TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RG-234 (Rev. 7/09)

Industrial and Hazardous Waste: Rules and Regulations for Small-Quantity Generators

SMALL BUSINESS AND ENVIRONMENTAL ASSISTANCE DIVISION

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY Industrial and Hazardous Waste: Rules and Regulations for Small-Quantity Generators

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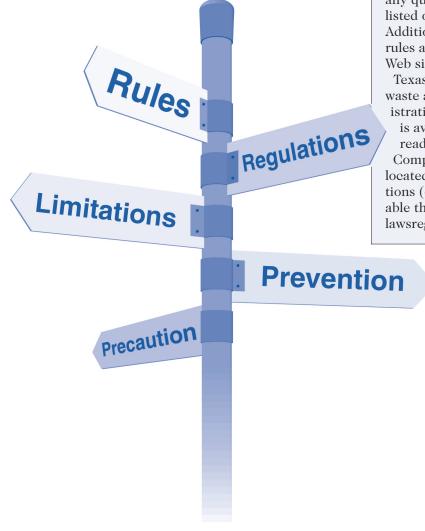
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INTRODUCTION

For many small businesses in Texas, the most difficult part of complying with environmental laws is understanding what the laws mean. The rules and regulations regarding waste can be perplexing. The U.S. Environmental Protection Agency (EPA) sets federal laws and rules, while the Texas Commission on Environmental Quality (TCEQ) enforces state laws and rules. Adding to these laws, there are exemptions or exclusions for certain amounts and types of waste and special requirements for other amounts. If you produce any amount of waste—regardless of whether you store, recycle, or throw it away—you are subject to state and federal regulations.



If you need assistance with federal and state rules on hazardous waste management, this handbook was designed for you. Each chapter provides a general overview of a specific aspect of the law, followed by an explanation of pertinent rules and regulations. Appendixes provide supplementary information, including a list of acronyms and terms that you will encounter in waste management regulations.

CAUTION:

You should not use this handbook as a substitute for the complete rules and regulations. If you have any questions, contact the regulatory resources listed on the inside back cover of this guide. Additional information on state environmental rules and programs is available through the TCEQ Web site, at <www.tceq.state.tx.us>.

Texas state rules on industrial and hazardous waste are located in Title 30 of the Texas Administrative Code (30 TAC), Chapter 335, which is available at <info.sos.state.tx.us/pls/pub/ readtac\$ext.ViewTac>.

Complete federal rules on hazardous waste are located in Title 40 of the Code of Federal Regulations (40 CFR), parts 260–299, which is viewable through the EPA Web site at <www.epa.gov/ lawsregs/search/40cfr.html>.

CHAPTER 1

IDENTIFYING YOUR WASTE

Facilities generate a variety of different wastes in a variety of different forms: solid, liquid, gas, or any combination of these.

A waste is basically any product that is no longer needed or that can no longer be used for its intended purpose. An unused product being stored for use at some later date is not a waste unless it is stored past its shelf life or is spilled.

Depending on its effects, waste from businesses may be classified as hazardous or nonhazardous.

The accompanying chart summarizes the main types of hazardous and nonhazardous waste.

TYPES OF HAZARDOUS WASTE

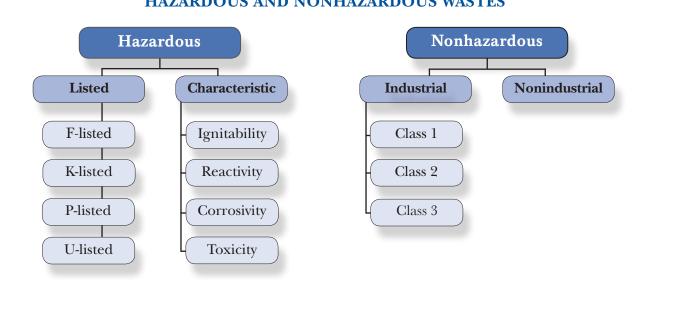
"Hazardous waste" is any waste that is defined as being hazardous in 40 CFR 261.3, unless it is excluded by 40 CFR 261.4. There are two different ways that a waste can be designated "hazardous": it can be "listed" as hazardous or have features that are "characteristically" hazardous.

