securely closed.



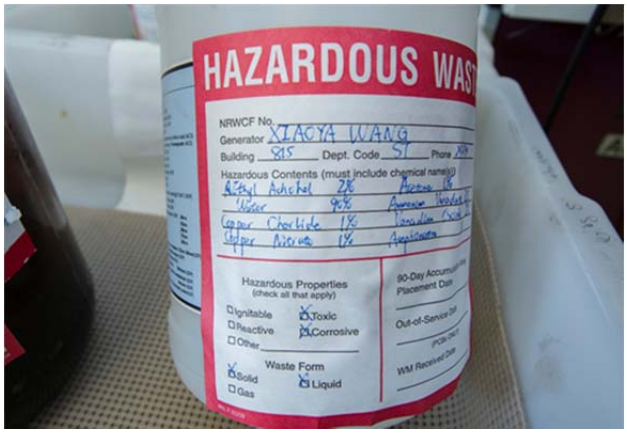
Segregation

In the event of a spill, incompatible wastes may react violently with each other. Therefore they must be segregated during storage. Segregation must be done according to the waste's hazards classification, such as corrosive or reactive. A list of hazardous classes can be found in the SBMS Hazardous Waste Subject Area. Ensure that wastes that need to be refrigerated are properly labeled as such and are stored in a refrigerator not used for food.

Secondary Containment

Secondary containment keeps spills and leaks from spreading into the work area. The secondary containment must be compatible with the chemicals being stored and must be capable of holding ten percent of the total volume of waste or 100% of the largest containers volume, whichever is greatest.

Step 4: Document – The Nonradioactive Waste Control Form (NRWCF)



The last step of generating hazardous waste is to document the wastes placed in the container. While this is done on the label, the Nonradioactive Waste Control Form (NRWCF) provides more details of the wastes in the container. Inaccurate or incomplete forms are the most common source of noncompliance issues. It is the generator's responsibility to complete the NRWCF fully and accurately.

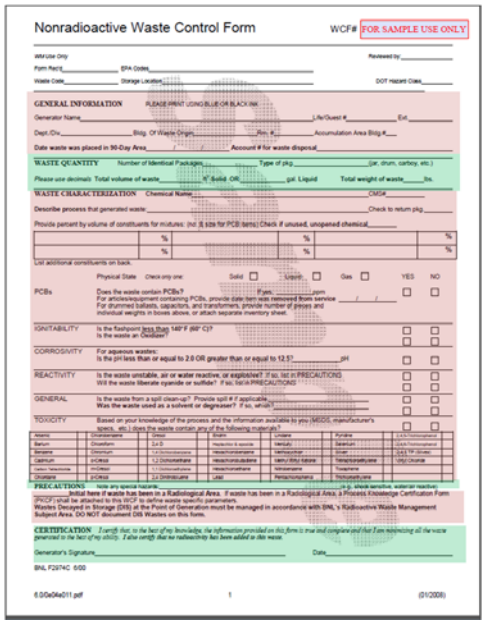
Inventory Sheet

If more than one generator is adding waste to the container, each generator shall note the type and quantity of their additions on an inventory sheet or equivalent. The inventory sheet shall be used by the generator responsible for the waste to complete the NRWCF. This step describes how to properly complete the form.

The 6 Sections of the NRWCF form

There are 6 sections on the NRWCF form. They are:

1) General Information
2) Waste Quantity
3) Waste Characterization
4) Precautions
5) Process Knowledge
6) Certification


