

Chapter 2: Hazardous Waste

Waste is any material no longer utilized for its original purpose. Printing facilities generate wastes of many types. The following are some examples of waste materials from printing facilities:

- office paper, cardboard, and plastic food and beverage containers
- food wastes from cafeteria or break room operations
- used lubricating oils
- office equipment, such as computer monitors, hard drives, printers, copy machines, televisions, and microwave ovens
- fluorescent lamps
- packaging from materials such as foam, strapping, and lumber
- overruns and waste from production
- used inks, solvents, adhesives coatings, etc.
- materials with expired shelf life
- off-specification materials
- materials no longer needed due to production process changes

Waste generated at any printing operation is either non-hazardous or hazardous. Each has its own definition and requirements. This chapter will focus on identifying wastes and the regulations that govern their proper disposal.

Non-hazardous Solid Waste

Non-hazardous Solid Wastes include: office and lunchroom wastes; non-printing production wastes; and ware-house wastes not related to product handling. Some of these wastes are banned from landfills and must be properly *recycled*.

Examples of materials banned from landfills:

Paper: Office, newspaper, magazines, corrugated cardboard.

Containers: Aluminum cans, steel (tin) cans, glass bottles and jars, plastic containers (#1 and #2).

Electronics: Beginning September 1, 2010, computers, televisions, desktop printers, computer peripherals, DVD players, digital video recorders, VCRs, fax machines and phones with video displays (cell phones) will be banned.

Other: Major appliances, waste tires, lead-acid batteries, yard waste, used oil.

To prevent banned wastes from going into the landfill you should do the following:

- provide separate containers for materials banned from landfills
- arrange for collection or delivery or recyclables to a recycling center

If your local municipality does not offer recycling service for some or all of your materials, go to the Recycling Markets Directory for possible sources:

<http://www3.uwm.edu/shwec/wrmd/search.cfm>. Some wastes, such as toner or ink cartridges, can be recycled through recycling and mail back programs.

Solid Waste is any material that you no longer have a need for and intend to discard

Recycling is the process by which solid waste is returned to productive use as material or energy.

For information on how to handle electronic waste, go to DNR's website at:
<http://dnr.wi.gov/org/aw/wm/recycle/newspages/computers.htm>.

	<p>Question HW.1: Do you have a recycling program that includes items such as office paper, plastic, e-waste, aluminum, etc.? (It's not necessary to have all listed to check Yes.)</p>	<p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
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Characteristic Waste means a waste that is defined as hazardous because it is one of the following: ignitable, corrosive, reactive, or toxic as determined via the Toxicity Characteristic Leaching Procedure.

Listed Waste means a waste is defined as hazardous by being listed as one of the following: F waste or Non-specific Sources, K waste or Specific sources, P Waste or Acute, and U waste or Toxic.

Treatment means any method, technique or process, including neutralization, which is designed to change the nature of any hazardous waste so as to neutralize it, or to recover energy or material resources from the waste, or to render the waste non-hazardous for transport, recovery, storage, or reduced in volume. Treatment includes incineration which takes place without energy recovery.

Section A: What is Hazardous Waste?

Waste is hazardous if it is a *Characteristic Waste* (ignitable, corrosive, reactive, toxic) or a *Listed Waste* (specifically listed on regulatory lists).

Some common hazardous wastes associated with printing facilities include: certain types of press/screen cleaning solutions; untreated fixer, some parts cleaning solvents; solvent based inks; and coatings or adhesives.

What must be done to manage my hazardous waste?

- inventory all waste
- determine which wastes are hazardous
- determine your hazardous waste generator status
- properly manage wastes on site
- properly dispose of hazardous and non-hazardous waste

Each section below will explain the requirements for proper management of hazardous wastes.

How to inventory waste at your facility

To inventory waste:

- schedule a walk-through of every operation and area of facility
- list every waste material produced
- note known information about whether a waste is hazardous (i.e., from product containers, MSDS data, or regulatory lists)
- calculate amount of each hazardous waste produced during the past calendar month
- record method of disposal for each waste. Some methods include: recycling; treatment; disposal by approved hazardous waste facility; and removal of solid waste by municipal waste hauler to a licensed landfill.

Though not all waste will be hazardous, identifying and categorizing your wastes will enable you to understand the type and amount of waste being generated and possibly find ways to reduce the amount generated. Use the Example Facility Walkthrough Chart below as a template to be filled out as you conduct a walk-through of your facility. Additional information provided below will help you determine if the waste is hazardous or nonhazardous. There are additional examples and blank charts in the Yellow Ink Room section.