Listed Hazardous Wastes

"P" and "U" Lists

The EPA has identified more than 400 chemicals that are "hazardous wastes" if they are disposed of without being used. These wastes are designated by either a "P" or a "U" followed by a three-digit code—for example, P120 or U203. The P list contains "acutely hazardous wastes," such as cyanides, which are considered especially harmful, even in small quantities. Most businesses rarely generate acutely hazardous waste. The U-list contains wastes that are hazardous. but not acutely so; this group includes common compounds such as unused acetone.

P and U wastes are actually products that may have exceeded their shelf life and can no longer be used for their intended purpose. Thus, you generate hazardous waste if you discard a P- or U-listed chemical (or a product whose sole active ingredient is a P- or U-listed chemical) without using it. On the other hand, once a chemical has been used for its



HAZARDOUS AND NONHAZARDOUS WASTES

intended purpose, the P/U code is no longer applicable, since P and U wastes can only come from chemicals that have never been used.

A complete roster of "listed" wastes can be found in 40 CFR 261, Subpart D.

"F" and "K" Lists

The EPA also has identified hazardous wastes produced during certain processes that are common to industry. The EPA's "K" list (40 CFR 261.32) contains hazardous wastes produced from *specific* sources or processes, such as the production of pesticides (K031). The "F" list (40 CFR 261.31) contains chemicals, such as used solvents, derived from *nonspecific* sources. (A complete roster of "listed" wastes can be found in 40 CFR 261, Subpart D.)

IMPORTANT:

Some wastes can be both a "listed" and a "characteristic" hazardous waste. For example, some spent solvents used in degreasing are classified as a listed hazardous waste (F001 or F002), because they contain a specific chemical, and also as a characteristically hazardous waste (D001) because they are ignitable.

Characteristic Hazardous Wastes

Many wastes are classified as hazardous because they demonstrate one or more hazardous characteristics ignitability, corrosivity, reactivity, and toxicity. Such "characteristic" wastes are identified by a "D" followed by a three-digit classification code. Any waste that is ignitable, for example, would carry a D001 designation.

There are four hazardous characteristics. These are listed and defined below.

- Ignitability (D001). Waste that has a flash point of less than 140 degrees F (easily combustible or flammable). *Examples: gasoline, diesel fuel, some degreasers, some other solvents.*
- **Corrosivity** (D002). Liquid waste that has a pH of 2 or less (very acidic) or 12.5 or more (very strong base), or any liquid waste that corrodes steel at a certain specified rate. *Examples: waste from rust remover, acid or alkaline cleaning fluid, and battery acid.*
- Reactivity (D003). Waste that is unstable or undergoes a rapid, violent chemical reaction with water or other materials. *Examples: waste from cyanide plating, some bleaches, and other oxidizers.*
- **Toxicity**. Any waste that leaches one or more constituents in concentrations at or above a hazardous threshold designated by the EPA. For example,

5 mg/L is the threshold for leaching of lead and carries a D008 waste code. The leaching rate is determined by laboratory testing on a sample of waste. This test, known as the toxicity characteristic leaching procedure (TCLP), is offered by analytical laboratories for a fee.

Table 1 details all 40 constituents of the "D" listed toxicity characteristic. Even though a waste may contain a high level of a particular constituent found in Table 1, it is not considered hazardous for the characteristic of toxicity if it does not leach that constituent above the threshold level.

You may be able to determine whether your waste is characteristically hazardous by checking with your supplier or industry association representative. Material Safety Data Sheets (MSDSs) also can be helpful for this purpose.

Universal Wastes

Wait, is it "universal waste"?