Nonradioactive Waste Control Form

WCF# FOR SAMPLE USE ONLY

GENERAL INFORMATION PLEASE PRINT USING BLUE OR BLACK INK

WASTE QUANTITY

WASTE CHARACTERIZATION

PCBs

IGNITABILITY

CORROSIVITY

REACTIVITY

GENERAL

TOXICITY

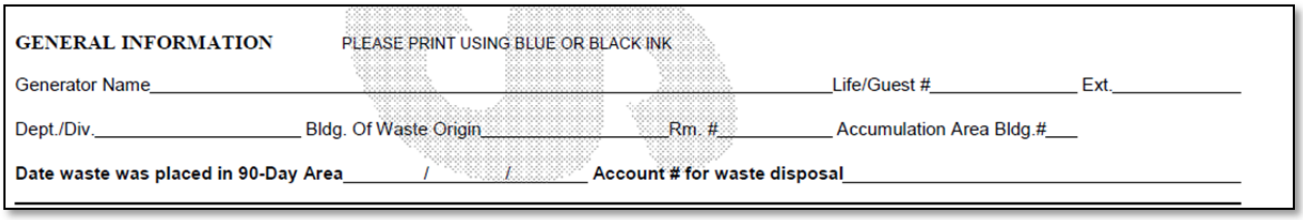
PRECAUTIONS

CERTIFICATION

General Guidelines

- You may document multiple **identical** containers on the same NRWCF.
- It is crucial that all wastes are properly characterized for the safety of both BNL staff and disposal companies that handle the waste after it leaves BNL.
- To characterize the waste, use Safety Data Sheets (SDSs), supplier / manufacturer documentation, your own "knowledge" of the process that created it, and any other associated information, as required. If you, as the generator, are not able to answer all of the questions on this form, then contact your local Environmental Compliance Representative or Waste Management Representative for assistance.
- For the purposes of characterization, "knowledge" means first-hand knowledge of the materials and/or processes used in creating the waste obtained by either directly working with the materials or obtaining such information from the person(s) who worked directly with the materials. See the Hazardous Waste Subject Area for more information.

1. General Information



GENERAL INFORMATION PLEASE PRINT USING BLUE OR BLACK INK

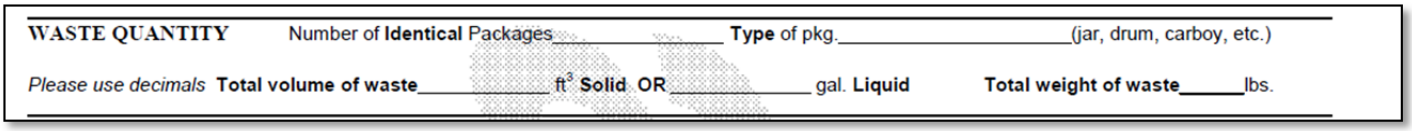
Generator Name_____ Life/Guest #_____ Ext._____

Dept./Div._____ Bldg. Of Waste Origin_____ Rm. #_____ Accumulation Area Bldg.#___

Date waste was placed in 90-Day Area_____/_____/_____ **Account # for waste disposal**_____

Name of person knowledgeable of and responsible for generation of waste. Generator's training in RCRIGEN3 must be current at the time of generation for waste to be picked up. Must also provide BNL Life/Guest number; Dept/Div responsible for waste; building and room where waste originated; and date waste was placed in 90-Day Storage Area.

2. Waste Quantity

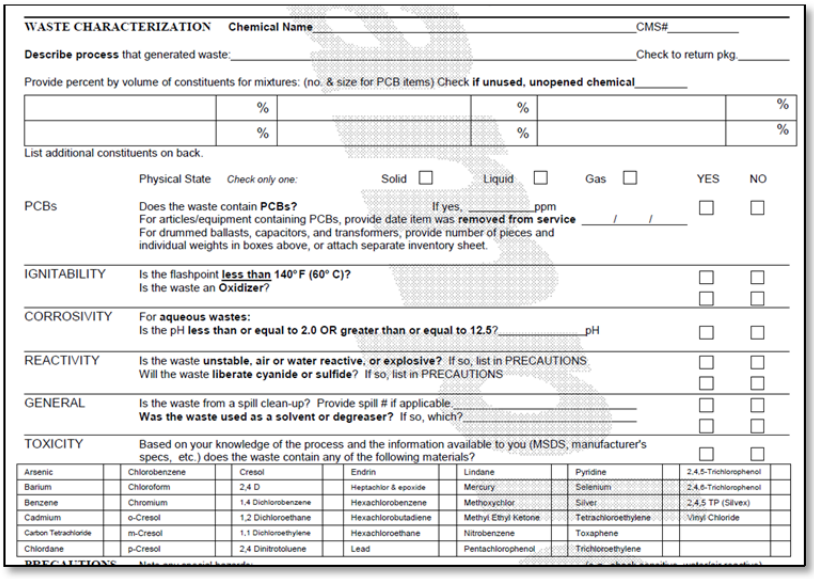


WASTE QUANTITY Number of **Identical** Packages_____ **Type** of pkg._____(jar, drum, carboy, etc.)

