



HANDBOOK FOR HAZARDOUS WASTE GENERATORS



Natural Resources and
Environmental Protection Cabinet
Department for Environmental Protection

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Introduction

If you need help understanding which state hazardous waste management regulations apply to your business, this handbook will help. It has been developed to help small business owners and operators understand how best to comply with state hazardous waste management regulations.

This handbook provides an overview of the regulations to give you a basic understanding of your responsibilities. It is not a complete description of the requirements and should not be used as a substitute for the actual regulations. All Kentucky hazardous waste regulations are located in 401 KAR Chapter 30 through 39.

If you have questions about any part of this handbook or the Kentucky Waste Management Regulations, call the Division of Waste Management, Hazardous Waste Branch at (502) 564-6716 in Frankfort.

What Do These Acronyms Mean?

CERCLA	Comprehensive Environmental Response Compensation & Liability Act (also known as Superfund)
CESQG	Conditionally Exempt Small Quantity Generator
DOT	Department of Transportation
EPA	Environmental Protection Agency (federal)
ERT	Emergency Response Team
KAR	Kentucky Administrative Regulation
LDR	Land Disposal Restrictions
LQG	Large Quantity Generator
POTW	Publicly Owned Treatment Works
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SQG	Small Quantity Generator
TCLP	Toxicity Characteristic Leaching Procedure
TSDF	Treatment, Storage, or Disposal Facility

What is a generator?

The term "generator" applies to any individual or business that creates hazardous waste. There are three categories of generators: Conditionally Exempt Small Quantity, Small Quantity and Large Quantity.

1. Conditionally Exempt Small Quantity

Generators (formerly referred to in Kentucky as Limited Quantity Generators) - generate less than 100 kilograms (220 pounds) in any one month; waste quantity cannot be averaged over a 12 month period.

Conditionally Exempt Small Quantity Generators may keep hazardous waste on-site only if they generate less than 220 pounds per month and the total accumulated quantity does not exceed 2,200 pounds. When shipping waste off-site, the generator is not required to prepare a manifest; however, waste must be sent to a permitted hazardous waste facility, a registered recycling facility, or a solid waste landfill which has written approval from the division to accept waste.

Conditionally Exempt Small Quantity Generators are not required to register or have an EPA ID number. However, it may be necessary to register and obtain an EPA ID number since most hazardous waste facilities will not accept hazardous waste from a generator who does not have an EPA ID number. Conditionally Exempt Small Quantity Generators are exempt from the registration fee and registration is free.

Note:

100 kilograms = 220 pounds = 26.3 gallons.
This is about 1/2 of a 55-gallon drum, using the standard conversion rate of 8.34 pounds per gallon (the weight of water). Use the actual weight of your waste if known. If not, use this standard conversion rate.

2. Small Quantity Generators - generate less than 1,000 but over 100 kilograms (220 to 2,200 pounds) in any one month, unless the waste is considered an acute (see note below) hazardous waste. Small Quantity Generators must comply with the requirements of 401 KAR Chapter 32, which include registering, manifesting, and adhering to proper accumulation requirements. If you generate an acute hazardous waste in quantities above 2.2 pounds, you are regulated as a Large Quantity Generator.

3. Large Quantity Generators - generate over 1,000 kilograms (2,200 pounds) in any one month. Large Quantity Generators must comply with the regulations in 401 Chapter 32.

Note:

Some wastes are considered to be "acutely hazardous". These are wastes that the U.S. EPA has determined to be so dangerous in small amounts that they are regulated the same way as large amounts of other hazardous wastes; for example, certain pesticides. Wastes containing Dioxin are considered acutely hazardous. The following wastes are considered acutely hazardous waste: all "P" listed wastes; F020, F021, F022, F023, F026 and F027. If your company generates more than one kilogram (approx. 2.2 pounds) of acutely hazardous waste in a calendar month you are subject to all regulations for Large Quantity Generators.

Who is Likely to Generate Hazardous Waste?

If your company receives products with warning labels indicating the substances are flammable, toxic, reactive or corrosive, the wastes from these products could be hazardous.

In addition, any business or other operation that falls into these categories could produce hazardous waste:

- vehicle repair and maintenance
- dry cleaning and laundering
- printing
- photographic processing and printing
- furniture making and refinishing
- wood preserving
- electroplating and other metal manufacturing and finishing
- chemical manufacturing or processing
- cosmetic manufacturing or processing
- pesticide manufacturing, formulation or application including chemical treatment of lawns, yards or gardens
- home or industrial pest control
- textile manufacturing including fabric dyeing and finishing
- building, road and other construction
- analytical, clinical, or school laboratories
- hospitals, clinics, doctors/dentists offices or laboratories.

What Is a Waste Stream?

A waste stream is any one type of waste generated by your company, and is identified by its point of generation. You may have two waste streams that are generated by completely different processes and in different areas of the facility, but may have identical characteristics. These would be registered as two waste streams.



Your Responsibilities as a Generator

Knowing and complying with the hazardous waste regulations is your responsibility as a generator. In addition, your company is also responsible for assuring that your employees comply fully with the law. **Your liability for the waste generated at your site continues from the point of generation to its final destination.** Your company should receive certification from the receiving facility that LDR treatment standards have been met (see page 12). It is in your company's best interest to be thoroughly knowledgeable about the regulations, and about transporters and facilities that will handle your waste when it leaves your site.

Defining Hazardous Waste

A waste is any solid, liquid, or contained gaseous material that is discarded by being disposed of, burned, or recycled. (There are some exceptions for recycled materials.) It can be the by-product of a manufacturing process or simply a commercial product that you use in your business—such as a cleaning fluid or battery acid—that is sent for disposal. Even materials that are recyclable or can be reused in some way (such as burning used oil for fuel) may be considered waste.