Example Facility Walkthrough Chart					
Activity	Waste	Hazardous?	Why?	Monthly HW (gal)	Final Disposal
Prepress	Untreated fixer	Yes	Toxic (>5ppm silver)	10	J&M Haz. Waste, Inc.
Pressroom	Waste cleaning solvents	Yes	Ignitable (FP* < 140°F)	20	J&M Haz. Waste, Inc.
Pressroom	Waste nonheatset ink	No	Not listed or characteristic	N/A	Taylor Disposal Experts

Example Facility Walkthrough Chart					
Activity	Waste	Hazardous?	Why?	Monthly HW (gal)	Final Disposal
Pressroom	Waste solvent ink	Yes	Ignitable (FP* < 140°F)	3	J&M Haz. Waste, Inc.
Pressroom	Waste specialty ink	Yes	Toxic (F-Solvent)	4	J&M Haz. Waste, Inc.
Pressroom	Waste solvent adhesive	Yes	Toxic (F-Solvent)	2	J&M Haz. Waste, Inc.
Office	Mixed paper	No	Not listed or characteristic	N/A	Taylor Disposal Experts
Total Hazardous Waste Generated (gal/month)				39	

*FP = Flash Point

How do I determine if waste is hazardous?

A waste is hazardous if it is a Characteristic Waste or a Listed Waste. The most common hazardous wastes generated by printers are Characteristic Wastes.

What is a Characteristic Waste?

A characteristic waste is defined as hazardous because it has one of the following physical or chemical characteristics:

Ignitable Wastes (D001):

- liquid waste with a *flash point* less than 140°F
- an ignitable compressed gas
- non-liquid that spontaneously combusts
- oxidizers

Examples: paint wastes; certain non-chlorinated degreasers; cleaning solvents; some solvent based adhesives; thinners; and solvent based inks and coatings.

Corrosive Wastes (D002):

- an aqueous (water-containing) waste with a pH less than or equal to 2.0, or a pH greater than or equal to 12.5;
- a liquid waste that corrodes plain carbon steel at a rate greater than 1/4 inch per year (6.35 mm/yr).

Examples: waste computer-to-plate developing solutions; waste acid or alkaline cleaning fluids; waste battery acids; and other waste acids or bases.

Reactive Wastes (D003):

- normally unstable and readily undergoes violent changes without detonating
- reacts violently with water
- forms potentially explosive mixtures with water
- generates toxic gases or fumes when mixed with water
- cyanide or sulfide bearing waste
- capable of detonation or explosive reactions under certain conditions
- Class A, Class B, or a forbidden explosive

Flash point is the temperature at which the vapor above the liquid will ignite when a flame is passed over the surface.

A list of the toxic wastes and regulatory thresholds is included in the Yellow Ink Room, categorized by use.

Examples: cyanide plating wastes; sulfide containing wastes; and waste toluene-diisocyanate.

Toxic (D004 to D043):

- heavy metals; pesticides; semi-volatile and volatile organic compounds
- at levels that can be extracted from the Toxicity Characteristic Leaching Procedure (TCLP)

Examples: certain inks containing regulated heavy metals

If the results of a TCLP test are above the regulatory threshold for a particular compound in a waste, then that waste is considered hazardous. The table of the “Characteristic Wastes Defined as Toxic” lists those regulatory thresholds.

Characteristic Wastes Defined as Toxic					
Compound	Waste Code	Regulatory Threshold (ppm)	Compound	Waste Code	Regulatory Threshold (ppm)
Arsenic	D004	5.0	Hexachlorobenzene	D032	0.13
Barium	D005	100.0	Hexachloro-1,2-butadiene	D033	0.5
Benzene	D018	0.5	Hexachloroethane	D034	3.0
Cadmium	D006	1.0	Lead	D008	5.0
Carbon Tetrachloride	D019	0.5	Lindane	D013	0.4
Chlordane	D020	0.03	Mercury	D009	0.2
Chlorobenzene	D021	100.0	Methoxychlor	D014	10.0
Chloroform	D022	6.0	Methyl ethyl ketone	D035	200.0
Chromium	D007	5.0	Nitrobenzene	D036	2.0
o-Cresol	D023	200.0	Pentachlorophenol	D037	100.0
m-Cresol	D024	200.0	Pyridine	D038	5.0
p-Cresol	D025	200.0	Selenium	D010	1.0
2,4-D	D016	10.0	Silver	D011	5.0
1,4-Dichlorobenzene	D027	7.5	Tetrachloroethylene	D039	0.7
1,2-Dichloroethane	D028	0.5	Toxaphene	D015	0.5
1,1-Dichloroethylene	D029	0.7	Trichloroethylene	D040	0.5
2,4-Dinitrotoluene	D030	0.13	2,4,5-Trichlorophenol	D041	400.0
Endrin	D012	0.02	2,4,6-Trichlorophenol	D042	2.0
Heptachlor	D031	0.008	Vinyl Chloride	D043	0.2