Please use decimals **Total volume of waste**_____ ft^3 **Solid OR**_____ gal. **Liquid** **Total weight of waste**_____lbs.

Indicate separately the number of identical packages and the types of packages. Provide the quantity of the waste by listing gallons for liquids and cubic feet for solids. The weight must be provided for all wastes in pounds. Do not include the weight of the container

3. Waste Characterization



WASTE CHARACTERIZATION **Chemical Name**_____CMS#_____

Describe process that generated waste:_____Check to return pkg._____

Provide percent by volume of constituents for mixtures: (no. & size for PCB items) Check **if unused, unopened chemical**_____

	%		%		%
	%		%		%

List additional constituents on back.

Physical State *Check only one:* Solid ☐ Liquid ☐ Gas ☐ YES NO

PCBs — Does the waste contain **PCBs?** If yes, _____ppm ☐ ☐
For articles/equipment containing PCBs, provide date item was **removed from service** ____/____/____
For drummed ballasts, capacitors, and transformers, provide number of pieces and individual weights in boxes above, or attach separate inventory sheet.

IGNITABILITY — Is the flashpoint **less than 140° F (60° C)?** ☐ ☐
Is the waste an **Oxidizer**? ☐ ☐

CORROSIVITY — For **aqueous wastes:** Is the pH **less than or equal to 2.0 OR greater than or equal to 12.5**?_____pH ☐ ☐

REACTIVITY — Is the waste **unstable, air or water reactive, or explosive?** If so, list in PRECAUTIONS ☐ ☐
Will the waste **liberate cyanide or sulfide**? If so, list in PRECAUTIONS ☐ ☐

GENERAL — Is the waste from a spill clean-up? Provide spill # if applicable._____ ☐ ☐
Was the waste used as a solvent or degreaser? If so, which?_____ ☐ ☐

TOXICITY — Based on your knowledge of the process and the information available to you (MSDS, manufacturer's specs, etc.) does the waste contain any of the following materials? ☐ ☐

Arsenic	Chlorobenzene	Cresol	Endrin	Lindane	Pyridine	2,4,5-Trichlorophenol	
Barium	Chloroform	2,4 D	Heptachlor & epoxide	Mercury	Selenium	2,4,6-Trichlorophenol	
Benzene	Chromium	1,4 Dichlorobenzene	Hexachlorobenzene	Methoxychlor	Silver	2,4,5 TP (Silvex)	
Cadmium	o-Cresol	1,2 Dichloroethane	Hexachlorobutadiene	Methyl Ethyl Ketone	Tetrachloroethylene	Vinyl Chloride	
Carbon Tetrachloride	m-Cresol	1,1 Dichloroethylene	Hexachloroethane	Nitrobenzene	Toxaphene		
Chlordane	p-Cresol	2,4 Dinitrotoluene	Lead	Pentachlorophenol	Trichloroethylene		

PRECAUTIONS — Note any special hazards (e.g., shock sensitive, explosive reactive)

Provide the name of the waste and the process that generated it. If the waste is a mixture or listed as a trade name, list all constituents in the spaces provided. A Material Safety Data Sheet (MSDS) may also be attached to provide information on the waste's

constituents. Check off all of the appropriate boxes pertaining to the waste's physical state and characteristics.

Use chemical names only on this document. Chemical formulas and acronyms are not permitted. If applicable, record the CMS (Chemical Management System) number associated with your waste, otherwise leave blank. Briefly describe the process that generated the waste and the percentage of its constituents.