Hazardous waste can be one of two types:

Listed Waste. Your waste is considered hazardous if it appears on one of four lists published in the Kentucky Waste Management Regulations. Wastes are listed as hazardous because they are known to be harmful to human health and the environment when not managed properly.

Even when managed properly, some listed wastes are so dangerous that they are called **acutely hazardous wastes**. Examples of acutely hazardous wastes include wastes generated from some pesticides that can be fatal to humans even in low doses.

- Determine if you generate hazardous waste in the first place.
- Measure the amount of hazardous waste that you produce per month.
- Determine your generator category to learn the management requirements that apply to you.

Characteristic Waste. If your waste does not appear on one of the hazardous waste lists, it still might be considered hazardous if it demonstrates one or more of the following four characteristics:

Catches fire under certain conditions. This is known as ignitable. Examples are paints and certain degreasers and solvents.



Unstable and explodes or produces toxic fumes, gases, and vapors when mixed with water or under other conditions such as heat or pressure. This is known as a reactive waste. Examples are cyanides or sulfide-bearing wastes.



Corrodes metals or has a very high (above 12.5) or low (below 2) pH. This is known as corrosive waste. Examples are rust removers, acid or alkaline cleaning fluids, and battery acid.



Harmful or fatal when ingested or absorbed, or it leaches toxic chemicals into the soil or ground water when disposed on land. This is known as a toxic waste. Examples are wastes that contain high concentrations of heavy metals, such as cadmium, lead or mercury.



Other Characteristic Waste Codes:

D004	Arsenic
D005	Barium
D018	Benzene
D006	Cadmium
D019	Carbon tetrachloride
D020	Chlordane
D021	Chlorobenzene
D022	Chloroform
D007	Chromium
D023	o-Cresol
D024	m-Cresol
D025	p-Cresol
D026	Cresol
D016	2,4-D
D027	1,4-Dichlorobenzene
D028	1,2-Dichloroethane
D029	1,1-Dichloroethylene
D030	2,4-Dinitrotoluene
D012	Endrin
D031	Heptachlor (and its epoxide)
D032	Hexachlorobenzene
D033	Hexachlorobutadiene
D034	Hexachloroethane
D008	Lead
D013	Lindane
D009	Mercury
D014	Methoxychlor
D035	Methyl ethyl ketone
D036	Nitrobenzene
D037	Pentachlorophenol
D038	Pyridiene
D010	Selenium
D011	Silver
D039	Tetrachloroethylene
D015	Toxaphene
D040	Trichloroethylene
D041	2,4,5-trichlorophenol
D042	2,4,6-trichlorophenol
D017	2,4,5-TP (Silvex)
D043	Vinyl chloride

You can determine if your waste is toxic by having it tested using the Toxicity Characteristic Leaching Procedure (TCLP), or by simply knowing that your waste is hazardous or that your processes generate hazardous waste.

If a representative sample of the waste is tested using the TCLP and contains one or more of the following contaminants in a concentration equal to or greater than the maximum concentrations listed in 401 KAR 31:030, the waste is hazardous for toxicity.

Typical Hazardous Wastes Generated by Small Businesses

TYPE OF BUSINESS	HOW GENERATED	TYPES OF WASTES	WASTE CODES
Dry-cleaning and Laundry Plants	Commercial dry-cleaning processes	Still residues from solvent distillation, spent filter cartridges, cooked powder residue	D001, D039 F002, F005 U210
Furniture/Wood Manufacturing and Refinishing	Wood cleaning and wax removal, refinishing/stripping, staining, painting, finishing, brush cleaning and spray brush cleaning	Ignitable wastes, toxic wastes, solvent wastes, paint wastes	D001, D018, D019, D021, D022, D026, D035, D037 F001-F005
Construction	Paint preparation and painting, carpentry and floor work, other specialty contracting activities, heavy construction, wrecking and demolition, vehicle and equipment maintenance for construction activities	Ignitable wastes, toxic wastes, solvent wastes, paint wastes, used oil, acids/bases	D001, D002 F001-F005
Laboratories	Diagnostic and other laboratory testing	Spent solvents, unused reagents, reaction products, testing samples, contaminated materials	D001, D002, D003, F001-F005 Any of the "U" waste codes Any of the "P" waste codes
Vehicle Maintenance	Degreasing, rust removal, paint preparation, spray booth, spray guns, brush cleaning, paint removal, tank clean out, installing lead-acid batteries	Acids/bases, solvents, ignitable wastes, toxic wastes, paint wastes, batteries	D001, D002, D006, D007, D008, D018, D035, D040, D008 F001-F005 U080 and U228
Printing and Allied Industries	Plate preparation, stencil preparation for screen printing, photo processing, printing, cleanup	Acids/bases, heavy metal wastes, solvents, toxic wastes, ink	D002, D005, D007, D006, D008, D011, D018, D019, D021, D040, F001-F005
Equipment Repair	Degreasing, equipment cleaning, rust removal, paint preparation, painting, paint removal, spray booth, spray guns, and brush cleaning	Acid/bases, toxic wastes, ignitable wastes, paint wastes, solvents	D001, D002, D005, D006, D007, D008, D018, D035 F001-F005 U075
Educational and Vocational Shops	Automobile engine and body repair, metal-working, graphic arts-plate preparation, wood-working	Ignitable wastes, solvent wastes, acids/bases, paint wastes	D001, D002, D005, D006, D007, D008, D018, D035 F001-F005

How to Determine if Your Company Generates Hazardous Waste

The first step in deciding if your company needs to register with the division as a hazardous waste generator is the waste determination. It is your company's responsibility to determine if wastes are hazardous.