Some hazardous wastes are referred to as "universal waste" because they are commonly generated by many different types of businesses. You may choose to classify one or more of the waste streams produced by your business as universal waste if it fits into any one of these categories:

- Paint and paint-related waste. This category includes used thinner, waste paint, surface-preparation wastes, and other hazardous wastes that are generated from painting activities *within the state of Texas.* This category of universal waste does not exist elsewhere. For more information, read TCEQ publication RG-370, *Managing Paint and Paint Related Waste under the Universal Waste Rule.*
- Hazardous lamps. Fluorescent tubes are the most common example of this category of universal waste. Some fluorescent lamps contain mercury at levels above the hazardous threshold. If your business generates hazardous lamps that you think could be designated as universal waste, read TCEQ publication RG-377, Universal Waste Regulations for Hazardous Lamps and Mercury-Containing Equipment in Texas.
- Mercury-containing equipment. This category includes devices or parts of a device that contain elemental mercury integral to its function. This includes thermostats, barometers, monometers, flow meters, some light switches, regulators, pressure relief gauges, water treatment gauges, and gas safety relays, but excludes batteries and lamps.

HW	Contaminant	Maximum concentration (mg/L)
Number D004	Arsenic	5
D004 D005	Barium	100
D005	Benzene	0.5
	Cadmium	1
D006	Carbon tetrachloride	-
D019		0.5
D020	Chlordane	0.03
D021	Chlorobenzene	100
D022	Chloroform	6
D007	Chromium	5
D023	o-Cresol	200*
D024	m-Cresol	200*
D025	p-Cresol	200*
D026	Cresol	200*
D016	2,4-D	10
D027	1,4-Dichlorobenzene	7.5
D028	1,2-Dichloroethane	0.5
D029	1,1-Dichloroethylene	0.7
D030	2,4-Dinitrotoluene	0.13**
D012	Endrin	0.02
D031	Heptachlor (and its epoxide)	0.008
D032	Hexachlorobenzene	0.13**
D033	Hexachlorobutadiene	0.5
D034	Hexachloroethane	3
D008	Lead	5
D013	Lindane	0.4
D009	Mercury	0.2
D014	Methoxychlor	10
D035	Methyl ethyl ketone	200
D036	Nitrobenzene	2
D037	Pentachlorophenol	100
D038	Pyridine	5**
D010	Selenium	1
D011	Silver	5
D039	Tetrachloroethylene	0.7
D035 D015	Toxaphene	0.5
D013	Trichloroethylene	0.5
D040 D041	2,4,5-Trichlorophenol	400
D041 D042		2
	2,4,6-Trichlorophenol	1
D017	2,4,5-TP (Silvex)	1

Note: Wastes that leach a listed contaminant at or above the threshold levels listed in this table are considered hazardous.

*If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level for total cresol is 200 mg/L. **If the quantitation limit is greater than the calculated regulatory level, it becomes the regulatory level. For more information, read TCEQ publication RG-377, Universal Waste Regulations for Hazardous Lamps and Mercury-Containing Equipment in Texas.

- **Pesticides—sometimes.** Only pesticides that have been recalled by the manufacturer or collected at a waste-pesticide collection event may be classified as universal waste.
- **Batteries—sometimes.** Batteries—all sizes and types of hazardous waste batteries, as long as they are not covered by 40 CFR 266, Subpart G—may be managed as universal waste.

Why consider calling it "universal waste"?

Universal waste is still hazardous waste—in other words, you must store it properly, and you can't throw it out with your normal trash. But classifying your eligible waste streams as universal waste offers these benefits:

- A longer accumulation time. If you have to, you may accumulate a universal waste at your company for as long as one year before disposing of it. Fewer trips to dispose of the waste—whether by you or by a transporter—add up to lower disposal costs.
- Less paperwork. You do not have to:
 - list universal waste on your Notice of Registration (See Chapter 3 for more information on the NOR.)
 - count the waste toward your hazardous waste generator status
 - include universal waste in your annual waste summary
 - use a Uniform Hazardous Waste Manifest when shipping universal waste (See Chapter 5 for more information on the manifest.)
- Flexible transportation requirements. Universal waste may be transported by a common carrier.