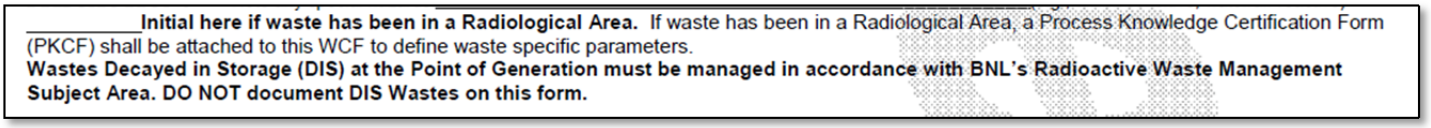
For the following six sections, pcb, ignitability, corrosivity, reactivity, general and toxicity you must check either yes or no for each, depending on the waste's characteristics. In addition you must provide any additional information required by a section that has been checked yes. If you checked no for a section, then additional information is not required.

4. Precautions


PRECAUTIONS Note any special hazards:_____(e.g., shock sensitive, water/air reactive)

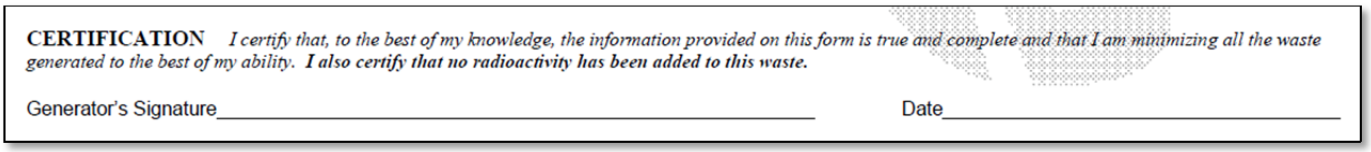
The precautions section provides additional warning for those handling the waste. List any special hazards that should be considered when picking up and transporting waste. If the waste is water reactive, shock sensitive, or must be refrigerated, these must be documented in this section.

5. Process Knowledge


_____**Initial here if waste has been in a Radiological Area.** If waste has been in a Radiological Area, a Process Knowledge Certification Form (PKCF) shall be attached to this WCF to define waste specific parameters.
Wastes Decayed in Storage (DIS) at the Point of Generation must be managed in accordance with BNL's Radioactive Waste Management Subject Area. DO NOT document DIS Wastes on this form.

This form is only intended for use on wastes that have not had radioactivity added to them at any time. If the form is initialed to indicate the waste has been in a Radiological Area, a Process Knowledge Certification Form (PKCF) must be completed and attached to this form indicating that no radioactivity has been added to this waste. **For wastes that have never been in a radiological area, a PKCF does not have to be attached to this form.**

6. Certification


CERTIFICATION *I certify that, to the best of my knowledge, the information provided on this form is true and complete and that I am minimizing all the waste generated to the best of my ability.* ***I also certify that no radioactivity has been added to this waste.***

Generator's Signature_____ Date_____

The certification at the bottom of the Waste Control Form must be signed by the waste generator. It certifies that all information provided is true and complete; that waste is being minimized to the extent possible; and that no radioactivity has been added to this waste.

Part 2- Managing Other Types of Hazardous Waste

Lesson Objectives

At the end of this lesson, you will be able to properly characterize, containerize, label, and store:

- Universal Waste
- Industrial Waste
- Nanoscale Waste
- Polychlorinated Biphenyl Waste (PCB Waste)

Discussion

There are four categories of special hazardous wastes generated at BNL and each has additional steps to ensure that they are properly managed. In this lesson you will learn how to characterize, containerize, label, and store universal waste, industrial waste, nanoscale waste, and Polychlorinated Biphenyl waste, also known as PCB waste.

Mixed Waste is a special category consisting of a mixture of both hazardous and radioactive waste. This waste is not covered in detail here due to its infrequent generation. To manage this material, follow all hazardous waste regulations in addition to radiological precautions. See the SBMS subject area for more information.

Universal Waste Management

Universal wastes consist of batteries, fluorescent light bulbs, mercury-containing thermostats, and certain pesticides. Due to the large quantity of batteries and florescent light bulbs used at BNL, this section focuses only on these two items.