A waste is automatically hazardous and an analysis may not be necessary when a waste is specifically listed in 401 KAR 31:040. If your waste is not covered by a listing, then, as the generator, you must determine if the waste exhibits a hazardous characteristic from 401 KAR 31:030.

Unless you are certain of the composition of your waste, it is best to have it analyzed to determine if it is hazardous. It is a good idea to have your waste analyzed on a regular basis or every time your company uses a new chemical. It is in your best interest to know exactly what waste your company generates.

As the generator of the waste, you may also use knowledge of your process to declare a waste hazardous without testing it (see 401 KAR 32:010, Sect. 2).



Selecting a Laboratory to Test Your Waste

Choosing a reputable laboratory is important. Laboratory testing can be quite expensive, so you need to select a laboratory that is capable of performing hazardous waste testing that is accurate and acceptable.



To be qualified, a laboratory must use the procedures contained in the Third Edition of the EPA manual "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846)" (see 401 KAR 30:010 Section 3). In addition, the laboratory must have the correct equipment as specified in the hazardous waste management regulations. Kentucky regulation 401 KAR 31:120 provides a list of chemical analysis test methods which must be used. In addition, the specific test methods for the four characteristics (i.e., ignitable, reactive, corrosive and TCLP toxic) are specified in 401 KAR 31:030.

A qualified laboratory should be willing to certify that they use a specific test method and a specific piece of equipment to perform the analysis on your waste. This certification is not the same as the laboratory analysis and is normally provided by the laboratory only if requested.

Finding Your Generator Category

Once you know that you generate hazardous waste, you need to measure the amount of waste you produce per month.

Many hazardous wastes are liquids and are measured in gallons—not pounds. In order to measure your liquid wastes, you will need to convert from gallons to pounds. To do this, you must know the density of the liquid. A rough guide is that 30 gallons (about half of a 55-gallon drum of waste with a density similar to water weighs about 220 pounds; 300 gallons of a waste with a density similar to water weighs about 2,200 pounds (12,000 kg).

The amount of hazardous waste you generate determines your generator category: Large Quantity Generator (LQG), Small Quantity Generator (SQG) and Conditionally Exempt Small Quantity Generator (CESQG).

You must count all quantities of listed and characteristic hazardous wastes that are:

- Accumulated on site for any period of time before disposal or recycling. (Dry cleaners, for example, must count any residue removed from machines, as well as spent cartridge filters.)
- Transported away from your business.
- Placed in an on-site regulated treatment or disposal unit.
- Generated as still bottoms or sludge and removed from product storage tanks.

TIP

In many cases, small businesses that fall into different generator categories at different times choose to satisfy the more stringent requirements to simplify compliance.

Each category of generator must comply with the rules specific to that category. Categories are based on the total amount of hazardous waste generated in a calendar month. *Waste quantities cannot be averaged over a 12 month period.*

When determining your generator category, you must include all the hazardous waste you produce in a single calendar month. However, the following wastes are not counted toward your generator category (see 401 KAR Section 5(3) of 401 KAR 31:010):

- Samples, including treatability samples (see 401 KAR 31:010, Section 4(3) – (6))
- Recyclable materials listed in Section 6(1)(c):
 - Reclaimed industrial ethyl alcohol
 - Scrap metal
 - Fuels produced from refining oil-bearing hazardous waste from petroleum refining process
 - Petroleum coke produced from petroleum refinery hazardous wastes
- Residual hazardous waste remaining in empty containers (see 401 KAR 31:010, Section 7(1)(a))
- PCBs regulated under the Toxic Substances and Control Act (see 401 KAR 31:010, Section 8)

- Wastes that are managed immediately upon generation (without storage) on-site in:
 - Elementary neutralization units (see definition in 401 KAR 31:005)
 - Wastewater treatment units (see definition in 401 KAR 31:005)
 - Totally enclosed treatment units (see definition in 401 KAR 31:005)
- Wastes that are recycled on-site without prior storage or accumulation (see 401 KAR 31:010, Section 6 (3)(b))
- Used oil managed in accordance with 401 KAR Chapter 44
- Spent lead-acid batteries managed in accordance with 401 KAR 36:070
- Universal wastes managed in accordance with 401 KAR Chapter 43

Generators may also exclude the following wastes when making their generator category determination (see 401 KAR 31:010, Section 5(4)):

- Hazardous waste once it is sent off-site



Depending on your type of business, you might be regulated under different rules at different times. If, for example, you generate less than 220 pounds (100 kg) of hazardous waste during the month of June, you would be considered a CESQG for June and your June waste would be subject to the hazardous waste management requirements for CESQGs. If, in July, you generate between 220 and 2,200 pounds (100 kg to 1,000 kg) of hazardous waste, your generator status would change, and you would be considered a SQG for July. Your July waste would then be subject to the management requirements for SQGs.

- Hazardous waste produced by on-site treatment or reclamation, as long as the hazardous waste that is treated is counted once
- Spent materials that have been generated, reclaimed and reused on-site, as long as the spent materials have been counted once

Once a generator has determined that the company is correctly classified as either a small or large quantity generator, all hazardous waste *including those exempted above* must be registered. The wastes excluded from the generator category determination are still regulated as hazardous wastes and are subject to all applicable standards including reporting and record keeping.

How to Register as a Generator

Once you have determined that you are a large or small quantity generator, you are required to register with the Division of Waste Management and obtain an EPA ID number. If you are a Conditionally Exempt Small Quantity Generator, it is not a regulatory requirement that you register, however, you may register with the division and obtain a courtesy EPA ID number.