What is a Listed Waste?

Listed wastes can be designated as F, K, P or U listed wastes. Some Characteristic wastes may also be Listed wastes, but so long as the waste meets one of the definitions, it is considered hazardous.

The Listed wastes of primary concern to printers are the F-listed solvents. F-listed solvents include:

F001 Halogenated solvents used in degreasing: tetrachloroethylene; trichloroethylene; methylene chloride; 1,1,1-trichloroethane; carbon tetrachloride; and chlorinated fluorocarbons.

F002 Halogenated solvents: tetrachloroethylene; trichloroethylene; methylene chloride; 1,1,1-trichloroethane; chlorobenzene; 1,1,2-trichloro-1,1,2 trifluoroethane; o-dichlorobenzene; trichlorofluoromethane; and 1,1,2-trichloroethane.

F003 Ignitable nontoxic solvents: xylene, acetone; ethyl acetate; ethyl benzene; ethyl ether; methyl isobutyl ketone (MIBK); n-butyl alcohol; cyclohexanone; and methanol.

F004 Toxic non-halogenated solvents: cresols; cresylic acid; and nitrobenzene.

F005 Ignitable toxic solvents: toluene; methyl ethyl ketone (MEK); carbon disulfide; isobutanol; benzene; pyridine; 2-ethoxyethanol; and 2-nitropropane.

What resources are available to help determine if waste is either listed or characteristic, and therefore, hazardous waste?

It is recommended that you use resources such as Material Safety Data Sheets (MSDS), product labels, and product documents or information sheets (i.e., Environmental Data Sheets) to determine whether waste is hazardous. If laboratory testing is needed, a certified lab must conduct the testing. A *list of Wisconsin certified labs* can be found online at: <http://dnr.wi.gov/org/es/science/lc/INFO/Lablists.htm>.

An F-listed solvent is one comprised of more than 10% of these compounds in the original mixture, except for F003, which has to be 100%

Please be careful not to rely solely on MSDS to characterize your waste streams. Generally, MSDSs are safety orientated and do not provide all of the pertinent environmental information for an accurate assessment of your waste.

Lists of certified labs are quite long, but are available in Adobe PDF format at DNR's page for easy accessibility.

Generator - a facility, site, operation or activity that produces or creates hazardous waste.

	<p>Question HW.2: Do you generate any hazardous waste?</p>	<p><input type="checkbox"/> Yes. Continue on with the next section.</p> <p><input type="checkbox"/> No. Skip to the next chapter.</p>
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Section B: What is your Hazardous Waste Generator Status?

A printer's Hazardous Waste *Generator* Status reflects the amount of hazardous waste generated at the facility on a monthly basis. Printers are classified as **Very Small Quantity Generators, Small Quantity Generators, or Large Quantity Generators.**

To determine your generator status, you must calculate the total amount of hazardous waste you generate each month. Although this amount might vary

from month to month, you must use the HIGHEST generation month during the past calendar year as a baseline.

Section B1: How do I calculate the monthly generation rate for my facility?

The first step in calculating your generation rate is to total the amount of each type of hazardous waste you generated each month during the past calendar year. Totals must include:

- any hazardous waste generated and accumulated on-site
- hazardous waste packaged and transported off-site
- sludge and/or material removed from product storage tanks
- still bottoms from on-site recycling units—if listed solvent was recycled or the still bottoms are characteristic waste
- waste is hazardous because of the mixture rule or empty container rule—see page Section B2 on the Empty Container Rule
- waste oil, if it contains at least 1,000 ppm total *halogens*

Amounts that do not need to be included in your totals:

- materials placed directly in a regulated on-site treatment unit, such as a recycling unit or wastewater treatment system,
- universal wastes that are handled properly (see page HW-7 for details)
- soiled rags that are handled properly (See page HW-7 for details on proper handling of rags)
- still bottoms from on-site recycling units if the contents are NOT considered hazardous because they are not a Listed or Characteristic waste
- waste oil, if it is not contaminated with any halogens AND is recycled

Section B2: What is the Empty Container Rule?