Universal wastes consist of batteries, fluorescent light bulbs, mercury-containing thermostats, and certain pesticides. Due to the large quantity of batteries and florescent light bulbs used at BNL, this section focuses only on these two items.

Universal Waste Management – Designate an Administrator

Every department which generates universal waste has an administrator responsible for establishing and maintaining the Universal Waste Accumulation Area. This person is a good source of information on how to properly dispose of universal waste. Do not treat this waste as normal trash. Contact your department Universal Waste Administrator for more information on how to properly dispose of this type of waste.

Universal Waste Management – Establish A Universal Waste Accumulation Area

Once the universal waste accumulation area is established, the generators can start disposing of the universal waste.

Universal Waste Management – Generator Procedures

There are four steps that Universal Waste generators must follow. They are:

- Step 1 Segregate the waste
- Step 2 Place waste in an appropriate container
- Step 3 Close the container
- Step 4 Record the date on the label when the first item was placed in the package.

Step 1 Segregate the waste

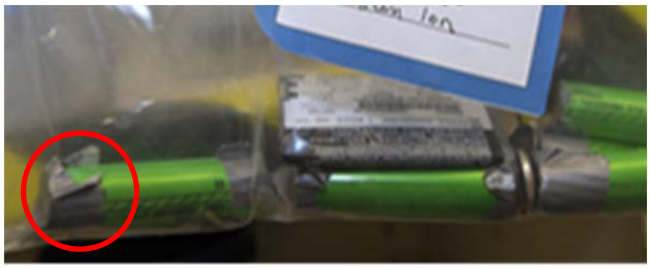
Step One is to segregate the different types of Universal Wastes. If you are disposing of batteries, different types of batteries (e.g. NiCad, Mercury, Lithium, Hydrides) must be segregated from each other as well.

Always use separate and suitable containers for the following:

- Mercury thermostats
- Fluorescent light bulbs/tubes
- Mercury batteries
- Nickel-cadmium batteries
- Lead acid batteries
- Lithium Batteries
- Nickel-metal hydride batteries
- Mercury Batteries

Step 2 Place waste in an appropriate container

For Universal Waste batteries, tape the battery terminals or use equivalent methods to prevent shorts and possibly cause heat build-up which could lead to a fire.



Step 3 Close the container

It is a safety precaution and a regulatory requirement that the container be closed at all times, except during the addition of waste. Duct tape used for closing boxes must be properly affixed to the cardboard box at all times except when adding or removing waste. The flaps of boxes must not be loose.

Step 4 Record the date on the label

Record the date on the label when the first Universal Waste item is placed in the container.

When done correctly, these four steps meet our compliance requirements for the properly and safety generating universal waste.

Industrial Waste Management

Before industrial waste is generated, the generator must...

- Review pollution prevention and waste minimization techniques to minimize waste generation.
- Characterize all wastes to ensure they are properly managed and disposed.
- Ensure proper management of the waste that is created and that an appropriate disposal pathway exists.

What is industrial waste?

The waste generator must determine if the waste to be generated is indeed industrial waste. Environmental Protection division personnel can help you in making that decision. Here are some commonly used industrial wastes found at BNL.

- Used Oils (not containing hazardous solvents) like vacuum pump oil, motor oil or compressor oil
- Recyclables like mixed paper, cardboard, plastic and aluminum beverage containers, Styrofoam packing materials, bubble wrap,
- Non-medical sharps like broken glass, and razor/Exacto blades.

What is **not** industrial waste?

These are **NOT** Industrial Wastes

- Municipal trash (garbage)
- Moratorium and Suspension Encumbered Metals
- Hazardous/Hazardous-Universal/Mixed/Radioactive/Regulated Medical Wastes

Step 1. Segregate the Waste

Some industrial wastes can be recycled and BNL encourages recycling, whether to get money back, such as through returning toner cartridges or scrap metal or just to practice BNL's green initiatives.

There are two different programs on site to segregate wastes. The first program is the Facilities and Operations Site Services program. The second program is through Procurement and Property Management. Segregating the waste is an important step to dispose of industrial waste.