A Registration of Hazardous Waste Activity form (DEP-7037 revised October 2000) must be completed. EPA ID numbers are issued for the specific site address where the waste was generated. After the division has approved the registration form, a "Certificate of Registration" will be issued. The certificate will contain the EPA ID number assigned to your company, the waste streams for which you are registered and an expiration date (all hazardous waste generators must renew the ID number annually, except one-time only generators and those issued courtesy numbers).

The EPA ID number is site specific and cannot be transferred. If your company moves to a new location, the original EPA ID number must be deactivated and a new number obtained for the new address. If your company has several locations, an EPA ID number is required for each location unless the sites are considered "contiguous", which means there are no public streets separating the properties.

Fees:

The initial registration fee is \$300 to register as a large or small quantity generator with 5 or less waste streams. If other activities are registered, such as recycling, there are additional fees. Conditionally Exempt Small Quantity

Note:


Do not confuse having an EPA ID number with having a permit. A permit is issued only to facilities that dispose of hazardous waste on-site or treat or store hazardous waste for longer than the accumulation period allows.

Generators are exempt from fees. A complete list of fees is included in the instructions to the Registration of Hazardous Waste Activity form.


Modification:

If your company's certificate needs to be modified to change any information (such as adding or deleting a waste stream, changing the contact person, mailing address, etc.), a modification to the registration must be filed within 30 days of the date of the change. Form DEP-7037 is also used for modifications. If the ownership changes, the full \$300 fee is required. The only change not subject to the modification fee is a company name change. (Changes that occur within 30 days of the expiration date of your current Certificate of Registration can be made on the renewal form.)

The Registration form may be obtained from the Division of Waste Management by mail, fax, e-mail or Internet.

Phone: (502) 564-6716 

 Fax: (502) 564-2705

E-mail: hwregistration@mail.state.ky.us 

<http://www>

Division of Waste Management Internet site: <http://www.kyenvironment.org/nrepc/dep/waste/dwmhome.htm>

Shipping Your Waste Off-Site

The Uniform Hazardous Waste Manifest is the shipping document used to track hazardous waste from the point of generation to the final destination at a permitted facility. This "cradle to grave" tracking of hazardous waste ensures that hazardous wastes are properly managed.

Small and Large Quantity Generators are required to use a manifest to ship hazardous waste off-site. This shipping document is recognized by the U. S. Environmental Protection Agency, the federal Department of Transportation, the Kentucky Division of Waste Management and waste management agencies across the country. It is valid in every state. Although there is a national form, many states have adopted variations of the national form. This is important to know because you are required to use the form designated by the receiving facility's state. If you ship waste out-of-state, contact the receiving facility's state to determine if additional information is required on the manifest form. All states require that the manifest form be completed with the minimum federal requirements (contained in the white area of the manifest form).

When shipping to a Kentucky facility, you may use a manifest form obtained from any source. Information in the gray or shaded areas of the form must be completed: telephone numbers for the transporter and facility, the EPA Waste Numbers and EPA Handling codes are required (see 401 KAR 32:100 for manifest requirements).

The manifest form is normally a 5-part carbon set or an carbonless copy set. Each of the five pages has instructions on the bottom to identify who receives each copy. In Kentucky, the generator must keep a copy of the manifest form that he and the first transporter signed (Generator's copy). The generator must also keep the copy returned from the designated receiving facility indicating that the waste was

properly received. Copies should not be sent to the Kentucky Division of Waste Management. In addition, the Land Disposal Restriction Notice must accompany each manifest (see page 12 for more information). This notice specifies the treatment standard the receiving facility must use to destroy, inactivate or immobilize your waste.

In addition to completing the manifest form and the accompanying Land Disposal Restriction Notice, you are required to:

- package your waste in DOT specification containers (Sect. 1 of 401 KAR 32:030)
- properly mark and label each container (Sect. 2 of 401 KAR 32:030)
- offer the transporter the appropriate placards for his vehicle (Sect. 3 of 401 KAR 32:030)

Although these are your responsibilities as the generator, many transporters offer manifest preparation, packaging, labeling and marking as part of the transportation service. In addition, almost every transporter will supply copies of the correct placards for his vehicle. Check with the transporter to see what services are included in the fee.

Conditionally Exempt Small Quantity Generator's may transport their own waste and are not required to use a manifest.



- Package, label, and mark your shipment, and placard the vehicle in which your waste is shipped as specified in DOT regulations
- Prepare a hazardous waste manifest to accompany your shipment
- Include a notice and certification with each waste shipment
- Ensure the proper management of any hazardous waste you ship (**even when it is no longer in your possession**)

Land Disposal Restrictions (LDR) Reporting Requirements

Regardless of where the waste is being sent, for each shipment of waste subject to LDRs you must attach a copy of the LDR Notice to the manifest. This notice must provide information about your waste, such as the EPA hazardous waste code and the LDR treatment standard. The purpose of this notice is to let the TSDF know that the waste must meet treatment standards before it is land disposed. There is no required form for this notice, but your TSDF may provide a form for you to use. A certification may also be required in specific situations.

Call the Division of Waste Management at (502) 564-6716 or the RCRA Hotline (800) 424-9346 and consult 401 KAR Chapter 37 for help with LDR notification and certification requirements.

Closure Requirements

Large Quantity Generators who cease to generate hazardous waste or move to another location, must close the accumulation area where hazardous waste was stored in accordance with Kentucky regulations. Closure Performance Standards can be found in 401 KAR 35:070, Section 2.