HAZARDOUS WASTE DETERMINATION

Any facility that generates waste—a "waste generator" is required to determine whether its waste is hazardous. This is called a "hazardous waste determination." There are four possible steps to this determination:

- 1. Determine if your waste is excluded by 40 CFR 261.4.
- 2. Compare the waste or discarded product to the EPA's P, U, F, K, and characteristic waste lists. The substance is a hazardous waste if:
 - the unused product is made up of a single active component found on the P or U lists; OR
 - the waste is described in the F or K lists; OR
 - the waste has hazardous characteristics.
- 3. Use your knowledge of the waste and what is in it. Such "process knowledge" can include information from material safety data sheets, product labels, or your supplier, to name a few sources. Then

compare the waste to the waste lists and characteristics. You can use your process knowledge at any time.

4. If you're still uncertain whether your waste is hazardous, arrange for a lab test. Compare the lab results to the EPA-defined characteristics.

The process of making a hazardous waste determination can be very confusing. You may want to consult with your waste management company or an industry or trade association to determine whether your waste is hazardous.

You must document how you came to the conclusion that your waste is or is not hazardous. Describe how you concluded that the waste was or was not hazardous. Keep this waste determination document in your files in case you are ever asked about how you made your determinations.

Table 2 lists waste codes for types of waste commonly generated by specific businesses.

TYPES OF NONHAZARDOUS WASTE

Even if a facility does not generate any hazardous waste, its nonhazardous waste may still be subject to regulation by Texas state rules, depending on the type of facility it is and the amount and type of waste it generates.

Industrial facilities, for example, must comply with more regulations than nonindustrial facilities. If you are involved in an industrial activity, all wastes produced by and in your facility are industrial wastes ... even office trash. Therefore, it is very important for you to be able to determine whether or not your facility is industrial. A step-by-step process for making that determination is included in Appendix B. For more information, call the Small Business and Local Government Assistance program at 800-447-2827.

Industrial Waste

"Industrial wastes," although nonhazardous by federal definition, are regulated in Texas and subject to classification. If you have an industrial facility, you must determine which of the following three categories applies to your nonhazardous waste.

- Class 1 waste—any industrial solid waste that, because of its concentration or physical characteristics, may pose a substantial present or potential danger to human health or the environment when improperly managed. This waste *can* be disposed of at some landfills without treatment, but you *must* classify the waste and receive approval from the landfill before disposal. Common examples of Class 1 waste are soil contaminated with high levels of hydrocarbons and a liquid with a flash point of less than 150° but higher than 140° Fahrenheit.
- Class 2 waste—any industrial solid waste that cannot be described as hazardous, Class 1, or Class 3. These wastes are less threatening to human health and the environment. Empty chemical containers and plant trash may fall into this category. These wastes may be disposed of at a permitted municipal landfill.
- Class 3 waste—inert and essentially insoluble industrial solid waste, usually including, but not limited to, such materials as soil, dirt, clay, sand,

Table 2. Common Wastes Generated by Specific Industries				
Business	How Generated	Common Types of Wastes	Common Waste Codes	
Automotive Repair	Degreasing Parts	Solvents	D001, D002, F001-F005	
Computer Chip Manufacturing	Etching / Cleaning	Acids / Solvents	D001, D002, D008, F001-F005	
Dry Cleaning	Cleaning Process	Perchloroethylene	D001, D039, F002	
Electroplating / Metal Finishing	Plating Process	Sludges / Wastewater	D001, D006-D007, F001, F002, F006- F012	
Foundry	Mold Shakeout	Sand with heavy metals	D008, D007	
Furniture Manufacturing and Refinishing	Coating / Stripping	Stripping sludge	D001, F001-F005	
Printers	Printing Process	Ink / Cleanup solvents	D002, D006 D008, F001-F005	

Note: Waste produced by a business that is listed in this table may be hazardous for reasons other than those identified in this table. This table is for illustration purposes only. Every waste has different characteristics due to the type of waste it is and how it was produced. So, one type of waste may be hazardous and another not. For example, a citric acid solvent is generally not ignitable (D001) unless it is contaminated or mixed with something with a low flash point. In contrast, many petroleum-based degreasers have low flash points that make them ignitable. Also, see the sample waste log in Appendix C.



gravel, brick, glass, concrete with reinforcing steel, and rock. If essentially uncontaminated, this waste is considered nonthreatening and can be accepted at *all* permitted landfills.