A container is empty if all wastes have been removed by the methods commonly used to empty that type of container – e.g. pouring or pumping. Empty containers are exempt from hazardous waste regulations and may be managed as non-hazardous waste.

To be considered empty, the container must have:

- less than one inch of waste remaining, or
- 3% or less by weight of waste remaining if container holds 110 gallons or less, or
- 0.3% or less by weight of waste remaining if the container holds more than 110 gallons.

Containers that held *acutely hazardous waste* must be triple-rinsed to be considered empty. Acutely hazardous wastes are defined as:

- any hazardous waste with a Waste Code beginning with the letter P, or
- any of the following F codes: F020; F021; F022; F023; F026; and F027.

Rinse water from cleaning empty containers is regulated as hazardous waste if it has any hazardous waste characteristics.

Mixture Rule: if non-hazardous waste is combined with any amount of a listed hazardous waste, the total amount of waste is considered hazardous.

Halogens: various F-listed solvents containing chlorine, such as tetrachloroethylene, trichloroethylene, methylene chloride.

Acutely Hazardous Waste is any hazardous waste with a Waste Code beginning with the letter "P," or any of the following "F" codes: F020, F021, F022, F023, F026, and F027. These wastes are subject to stringent quantity standards for accumulation and generation.

Section B3: What are Universal Wastes and how do I properly manage them?

DNR has classified some common hazardous wastes as Universal Wastes. Reduced requirements apply to universal wastes to encourage businesses to collect, manage, and recycle them. Wastes that are not managed according to the universal waste requirements are subject to full hazardous waste requirements.

Universal Wastes

- Spent batteries
- Pesticides
- Mercury Thermostats
- Lamps (light bulbs including fluorescent, Mercury vapor, metal halides, high-pressure sodium vapor, low-pressure sodium vapor, and halogen)

Wisconsin-Specific Universal Wastes

- Sealed mercury-containing devices
- Antifreeze

What must be done to manage Universal Waste so my facility benefits from reduced hazardous waste regulations?

To benefit from reduced regulation you must:

- identify all materials or items you generate from the list above
- manage the waste so leaks, spills, or other release are prevented
- ensure containers are closed, structurally sound and compatible with the contents
- label waste containers as “Universal Waste” and identify specific item or material
- document the length of time waste has been accumulated on site by dating the labeled container when waste is first placed inside—may accumulate waste on-site for up to one year
- train employees in proper handling and emergency procedures
- respond to spills and manage any resulting residues promptly and appropriately
- transport waste to another universal waste handler or destination facility

If I manage Universal Wastes correctly, what benefits will my facility receive?

Correctly managed Universal Wastes are **not included** when you calculate the total amount of hazardous waste generated.

Some other reduced requirements include:

- a solid and hazardous waste transportation license is not required to transport Universal Wastes to another handler or destination facility
- Universal Wastes do not require a hazardous waste manifest during shipment within the state
- Small and Large Quantity Generators do not have to report Universal Wastes as hazardous waste on their annual reports
- Small and Large Quantity Generators may accumulate Universal Wastes, including Wisconsin-Specific Universal Wastes, on-site for up to one year

Rags and wipes often mean two different types of cleaning supplies.

Rags: generally considered to be cloth that can be laundered and reused multiple times.

Wipes: generally considered disposable, or cannot be laundered.

An **example label** for "Dirty Solvent Rags Only" can be found in the Yellow Ink Room.

Centrifuging rags and wipes is currently the only accepted method to remove sufficient solvent to allow handling as a solid waste, assuming the solvent or the rags do not meet the definition of a hazardous waste.

Section B4: How should I properly manage soiled shop rags?

All solvent contaminated **rags and wipes** should be managed as follows upon generation:

- Solvent-contaminated **rags and wipes** should not be dripping with solvent. Liquids in containers of solvent-contaminated rags or wipes may cause the material to be regulated as hazardous waste.
- Store solvent-contaminated rags and wipes in a covered, non-leaking container away from sources of ignition.
- Clearly label the containers, "Dirty Solvent Rags Only."
- Do not put other waste in a container of solvent-contaminated **rags or wipes**.