During the partial or final closure period, all contaminated equipment, structure and soil shall be properly disposed of or decontaminated in accordance with 401 KAR 35:070, Section 5

If hazardous waste was stored in a tank, the generator must notify the division forty-five (45) days before closure.

EXPORT NOTIFICATION

If you choose to export your hazardous waste, you must notify EPA sixty (60) days before the intended date of shipment to obtain written consent. EPA's "Acknowledgement of Consent" document must accompany the shipment at all times.

See 401 KAR 32:050, Section 4 for Notification of Intent to Export.

Exporters are required to submit a Hazardous Waste Annual Report to the Division of Waste Management and must maintain records on-site for three (3) years.

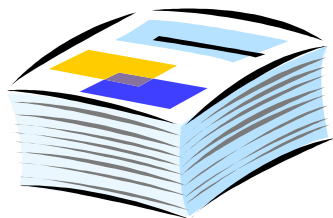
Manifest Forms

Kentucky does not provide copies of the manifest; however, transporters or storage or disposal facilities that handle your waste may provide copies. Copies are also available commercially and may be purchased for a nominal fee from various printing companies including the following:

Labelmaster
5724 North Pulaski Rd.
Chicago, IL 60646
1-800-621-5808

J. J. Keller and Associates
P.O. Box 368
Neenah, WI 54957-0368
1-800-558-5011

UNZ and Company
190 Baldwin Ave.
Jersey City, NJ 07306
1-800-631-3098



Selecting a Reputable Waste Handler

To send your hazardous waste off-site, you will need to select a transporter. In Kentucky, hazardous waste transporters must be registered with the Division of Waste Management. Ask the transporter for proof of registration; if you cannot determine if the transporter is legitimate, contact the Division's Hazardous Waste Branch.

To select a reputable treatment, storage or disposal facility in Kentucky, you should investigate whether the facility is properly permitted by the Division of Waste Management. As a generator, you cannot send a manifested shipment to a facility that is not permitted or in the case of a recycler, is not registered. The division can advise whether or not a company is properly permitted or registered in Kentucky.

Since the facility is the ultimate resting place of your hazardous waste, be very selective in choosing the facility. You can request a copy of a Kentucky facility's compliance history from the division which will tell you if the company has been cited for violations of the waste management regulations and the severity of these violations.

Many companies also perform a site visit before they send their hazardous waste to a facility. If the facility is located conveniently, you may wish to inspect it. Look for cleanliness and the general condition of the site. Damaged containers, piles of empty containers, evidence of spills, employees working without safety equipment or protective clothing may be clues to whether the company is properly operated.

Saving Money by Reducing the Amount of Waste Generated

The easiest and most cost-effective way of managing any waste is not to generate it in the first place. You can decrease the amount of hazardous waste your business produces by developing a few “good housekeeping” habits. Good housekeeping procedures generally save businesses money, prevent accidents and waste. To help reduce the amount of waste you generate, try the following practices at your business.

- ◆ **Do not mix wastes.** Do not mix nonhazardous waste with hazardous waste. Combining nonhazardous waste with hazardous waste, may increase the amount of hazardous waste subject to regulation, as the whole batch may become hazardous. Mixing waste can also make recycling difficult, if not impossible. A typical example of mixing wastes would be putting nonhazardous cleaning agents in a container of used hazardous solvents.
- ◆ **Recycle and reuse manufacturing materials.** Many companies routinely put useful components back into production rather than disposing of them. Items such as oil, solvents, acids and metals are commonly recycled and used again. In addition, some companies have taken waste minimization actions such as using fewer solvents to do the same job, using solvents that are less toxic, or switching to a detergent solution.
- ◆ **Change materials, processes, or both.** Businesses can save money and increase efficiency by replacing a material or a process with another that produces less waste. For example, you could use plastic blast media for paint stripping of metal parts rather than conventional solvent stripping.
- ◆ **Safely store hazardous products and containers.** You can avoid expensive cleanup costs by preventing spills or leaks. Store hazardous product and waste containers in secure areas, and inspect them frequently for leaks. When leaks or spills occur, materials used to clean them up also become hazardous.

The Kentucky Pollution Prevent Center, located within the University of Louisville, can provide free, nonregulatory assistance to help you find ways to minimize your waste. The center is funded in part by the hazardous waste assessment fee that generators pay each year. The center can deliver environmental

training, on-site waste assessments, applied research and technical information. You can reach the center by calling toll free (800) 334-8635, ext. 0965; within Louisville call 852-0965. They can also be reached on the Internet at www.kppc.org.



Managing Hazardous Waste On-Site

Most small businesses accumulate some hazardous waste on-site for a short period of time and then ship it off-site to a treatment, storage, or disposal facility (TSDF).

Accumulating Your Waste

Accumulating hazardous waste on-site can pose a threat to human health and the environment, so you are only allowed to keep it for a short time without a permit. Before shipping the waste for disposal or recycling, you are responsible for its safe management, which includes safe storage, safe treatment, preventing accidents, and responding to emergencies in accordance with regulations.

SQGs can accumulate no more than 13,200 pounds (6,000 kg x 2.2kg per pound) of hazardous waste on-site for up to 180 days without a permit. You can accumulate this amount of waste for up to 270 days if you must transport it more than 200 miles away for recovery, treatment, or disposal. One thirty (30) day extension may be granted. If you exceed these limits, you are considered an illegal TSDF and are subject to enforcement.

SQGs must accumulate waste in tanks or con-

- Accumulate wastes according to limits established for SQGs.
- Follow the storage and handling procedures required for SQGs.
- Follow requirements for equipment testing and maintenance, access to communications or alarms, aisle space, and emergency arrangements with local authorities.