F&O's Site Services Program

- Aluminum/beverage cans,
- Glass/beverage containers,
- Plastic/food-grade containers,
- Cardboard,
- Paper (magazines/phonebooks/newspapers

Procurement and Property Management's Program

- Electronic equipment/computer terminals/copiers
- Toner cartridges
- Scrap metal
- Styrofoam packing materials
- 'Hot-drained' vehicle oil filters

Notes about Containers

While we discussed containers in lesson 1, it is worth mentioning again a few important considerations about containers.

- Ensure they are sturdy and not significantly damaged
- Ensure they are compatible with the wastes being stored
- Are DOT approved or equivalent
- Are not over filled
- Have the proper green "Non-hazardous" label & the label has a specific description

Step 2. Characterization

Characterizing Industrial Waste

What is it?	Where document?
Describing the chemical composition of the waste This is done by analytical chemical testing or through process knowledge, or both.	• Work planning documents • Experimental Safety reviews • Process Assessment forms

All industrial wastes must be properly characterized and the characterization must be documented via analytical chemical testing and/or process knowledge. Acceptable forms of documentation include work planning documents, experimental safety reviews, process assessment forms, etc. Use a Non-radioactive Waste Control Form when submitting Industrial Wastes to Waste Management, Building 860

Storing Oil

When storing oil, it is important to manage these wastes until shipped off-site to prevent the generation of legacy waste, which is waste left behind by the generator without proper documents.

When storing oils:

- Do NOT mix any oil with hazardous wastes or with anything incompatible with the oil.
- Ensure oil does not inherently contain regulated hazardous constituents. Check MSDS, manufacturer fact sheet, or consult a Waste Management or Environmental Compliance Representative.
- Oils with PCB concentrations > 50 ppm are hazardous wastes.
- Label containers with green 'Non-Hazardous' label and write "USED OIL" on label.
- Empty metal drums and tops formerly containing oil must be thoroughly cleaned of all residual oils before handling as scrap metal to prevent oil spills/sheens from occurring.
- Used oils are non-recyclable Industrial wastes.

Managing Nanowastes

Manage all wastes containing or contaminated with engineered nanoscale particles, also known as nanowastes, as hazardous to ensure proper disposal and to minimize future environmental liabilities. For mixed nanomaterial wastes, those containing hazardous and radioactive wastes and radioactive nanomaterial waste, refer to the Mixed Waste Management or Radioactive Waste Management Subject Areas, respectively.

There are five basic steps to managing nanoscale particle wastes.

1. **Containerize**
2. **Label**
3. **Store**
4. **Document**
5. **Transfer**

Containerize

- Place the waste in the container in a way that prevents the release of nanoscale waste into the work area/environment.
- Place liquid nanoscale waste into a container with a top that can be firmly secured (e.g., threaded).
- Place solid nanoscale waste inside a sturdy/suitable bag (6 mil thick minimum), or
- a suitable container as per the above.
- Treat any waste material, such as PPE, wipes, blotters, glass ware, etc. that came into contact with nanoscale particles as hazardous nanowaste
- Treat any wastes from the decontamination of nanoscale-contaminated materials as hazardous nanowaste.

Label

- Label the outermost bag/container with the words "Contains Nanomaterials" (see the suggested label in the exhibit Nanomaterial Waste Labels).
- Write contents on the label.

Note: There should be two labels - the hazardous waste label and the nanomaterials label.

Store

- Store nanoscale wastes in the Satellite Accumulation Area by following the procedures in the lessons presented earlier in this course.
- Place nanoscale wastes in an area that minimizes both personnel exposure and environmental releases.

Document

- Complete the NRWCF
- Complete the Process Knowledge Certification form (if applicable)

Note: The chemical composition of the nanomaterials must be listed, but the volumes are not required.

Transfer

- Move the waste to the 90-day Accumulation Area in accordance with the section Operating a Satellite Accumulation Area and Operating a 90-day Accumulation Area.

Note: Ensure that all outer labels are visible and the waste is properly contained to prevent dispersal.