Special Waste

Some nonindustrial and industrial facilities may produce "special wastes" that require special handling, specially trained people, and/or special disposal methods. These special requirements often arise from the sheer size of the waste itself, lack of knowledge about the process that generated it, and/or the physical characteristics of the waste.

Some examples of special waste are:

- Dead animals, especially large carcasses or in large quantities.
- Discarded asbestos, used in older brake pads.
- Empty hazardous waste containers, formerly used for pesticide or other such substances.
- Class 1 industrial waste.
- Soils contaminated with low levels of petroleum hydrocarbons.

• Small quantities of what otherwise would be considered hazardous waste generated by Conditionally Exempt Small-Quantity Generators (see Chapter 2).

Although special waste—with the exception of CESQG waste—is technically classified by the EPA as nonhazardous, this does not mean that the waste will not pose a hazard. However, many municipal landfills can readily take on special handling requirements because their permits include prior authorization to accept special wastes without separately contacting the TCEQ. For questions on special waste, call the TCEQ's Municipal Solid Waste Permits Section, at 512-239-2334.

HOW DO I DISPOSE OF SPECIAL WASTES?

- 1.Call a local landfill. If landfill operators question whether they can accept it, then ...
- 2.Call the regional office. If you need authorization, then ...
- 3.Call the TCEQ's Municipal Solid Waste Permits Section, at 512-239-2334.

WASTE STREAMS

The process of generating waste creates a waste stream. You must identify all the waste streams generated at your facility, determine whether the waste is hazardous or nonhazardous (see "Hazardous Waste Determination"), and then properly code the waste.

As one waste is being processed, several other wastes may be generated. For example, if an industrial facility produces a hazardous acidic waste and at some point neutralizes that waste, it has generated two separately identifiable "waste streams." Table 3 gives examples of some situations in which waste flowing from a similar or different process can produce a single

If you have wastes that are	And they come from processes that are	Then the wastes are considered	
different	similar	different "waste streams"—e.g., a sludge removed from an electroplating vat is not the same waste stream as a liquid removed from an electroplating vat.	
similar	different	different "waste streams"—e.g., methylene chloride used in a paint-stripping operation is not the same waste stream as methylene chloride used in laboratory analysis.	
similar	similar	the same "waste stream"—e.g., a site may have several paint booths perform- ing the same activities with the same materials, each producing drop cloth waste. The drop cloth wastes from the various locations at this site could be considered one waste stream as long as they were all classified the same.	
altered physically or chemically by treatment	N/A	different "waste streams"—e.g., if a sludge is dewatered, it may produce two new waste streams, one a solid and the other a liquid.	

Table 3. Identifying Multiple "Waste Streams"

or multiple waste streams. Each waste stream—the acidic waste and the neutralized waste, in the table's example for an industrial facility—must be identified by its own eight-character Texas waste code.

TEXAS WASTE CODES

The eight-character Texas waste code is made up of a four-digit sequence number, a three-digit form code, and a one-digit classification code:

- 1. The "sequence number" can be alphanumeric (a combination of numbers and letters) and is assigned by the generator.
- 2. The "form code" is used to indicate the general type of waste you are generating. The code is selected from a list (see TCEQ publication RG-022, *Guidelines for the Classification and Coding of Industrial and Hazardous Wastes*).

3. The "classification code" is important because it is used on all manifests for transporting and disposing of hazardous and industrial waste. This code may be either an "H," for hazardous waste, or a "1," "2," or "3," for industrial waste classes.

Please refer to publication RG-022 for more specific instructions on properly developing your waste codes. You may obtain a copy of RG-022 by contacting the TCEQ (see the back cover).

If a hazardous or industrial waste stream is treated or changes physically in any way, a *new* waste stream has been generated. When this happens, you must determine its classification, arrive at a Texas waste code for it, and notify the TCEQ about the additional waste stream (see Chapter 3, "Complying with Identification and Notification Requirements").