TIP

It is a good practice never to mix wastes. Mixing wastes can create an unsafe work environment and lead to complex and expensive cleanups and disposal.

tainers, such as 55-gallon drums or on drip pads. Your storage tanks and containers must be managed according to requirements summarized below:

For containers, you must:

- ◆ Label each container with the words “HAZARDOUS WASTE,” and mark each container with the date the waste was generated.
- ◆ Use a container made of, or lined with, a material that is compatible with the hazardous waste to be stored. (This will prevent the waste from reacting with or corroding the container.)
- ◆ Keep all containers holding hazardous waste closed during storage, except when adding or removing waste. Do not open, handle, or store (stack) containers in a way that might rupture them, cause them to leak, or otherwise fail.
- ◆ Inspect areas where containers are stored at least weekly. Look for leaks and for deterioration caused by corrosion or other factors.
- ◆ Maintain the containers in good condition. If a container leaks, put the hazardous waste in another container, or contain it in some other way that complies with the regulations.
- ◆ Do not mix incompatible wastes or materials unless precautions are taken to prevent certain hazards.



Satellite Accumulation Rule

A generator may accumulate up to 55 gallons of each hazardous waste or 1 quart of each acutely hazardous waste at or near any point of generation where wastes initially accumulate, such as near a manufacturing process if:

1. The process is under the control of the operator of the process generating the waste, and
2. Containers must be in good condition. Leaking containers must be replaced and waste transferred to a good container.
3. The containers or inner liner must be compatible with the waste stored in the container.
4. The container is marked "Hazardous Waste."
5. The top must be kept on the container unless waste is being added or removed.

On the day the satellite container reaches 55 gallons of waste, it must be labeled with that date and immediately become subject to the accumulation standards (401 KAR 32:030, Section 5).

Treatment On-Site During the Accumulation Period

Generators who receive prior approval from the division are allowed to treat their hazardous waste on-site during the accumulation period (see 401 KAR 32:030 Section 6). To apply, the generator must submit a Registration of Hazardous Waste Activity form to request approval to conduct the treatment activity. Supplemental information must be provided with the registration form to fully describe the treatment process. The division will evaluate the request and issue a determination within 60 days of receiving the request. The request must demonstrate that treatment activities can be conducted safely and will protect human health and safety, and the environment.



How long can I keep my waste on site before shipping:

Large Quantity Generator	Ship within 90 days
Small Quantity Generator	Ship within 180 days (270 days if shipping 200 miles or more)
Conditionally Exempt Small Quantity Generator	May accumulate up to 2,200 pounds indefinitely or become subject to Large Quantity Generator standards

Wastes Generated Only Once

The Kentucky regulations are written with emphasis on companies that generate hazardous waste on a routine basis. However, companies that generate hazardous waste only one time are also required to comply. 401 KAR 32:010 requires that anyone who generates more than 220 pounds of hazardous waste in a single calendar month must register each waste with the Division of Waste Management. The Registration of Hazardous Waste Activity form (DEP-7037 revised October 2000) must be used to register all hazardous waste streams. The category of generator selected must be based on the total amount of waste generated in a single calendar month or for the one-time disposal.

If your company already has an EPA ID number you must file a modification to your registration to add the new waste stream within thirty (30) days of its generation.

If your company registers as a Large or Small Quantity Generator for a one-time disposal, you are also required to file an Annual Report and Hazardous Waste Assessment for the appropriate year. Forms may be obtained by contacting the Division of Waste Management's Annual Report Coordinator at (502) 564-6716.

Samples

A sample of waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to hazardous waste requirements.

A sample is not a waste when:

- Transported to a laboratory
- Transported back to the collector
- Stored by the sample collector before transport for testing
- Stored in a laboratory before or after testing before being returned to the collector
- Stored in a laboratory after testing for a specific purpose (for example, court evidence or enforcement action where further testing may be required).

The sample collector must comply with all DOT, United States Postal Service and any other applicable shipping requirements. Refer to 401 KAR 31:010 Section 4(4) for specific standards.



Other Requirements for Generators

Hazardous Waste Assessment

All registered large and small quantity generators are required by KRS 224.46-580 to pay an annual hazardous waste assessment. This assessment is based on the amount of hazardous waste generated during the assessment period. The assessment rates are \$0.002 per pound for solid waste sent off-site and \$0.001 per pound for solid waste kept on-site. The liquid rates are \$0.012 per pound for waste sent off-site and \$0.006 per pound for waste kept on-site. If no waste was generated, an assessment form showing zero must be submitted. In addition, there are eight exclusions from the assessment (see KRS 224.46-580).

Hazardous Waste Assessment forms are mailed in January and are due by March 1 of each year for the previous calendar year.

The money generated by the assessments is used to clean up hazardous waste sites in the state where no responsible party can be found or to provide state match moneys for federal superfund sites.

Questions concerning the hazardous waste assessments can be directed to the Hazardous Waste Assessment Program Coordinator at (502) 564-6716.



Hazardous Waste Annual Report

Large and Small Quantity Generators are required by state law (KRS 224.46-510) and regulation (401 KAR 32:040) to report their hazardous waste activities annually. Facilities that treat, store or dispose of hazardous waste are also required to file annual reports (401 KAR 34:050). Report forms are mailed in January and are due by March 1 of each year for the previous calendar year.

Annual reports are reviewed for administrative accuracy and copies are sent to the appropriate regional office where the data is verified during the facility's next routine inspection. The data from large quantity generator reports is entered into the Biennial Report System, the federal reporting system used nationwide for annual report data.