Intro to PCB Waste

The processing of Polychlorinated Biphenyl waste (PCB waste) is subject to somewhat different and stricter rules. There are special time limits and labeling requirements that will be discussed in this section.

There are five steps associated with managing PCB waste. They are:

Step 1. Segregate the waste

Step 2. Containerize the waste

Step 3. Label the container

Step 4. Transfer the waste, and

Step 5. Post signs

Step 1. Segregate Waste

To properly segregate PCB waste, be mindful to segregate non-leaking small capacitors and light ballasts from other PCB wastes, leaking PCB waste from non-leaking PCB wastes, and PCB electrical devices. Be sure to follow all applicable SBMS electrical safety requirements when removing such devices from their systems.

Segregate NON-LEAKING small capacitors (defined as capacitors that contain less than 1.36 kilograms/3 pounds of dielectric fluid or whose total volume is less than 100 cubic inches) and light ballasts from other PCB waste.

Segregate leaking PCB articles from non-leaking articles and package separately.

Segregate waste PCB electrical devices (e.g. transformers, capacitors, ballasts) and ensure that they are rendered safe as per all SMBS Electrical Safety requirements before the waste items are handled and before placing them into the 90-day Hazardous Waste Accumulation Area. Follow all applicable SBMS electrical safety requirements when removing such devices from their systems.

Step 2: Containerize Waste

Step two is to containerize the waste. Be sure to place the waste in one of several approved DOT containers. Be sure to plan for spill control.

Approved DOT shipping containers include:

Type	Description	Example
Solids (BNL Stock# K-60643/equivalent)	55-gallon, open-top, steel drum	
Liquids (BNL Stock# K-60646/equivalent)	55-gallon, bung steel drum	
Smaller PCB Items (BNL Stock# K-60632/equivalent)	5-gallon poly bucket	

NOTE: Ensure adequate spill control is utilized when transferring liquids containing PCB's from equipment to DOT-approved containers

Step 3: Label Container

Step three is to label the container. First, put the largest PCB label that will fit on the container. When the container is ready for disposal mark the out-of-service date on the red hazardous waste label. This date starts the 30 day clock in which the container must

be removed from your 90 Day Area. So even though the PCB waste is in the 90 Day Area, it must be picked up within 30 days from the date it was declared a waste.

Affix the largest PCB label on the container that will fit. The maximum label size is 6" X 6".

When the container is no longer in-service and is designated for disposal, mark the "out-of-service date" on the red hazardous waste label.

NOTE: The 30-day PCB clock starts from the out-of-service date, meaning the container must be picked up for disposal within this 30-day window. To ensure this occurs, submit your NRWCF as soon as possible.

Step 4: Transfer Waste

The next step is to move your waste to the 90 Day area. When the wastes are transferred, write the date the transfer occurred on the label. There will now be two dates on the container label-the out-of-service date and the start accumulation date, which will likely be different dates.

This is an important difference with hazardous waste. For regular hazardous waste, a 90 day pickup is required after the waste is moved to the 90 Day area. But for PCB's, a 30 day pickup is required from the day the material is first declared a waste. So the "out of service" date is the important date on this label.

Transfer the PCB waste to the 90-day Hazardous Waste Accumulation Area.

Write the date when the waste was first declared waste. This is the date that needs to be on the label.

The "out-of-service" date and the "start accumulation" date do not need to be the same date. However, both dates are required for Waste Management to pick up the PCB waste.

Step 5: Post Sign

Lastly, whenever PCB waste is stored in the 90-day accumulation area, a sign must be posted at the entrance or near the entrance of the accumulation area indicating PCB waste is present. The sign is usually the largest PCB label available. When there is no longer PCB waste in the accumulation area, the sign is removed.

Post a 6" X 6" Polychlorinated Biphenyl label at the entrance to the accumulation area whenever PCB waste is stored inside the accumulation area.

NOTE: Remove the sign after the PCB waste has been picked up.

For more information on handling, storing, and transferring PCB wastes, see the Polychlorinated Biphenyl SBMS Subject Area.