Solvent-contaminated **rags** that can be reused should be sent to a launderer or dry-cleaning facility.

- You should have a contractual agreement for this service which includes pick-up, cleaning and the delivery of clean rags.
- Rags and wipes unfit for reuse should be sent to a facility that can burn them for energy recovery.

Solvent contaminated **rags or wipes** that are to be thrown away could possibly be hazardous waste.

- You must determine whether **rags and wipes** that are to be disposed of are hazardous or nonhazardous waste and manage them appropriately.
- Solvent contaminated rags and wipes that are laundered, dry-cleaned or burned for energy recovery are not hazardous waste and do not count towards your generator status.

Some printers centrifuge the **rags and wipes**, especially if they have an on-site solvent recovery still.

- A printing facility may accumulate rags for **centrifuging** at a single location within the facility.
- Rags should be stored in a labeled, covered container as stated above.
- Rags or wipes that have been centrifuged should still be laundered, dry-cleaned or burned for energy recovery.
- Any residue or solvent waste generated from the management of these materials, like centrifuging, must be evaluated to determine if it is hazardous waste.

Contact a DNR hazardous waste specialist in your area for help with the requirements. A staff list is located at:

<http://dnr.wi.gov/org/aw/wm/contacts/hazard.htm>.

Section B5: I've calculated the total number of gallons of all hazardous waste that must be included to determine my monthly generation rate. What's the next step?

Your next step is to determine the equivalent number of pounds of waste generated monthly. There are two approaches.

One way is to determine weight of the material by the following steps:

- a) Weigh an empty one gallon container
- b) Fill the container with one gallon of the waste material
- c) Weigh the filled container
- d) Subtract the weight of the container from the total weight to determine the weight of one gallon of the waste material
- e) Multiply the weight of the waste by the number of gallons of waste generated during the month.
- f) Repeat this process for each type of hazardous waste generated

NOTE: About one-half of a 55 gallon drum of liquid waste weighs 220 lbs.

You can also use specific gravity to calculate the weight of the waste generated by the following steps:

- a) Multiply the specific gravity by 8.34 to give the weight of the waste in pounds per gallon.
- b) Multiply the weight of the waste by the number of gallons of waste generated during the month.
- c) Repeat this process for each type of hazardous waste generated.

Once you have converted to pounds, add the numbers together to determine the total of all hazardous waste generated at your facility in a given month. Use this number to determine your generator status.

Section B6: What is my Hazardous Waste Generator Status?

Facilities that generate hazardous waste are categorized as Very Small, Small, or Large Quantity Generators. A facility's status is based on the total hazardous waste generated each month.

Hazardous Waste Generator Status Thresholds

Thresholds have been established to define the maximum amount of waste that may be generated at each Generator Status level.

Thresholds are:

- **Very Small Quantity Generators (VSQG).** Generating 220 lbs or less per month (less than 27 gallons/month or about one-half of a 55 gallon drum)
- **Small Quantity Generator (SQG).** Generating 220 but less than 2205 lbs. per month (approximately 27-269 gallons/month or about ½ -4 drums)
- **Large Quantity Generator (LQG).** Generating 2,205 lbs. or more a month (approximately 270 gallons/month or about 4-5 drums)

Compare the total hazardous waste generated at your facility with these thresholds to determine your Generator Status.

	<p>Question HW.3: What is your generator status?</p>	<p><input type="checkbox"/> VSQG <input type="checkbox"/> SQG <input type="checkbox"/> LQG</p>
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EPA form 8700-12 can be found at:
<http://www.epa.gov/epaoswer/hazwaste/data/form8700/forms.htm>

EPA ID Number is a 12-character number assigned by EPA to each generator, transporter, and treatment, storage, and disposal facility upon request. Facilities which are not generators but anticipate possible generation activity must also apply for and receive an EPA ID number. See the Yellow Ink Room section for procedures to obtain an EPA ID number.

DOT guidance on marking and labeling: <http://www.fmcsa.dot.gov/documents/03-mark-lab.pdf>

Am I required to notify DNR of my Hazardous Waste Generator Status?

Yes, unless you are a VSQG. Every SQG, LQG, transporter and person which generates, treats, stores, or disposes of hazardous waste must inform DNR of its hazardous waste activity by filing EPA form 8700-12, Notification of Hazardous Waste Activity. After receiving the notification form, DNR assigns an identification number to the site. This is called your EPA ID number. A VSQG only needs the EPA ID number if manifesting waste.