In addition to being used by inspectors, the division uses annual report data for a variety of other purposes: (1) the data is used for nationwide comparisons by the U.S. EPA; (2) annual report data is compared to amounts reported by generators on their annual hazardous waste assessment reports.

Questions on the annual report program can be directed to the Hazardous Waste Annual Report Program Coordinator at (502) 564-6716.

REPORTING REQUIREMENTS CHECKLIST:

- Submit a Registration of Hazardous Waste Activity form and appropriate fee 45 days prior to expiration of your Certificate of Registration each year
- Submit a Hazardous Waste Annual Report by March 1 each year
- Submit a Hazardous Waste Assessment and appropriate fee by March 1 each year

Reporting an Emergency

What must be reported?

Any spill, leak, discharge, dumping, or other “release” of any of the following classifications of substances in excess of a reportable quantity must be reported immediately.

1. Hazardous Substances designated under the federal Superfund Act (CERCLA) and those extremely hazardous substances designated under TITLE III of the Superfund Amendments and Reauthorization Act (SARA) are to be reported according to quantities listed in the respective laws and regulations.
2. Pollutants or contaminants – A release or threatened release of any element, substance, compound, or mixture into the environment in a quantity that may present an imminent or substantial danger to the public health or welfare is reportable.
3. Petroleum or petroleum products – Any release including a fuel, oil, or lubricant in excess of 25 gallons within a 24-hour period must be reported. The reportable quantity of diesel fuel is 75 gallons or more in a 24-hour period. However, any release that causes a visible sheen or that violates any other provision of Section 311 of the Clean Water Act must be reported.

Who must report?

Any person possessing or controlling a regulated substance must immediately report a release or threatened release covered by this law (KRS 224.01-400).

Each year, more than 180 million shipments of explosives, corrosives, flammable, poisonous or radioactive products are moved about the United States by highway, rail, water and air. Kentucky is a major transportation thoroughfare because of its central location in the nation.

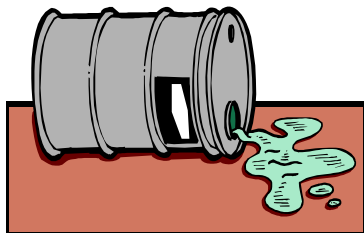


If you think you have an emergency, immediately call the Department for Environmental Protection Emergency Response Team at (502) 564-2380 or (800) 928-2380.

When a spill or unexpected discharge of a hazardous waste threatens the life, health or safety of citizens or the environmental it is considered an environmental emergency.

When The Emergency Response Team (ERT) is Notified

- ERT determines if a response is needed. For instance, if a truck wrecks and hazardous material is spilled into the environment, ERT responds immediately. On the other hand, if the quantity spilled is so small that it does not present a hazard, such as a gallon of gasoline spilled by a service station, ERT deals with the incident on a routine basis through the state's Department for Environmental Protection.
- ERT dispatches experts from the Divisions of Air Quality, Waste Management and Water as may be appropriate.
- ERT notifies local officials and other state and federal agencies, such as EPA, the Kentucky Fire Marshall, Kentucky State Police and the Kentucky Emergency Management.
- On-scene ERT coordinators maintain communication with the Environmental Response Center in Frankfort.
- ERT on-scene coordinators monitor the emergency situation until it is stabilized and environmental cleanup begins.
- ERT on-scene coordinators file a summary report to the division including a cost estimate of actual cleanup and emergency ERT services.



Who pays for ERT Services?

A cost is involved when ERT responds to an environmental emergency. The party responsible for the discharge of the hazardous material, whether discharged by accident or through negligence, is liable for the cost of ERT services.



Cleanup Requirements:

1. Characterize the full extent of the release to determine its effect on the environment
2. Correct the effect of the release on the environment.

For releases that exceed the reportable quantity, the cabinet must approve site characterization and remedial actions.

Characterization includes a thorough sampling of soils, surface water, sediments, groundwater, air and waste. Information gathered in this study is then used to select the appropriate option for corrective action.

Universal Wastes

Batteries, such as nickel-cadmium (Ni-Cd) and small sealed lead-acid batteries, found in electronic equipment, mobile telephones, portable computers and emergency backup lighting.



Pesticides that have been recalled or banned from use, are obsolete, have become damaged, or are no longer needed due to changes in cropping patterns or other factors. These have often been stored for long periods of time in sheds or barns.



Thermostats, that contain as much as 3 grams of liquid mercury and are found in homes and commercial, industrial, agricultural and community buildings.



Spent lamps include incandescent, fluorescent, high pressure sodium, mercury vapor, metal halide, high intensity discharge (HID) and neon bulbs or tubes.



Did you know?

- ◇ *If you gathered all the batteries that are thrown away each year, you could fill 600 large school buses.*
- ◇ *Nearly 3 billion batteries are thrown away by households each year.*
- ◇ *Common products such as flea and tick sprays, pet collars, rodent poisons, kitchen and bath disinfectants, weed killers and some pool chemicals are considered pesticides.*
- ◇ *Dial down thermostats contain 3 grams of mercury.*
- ◇ *One gram of mercury can contaminate ten thousand yellow pike fish or a twenty-five acre lake.*
- ◇ *Approximately 450-500 million spent lamps are replaced each year, dumping 30,000 metric tons of mercury contaminated waste into landfills.*

Universal Wastes are “better for business” than hazardous wastes.