CHAPTER 2

DETERMINING YOUR GENERATOR STATUS

CATEGORIES OF HAZARDOUS WASTE GENERATORS

There are three categories of hazardous waste generators:

- Conditionally Exempt Small-Quantity Generators (CESQGs)
- Small-Quantity Generators (SQGs)
- Large-Quantity Generators (LQGs)

Table 4 summarizes the requirements for the three categories. The remainder of this chapter explains how to determine whether these regulations apply to you, and which ones. The next chapter (Chapter 3) discusses specific identification and notification requirements that apply.

As a rule, the more hazardous waste you generate, the more stringent the regulations. You may be required, for example, to obtain a Texas solid-waste registration number and an EPA identification number and make an annual waste summary report to the Registration and Reporting Section of the TCEQ. The registration and identification numbers are used to monitor and track hazardous waste activities, including off-site transport of waste.

Conditionally Exempt Small-Quantity Generators

CESQGs generate no more than 220 pounds per month (100 kg, or about half a 55-gallon drum) of hazardous waste *and* up to 2.2 pounds per month (1 kg, or less than one quart) of acutely hazardous waste ("P" listed waste).

"Conditionally exempt" means you are exempt from hazardous waste management regulations provided that you comply with the four basic requirements:

- 1. Identify your hazardous waste (that is, conduct a hazardous waste determination).
- 2. Never store more than 2,200 pounds (1,000 kg, or approximately five 55-gallons drums) of hazardous waste on your property at any time.
- 3. Send waste to an approved waste-disposal facility.
- 4. Maintain records (MSDSs, waste determinations, shipping records, and quantities of hazardous waste generated each month) to prove you are a CESQG.

The only type of CESQG that must obtain a Texas solid-waste registration number is an industrial CESQG that generates more than 220 pounds per month of Class 1 industrial waste. They must report the Class 1 industrial waste to the TCEQ on the annual waste summary. (See Appendix B for an explanation of what an "industrial" facility is.)

Small-Quantity Generators

SQGs generate more than 220 pounds but less than 2,200 pounds per month (100 kg to 1,000 kg, or half of

Table 4. Hazardous Waste Generator Categories				
Generator Status	How much hazardous waste you can generate per month	How much acutely hazardous waste you can generate per month	How much hazardous waste you can collect in a waste management unit ¹	Length of time you can store it in a waste manage- ment unit from the time accumulation begins ²
CESQG	up to 220 lbs. (about half a 55-gallon drum of liquid)	up to 2.2 lbs. (about 1 quart)	up to 2,200 lbs. (about five 55-gallon drums of liquid)	no time limit
SQG	220 to 2,200 lbs.	up to 2.2 lbs.	up to 13,200 lbs. (about 30 55-gallon drums of liquid)	180 days ³
LQG	over 2,200 lbs.	over 2.2 lbs.	any amount	90 days

¹A waste management unit is an area in your facility where you collect, treat, or store the waste that you generate. It may be a storage shed, a room, an area within a berm, a solvent distillation unit, etc.

²Accumulation begins when the storage container is placed in the waste management unit. Containers must be labeled "hazardous" and dated.

³ The limit is 270 days if the treatment, storage, and disposal facility (TSDF) is more than 200 miles away.

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a 55-gallon drum to five 55-gallon drums) of hazardous waste *and* less than 2.2 pounds per month (1 kg, or about 1 qt) of acutely hazardous waste.

SQGs must:

- Identify all hazardous wastes generated.
- Send the hazardous wastes to an approved hazardous waste facility.
- Store hazardous waste for not more than 180 days, unless the nearest approved waste facility is more than 200 miles away, in which case storage is allowed up to 270 days.
- Never accumulate more than 13,200 pounds (6,000 kg, or approximately 30 drums) of hazardous waste on the property.

SQGs also must obtain a Texas solid-waste registration number and an EPA identification number and must report hazardous and Class 1 industrial wastes on an annual waste summary report to the TCEQ (see Chapter 3).

Large-Quantity Generators

LQGs generate more than 2,200 pounds per month (1,000 kg or more, or about five 55-gallon drums) of hazardous waste *and/or* generate more than 2.2 pounds per month (more than 1 kg, or about 1 qt) of acutely hazardous waste.