Section C: Hazardous Waste Management Requirements

Some hazardous waste requirements apply to all facilities that generate hazardous waste and there are some requirements that apply solely based on the facility's Hazardous Waste Generator Status.

C1. What requirements apply to all hazardous waste generators?

All generators must meet the following requirements:

- perform a hazardous waste determination on all waste streams
- **label** all containers "Hazardous Waste"
- use containers that are compatible with the waste and in good condition (not leaking, rusting or dented)
- keep incompatible waste in separate containers
- ensure delivery/shipment to an approved treatment, storage, and disposal facility
- keep all hazardous waste drums/containers closed except when adding or removing waste

	<p>Question HW.4: Do you keep all drums/containers with hazardous waste closed unless adding or removing waste?</p>	<p><input type="checkbox"/> Yes.</p> <p><input type="checkbox"/> No. Correct immediately.</p>
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How should I label my containers?

Labels should include, at a minimum:

- when in a satellite storage area, the label can have either the type of waste (i.e. Hazardous Waste) or the specific name of the waste (i.e. spent solvents, dirty rags)
- in the final storage/accumulation area the label must say "Hazardous Waste" and have a date (see section D for information on dating containers)
- prior to shipment you must ID the hazard (ignitable, toxic, corrosive, or reactive) for US DOT shipping requirements

One example:

Hazardous Waste	
Name of Waste _____	
Hazard _____	

A full size example hazardous waste container label can be found in the Yellow Ink Room.

	<p>Question HW.5: Are your containers labeled properly?</p>	<p><input type="checkbox"/> Yes.</p> <p><input type="checkbox"/> No. Correct immediately.</p>
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C2. What requirements apply based on generator status?

The following requirements apply based on your Generator Status.

VSQG's must:

- meet basic requirements for **"All"** generators above
- ensure that on-site accumulated hazardous waste does not exceed 2,205 pounds total
- obtain an EPA ID number **ONLY** if you manifest your hazardous waste (refer to Section E for information on manifests)

Many hazardous waste haulers and treatment storage and disposal facilities will not accept materials that are not manifested. VSQG's may self-transport to household and very small quantity generator collection facilities. A list is available at: <http://www.uwex.edu/erc/VSQG.html> and look for the **List of Communities Collecting HW from VSQG**.

SQG's must:

- meet the basic requirements for **"All"** generators above
- obtain an EPA ID number
- write the proper date of accumulation on all hazardous waste containers – refer to Section D for how to determine the date of accumulation
- inspect all containers once a week – it is no longer a requirement that you keep records of the inspections, but having records would reflect best management practices
- use US DOT approved containers and follow US DOT requirements when shipping waste off-site
- complete annual reporting (go to the hazardous waste reporting web page at: <http://dnr.wi.gov/org/aw/wm/hazard/reporting/>)
- utilize a licensed hazardous waste transporter for disposal
- observe land disposal requirements (see EPA's web site: <http://www.epa.gov/epaoswer/hazwaste/ldr/index.htm>)
- establish emergency procedures and preparedness and prevention procedures (see Yellow Ink Room)

NOTE: Provide sufficient aisle space to inspect containers - preferably three feet or more. If space is limited, stack drums on pallets. However, flammable wastes may NOT be stacked at any time for fire safety reasons.

Example Checklists provided in the Yellow Ink Room explain emergency preparedness and prevention procedures.

- provide training to all employees appropriate to job responsibilities
- meet the storage and accumulation requirements in Section D

How do I know if I have US DOT approved containers?

Containers meeting US DOT shipping requirements have greater than 5 gallon capacity only and are stamped or printed with the UN symbol and an 18-22 character alphanumeric code. For more information on US DOT approved containers for hazardous waste shipments, you have two options:

- read the federal regulation in 49CFR part 178, or
- contact the Hazardous Materials Information Center by calling 1-800-HMR-4922 (1-800-467-4922) Monday through Friday from 9:00 am to 5:00 pm (EST)

LQG's must:

- follow the requirements for SQG's, but with a few modifications:
 - develop a Emergency Contingency Plan (see Yellow Ink Room)
 - maintain training records (see fact sheet WA-099 in the Yellow Ink Room)
 - meet the storage and accumulation requirements in Section D

	<p>Question HW.6: Are you handling your HW appropriately based on the generator requirements?</p>	<input type="checkbox"/> Yes. <input type="checkbox"/> No. Submit a RTCP.
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Section D: Accumulating and Storing Waste

Am I allowed to store waste before I must ship it offsite for treatment, storage, and/or disposal?