- Less reporting requirements
- Less stringent regulations
- No manifesting
- Less expensive
- Waste is recycled and not disposed

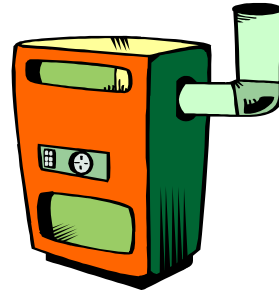
Used Oil Filters

Used oil filters typically contain concentrations of heavy metals and organic components such as benzene.

Generators can recycle their used oil filters. Generators who recycle both the used oil removed from the filter and the filter casing, as scrap metal, are exempt from the hazardous waste regulations and do not need to test their filters using the TCLP to determine if they are hazardous.

Generators can dispose of their drained oil filters in a solid waste landfill with approval. Non-terne plated used oil filters that are not mixed with listed hazardous wastes are not considered hazardous if these oil filters have been gravity hot-drained using one of the following methods:

1. Puncturing the filter anti-drain back valve or the filter dome end and hot-draining;
 2. Hot-draining and crushing;
 3. Dismantling and hot-draining; or
 4. Any other equivalent hot-draining method which will remove used oil.
- (See 401 KAR 31:010, Section 4)



Burning Used Oil for Energy Recovery

Used oil is not regulated as a hazardous waste if it is sent for recycling or burned for energy recovery by the generator.

Generators may burn only their own used oil, or oil from households who are do-it-yourself oil changers, in a space heater. No registration is required for space heaters. If you want to use a space heater, it must:

1. Be designed to have a maximum capacity of not more than 0.5 million BTU per hour, and
2. Be vented to the outside air (not free standing).

If you accept used oil for burning from other sources, contact the division to discuss the requirements.

See 401 KAR Chapter 44 for specific standards.

Underground Storage Tank Waste

Contaminated soils from underground storage tank removal activities are excluded from the hazardous waste regulations in 401 KAR 31:010, Section 4(2)(j). This exclusion is restricted to contaminated “media and debris” that are excavated from the outside of underground storage tanks undergoing corrective action under the Underground Storage Tank Program. However, *the contents of the tank, and rinse waters, etc. used for decontamination may be regulated as hazardous waste.*

In addition, the exclusion is limited to petroleum contaminated debris and media which fails the TCLP test only for contaminants identified by EPA Waste Codes D018 through D043. Contaminated media and debris which fail the TCLP test for EPA Waste Codes D001 through D017 (including heavy metals such as lead) are regulated as hazardous wastes and must be handled accordingly. Petroleum contaminated media and debris from any source except corrective action at an underground storage tank are subject to all applicable hazardous waste regulations if it exceeds the TCLP limit for any constituent.

Most municipal solid waste landfills in Kentucky can accept petroleum contaminated soils without prior approval; however, the landfill will require the generator to have test results available to show that the waste does not fail TCLP for the constituents D001 through D017. For contaminated media or debris from underground storage tank corrective action activities, the generator must only test for those constituents likely to be found in the waste. For petroleum products, this is usually limited to lead and benzene.

Petroleum products, product/water mixtures or

product/water/sludge mixtures (from the interior of the tank) are excluded from the definition of a waste if they are sent directly to a recycling facility (401 KAR 31:010, Section 2 (3)). If wastes are generated which exhibit a hazardous characteristic and do not meet either exclusion, you must register with the Division of Waste Management and comply with all applicable standards from 401 KAR Chapter 32.



Where Do I Get Help?

If you need help deciding whether you are covered by the generator requirements or if you need assistance with compliance, you can contact the appropriate regional office of the Kentucky Division of Waste Management. The division has ten regional offices across the state (see Appendix i for addresses and telephone numbers). Staff in these offices are available to help you comply with the requirements. Within these regional offices are Hazardous Waste Inspectors who conduct routine inspections on all hazardous waste generators. The inspector for your company can provide expert advice on hazardous waste management and will be glad to assist you. The inspection report (Appendices iii and iv) serves as a good reference document for generators since it contains the list of items that will be inspected and the regulatory citation requirements.

You may also contact the Division of Waste Management's main office in Frankfort at the following:



Phone:

(502) 564-6716



Fax:

(502) 564-2705

E-mail:

hwregistration@mail.state.us.ky



OTHER RESOURCES:

KPPC – Kentucky Pollution Prevention Center

- Help to prevent pollution
- Environmental training
- On-site waste assessments
- Applied research
- Provides technical information
- Fresh ideas for reducing certain waste streams

Call (800) 334-8635

www.kppc.org



Here are some favorite home pages you find helpful:

Kentucky Regulations:

<http://www.lrc.state.ky.us/home.htm>

Ky. Division of Waste Management Home Page Address:

<http://www.kyenvironment.org/nrepc/dep/waste/dwmhome.htm>

Natural Resources and Environmental Protection Cabinet Home Page:

<http://www.kyenvironment.org>

Ky. Pollution Prevention Center Home Page:

<http://www.kppc.org>

Federal Environmental Protection Agency Home Page:

<http://www.epa.gov>

Division of Waste Management
Regional Offices
July 2002

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Columbia, KY 42728
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FAX: (859) 525-4157

Kuljinder Sandhu, Supervisor

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Sam Lofton, Supervisor

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Hazard, KY 41701
FAX: (606) 435-6025

Rebecca Noble, Supervisor

London (606) 878-0157
875 South Main Street
London, KY 40741
FAX: (606) 877-9091

(Report to Kerry McDaniel at
Columbia)

Louisville (502) 425-4543
9116 Leesgate Road
Louisville, KY 40222
FAX: (502) 425-4471

Keith Sims, Supervisor

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625 Hospital Drive
Madisonville, KY 42431
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Bill Bowen, Supervisor

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Karen Glancy, Supervisor

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Margie Williams, Supervisor