Requirements for accumulating hazardous waste are based upon the facility's generator status. If a facility is a:

VSQG: up to 2,205 lbs (approximately 3-5 drums) may be accumulated on site at any one time. **No time limit** requirement exists for VSQ generators.

SQG: up to 13,230 lbs (approximately 24-30 drums) may be accumulated on site at any one time. A SQG must closely monitor the retention time of the stored waste. Waste **must be shipped 180 days** from the label date indicating the start of accumulation on the drum or tank. If shipping over 200 miles, waste may be accumulated for 270 days.

LQG: though there is **no quantity limit for LQGs**, printers in this category must **ship waste 90 days** from the label date on the drum or tank indicating the start of accumulation.

NOTE: Provide sufficient aisle space to inspect containers - preferably three feet or more. If space is limited, stack drums on pallets. However, flammable wastes may NOT be stacked at any time for fire safety reasons.

Copies of the NR 665 regulations (Checklists) provided in the Yellow Ink Room explain what must be contained in a Contingency Plan and in training records.

Can I store small quantities of waste near presses or other equipment?

Yes. Satellite accumulation allows you to accumulate small amounts (not more than 55 gallons per satellite site) of hazardous waste at or near the point the waste is generated and where the waste is under the control of the operator in that part of the plant.

The main reasons for satellite accumulation are:

- so you can conveniently accumulate waste in the area it is generated
- so you can accumulate waste over a longer period of time without having to ship within the accumulation period (90 or 180 days) and avoid shipping a partial drum of waste

There may not be more than 55 gallons of each type of hazardous waste accumulating in any one satellite accumulation area. There may be containers for each of the various wastes generated in the same area, but the total quantity of waste in the satellite accumulation area cannot exceed 55 gallons.

While in a satellite accumulation area, the containers must be:

- marked with the words “Hazardous Waste” or other words that identify the contents (i.e., spent press wash solvent)
- compatible with the waste
- closed except when adding or removing wastes
- in good condition

A container holding hazardous waste in excess of 55 gallons must be marked with the date the excess waste begins to accumulate. Within 3 days, the container or containers must be moved from the satellite accumulation area to the central storage area, where it is subject to the 90 or 180 day accumulation requirements.

7a	Do you have satellite accumulation stations?	<input type="checkbox"/> Yes. Go to 7b. <input type="checkbox"/> No. Go to 7d.
7b	Do you know the volume limit for your satellite areas?	<input type="checkbox"/> Yes. Go to 7c. <input type="checkbox"/> No. Re-read this section or contact SBCAAP for help.
7c	Do you know how long you may accumulate all waste on your site?	<input type="checkbox"/> Yes. Go to 7d. <input type="checkbox"/> No. Re-read this section or contact SBCAAP for help.
7d	Is the start date of accumulation marked on containers in the storage area?	<input type="checkbox"/> Yes. Go to question HW.7. <input type="checkbox"/> No. Correct the problem.
	Question HW.7: Are you following all of the waste accumulation requirements? (Answer No if you haven't corrected the problem in 7.d)	<input type="checkbox"/> Yes. <input type="checkbox"/> No. Submit a RTCP.

An example sign for a Hazardous Waste Storage area can be found in the Yellow Ink Room.

Refer to the Yellow Ink Room for a diagram of waste storage and accumulation sites.

IMPORTANT: LQG's must store all ignitable and reactive wastes at least 50 feet from the property line.

Contact the SBCAAP at 608.264.6153.

Uniform Hazardous Waste Manifest is the shipping document that pertains to hazardous waste and that originates with and is signed by the generator.

Go to <http://www.pneac.org/hazwastemanifest/> to watch a video on how to use the new manifest.

TSD or Treatment, Storage, and Disposal facility.

Mail a copy of out-of-state manifests to:
State Of Wisconsin
Department of Natural Resources
Bureau of Waste and Materials Management
Box 8094
Madison, WI 53708

Section E: Manifesting and Shipping Waste

If I manifest waste from my facility, what does this mean and where do I obtain forms?

A manifest is a shipping document used to track hazardous waste from where it's generated to the facility where it will be treated, stored, or disposed.

As of September 5, 2006, all generators must use the EPA manifest. Only printers' registered with EPA are authorized to print and distribute the new manifest forms. For a list of registered printers:

<http://www.epa.gov/epaoswer/hazwaste/gener/manifest/registry/printers.htm#table>

Each form includes six copies. At the bottom of each page is information, printed in red, indicating what to do with that page, such as generator copy, state copy, etc.

Here's what happens to a manifest form:

1. When the transporter picks up the waste from the generator, both sign the manifest.
2. You keep copies 1 and 2.
3. The transporter takes copies 3-6.
4. When the transporter delivers the waste to the TSD, the TSD signs the manifest.
5. The transporter keeps copy 6.
6. The TSD keeps copy 4.
7. The TSD sends copy 5 to the generator (you) notifying him/her the waste that has been received.
8. A Wisconsin-based TSD sends copy 3 of the manifest to the DNR.
9. If the waste is being shipped to an out-of-state TSD, the generator (you) must send a copy of the manifest signed by the TSD to DNR.

What do I need to know about shipping my hazardous waste?

Many hazardous waste haulers or TSDs will not accept hazardous waste from VSQG's if it is not manifested. This is important to know before arranging shipment of your waste. Applicable DOT shipping requirements for hazardous materials must be followed.

Are there any specific issues with transporting some of my wastes?

Yes. **Universal wastes** and **soiled shop towels** have some specific transportation issues.

To transport Universal Wastes you must:

- comply with all applicable US and Wisconsin DOT regulations, including, but not limited to packaging, labeling, marking and placarding requirements (described on pages HW-10 and HW-11)
- respond to releases and manage residues promptly and appropriately
- transport universal waste to a universal waste handler or destination facility
- ensure that tools or equipment used to load or unload waste will not damage containers

- Ensure that containers are reasonably secured against movement within the transport vehicle

To transport solvent-contaminated rags and wipes:

- DNR does not require a transportation license for rags and wipes that will be laundered and reused.
- A Solid Waste and possibly a Hazardous Waste license is required when rags and wipes are transported to other facilities, such as a commercial centrifuge; a facility that fuel blends; or a facility where they are burned.

Refer to page HW-7 for items considered universal wastes.

	<p>Question HW.8: Are you meeting the proper hazardous waste transportation/shipping requirements?</p>	<p><input type="checkbox"/> Yes.</p> <p><input type="checkbox"/> No. Submit a RTCP.</p>
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Section F: Training

Because of my generator size, I must train my employees and keep hazardous waste training records. What requirements must I meet?

To meet DNR’s requirements, SQGs and LQGs must provide either classroom or on-the-job training appropriate to each employee’s responsibilities.

Common topics for training include:

- responding to emergencies and implementing contingency plans
- handling empty containers and leaks
- labeling, marking and proper US DOT required placarding
- waste handling, collecting, segregating, and accumulation

Training records must be kept by LQGs. Although no specific format is required, the following information should be included:

- employee name, starting date, job title and job description
- topics the employees must be trained in
- date initial training was provided
- date annual training was provided

LQGs must keep training records on former employees for 3 years after the date they leave your operation. For current employees, records should be retained until the facility closes.

	<p>Question HW.9: Are you meeting the applicable training requirements?</p>	<p><input type="checkbox"/> Yes.</p> <p><input type="checkbox"/> No. Submit a RTCP to layout development of a training program.</p>
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What if the Hazardous Waste Generator Status changes at my facility?

If your Hazardous Waste Generator Status changes you must notify the DNR at any time by filling out EPA form 8700-12, "Notification of Hazardous Waste Activity" or when you submit your annual report. Changes in generator status should not occur often. To avoid this situation, printers should place their facility in the highest reasonable generator category even if the amount of hazardous waste generated would sometimes place the facility in a lower category.

Section G: Best Management Practices

The following best management practices are not required, but are highly recommended. Please indicate where you have taken action as recommended (Done), where you might want to take action (Needs Attention), or if the area doesn't apply to your shop or operations (Not Applicable).

Process or procedure	Done	Needs Attention	Not Applicable
Look at ways to reduce solvent input.			
Reduce solvent through onsite solvent recycling.			
Use recycled/reclaimed solvent in your printing process.			
Install equipment to reduce solvent use.			

	<p>Question HW.10: Have you adopted any of the recommended BMPs?</p>	<p><input type="checkbox"/> Yes.</p> <p><input type="checkbox"/> No. Recommended.</p>
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