LQGs must identify all hazardous wastes generated and send them to an approved hazardous waste facility. Although they may accumulate any amount of hazardous waste, they cannot store it on-site for more than 90 days. In addition, they must obtain Texas solid-waste registration and EPA identification numbers, and they must report hazardous and Class 1 industrial wastes to the TCEQ on the annual waste summary (see Chapter 3).

LQGs must use the State of Texas Environmental Electronic Reporting System (STEERS) for the annual waste summary and updating their Notice of Registration (NOR).

For additional information about notification or annual reporting requirements, call the Registration and Reporting Help Line at 512-239-6413.

Universal Waste Handlers

Small-Quantity Handlers of Universal Waste

A small-quantity handler of universal waste is a handler of universal waste that never has more than 11,000 pounds, or 5,000 kg, of universal waste on-site at any time. A small-quantity handler can accumulate waste for up to one year from the date it was generated or received from another handler.

Large-Quantity Handlers of Universal Waste

A large-quantity handler of universal waste is a handler of universal waste that has more than 11,000 pounds, or 5,000 kg, of universal waste on-site at any time. If you are a large-quantity handler of universal waste, you must send written notification of universal waste management to the TCEQ and get an EPA identification number before reaching the 11,000-pounds, or 5,000-kg, storage limit.

Shipping Universal Waste

To ship universal waste in Texas and in other states where the waste is considered universal waste, you the handler—do not need a registered transporter with an EPA identification number, and you do not need a manifest, but you must use a bill of lading.

CHANGING YOUR GENERATOR STATUS

Review your generator status regularly to make sure you are properly classified. For example, if you are a CESQG and your records indicate that you generated over 220 pounds of hazardous waste during the month of June, you would be considered an SQG for that month and subject to the hazardous waste management requirements for SQGs. If, in July, your records indicate that you again generated more than 220 pounds of hazardous waste, you may need to formally notify the TCEQ that your generator status has changed.

Small businesses that fall into different generator categories from month to month should choose the more stringent requirements to ensure compliance. Remember, if you decide to change your generator status you must inform the TCEQ of the change. If your generator status changes *to* a CESQG and the TCEQ sends you an annual waste summary form, check Box 22 on the form and return it to the TCEQ. (However, you may still be required to submit a detailed annual waste summary for the year if you were an SQG or LQG during any part of the year.)



Write the TCEQ a letter indicating that you no longer require an EPA or TCEQ registration number (be sure to refer to your registration number), and send it to the following address: Registration and Reporting Section, MC 129 Texas Commission on Environmental Quality PO Box 13087 Austin TX 78711-3087

HOW DO I DETERMINE MY GENERATOR STATUS?

To determine your generator status, you must count the amount of both hazardous waste and acutely hazardous waste your business generates during a calendar month. The total weight of hazardous waste and acutely hazardous waste for the month determines your generator category.

Do measure all quantities of listed and characteristic hazardous wastes that are:

- Packaged and transported away from your business.
- Accumulated on the property for any period of time before being sent off-site for disposal or recycling. (Dry cleaners, for example, must count any residue removed from machines, as well as spent cartridge filters.)
- Placed directly in a regulated treatment or disposal unit at your place of business.
- Generated as still bottoms or sludges and removed from product storage tanks.

Do not measure waste that is:

- Specifically exempted from counting. Examples include lead-acid batteries that will be reclaimed, scrap metal that will be recycled, used oil that is managed under the used-oil provisions of 40 CFR 279, and "universal wastes" (managed under 40 CFR 273 or 30 TAC 335.261).
- Left at the bottom of containers that have been thoroughly emptied through conventional means such as pouring or pumping.
- Left as residue at the bottom of tanks storing products, if the residue is not removed from the product tank.
- Reclaimed continuously on-site without storing before reclamation, such as dry cleaning solvents.
- Managed in an "elementary neutralization unit," a "totally enclosed treatment unit," or a "wastewater treatment unit," without being stored first.
- Discharged directly (without first being treated, stored, or accumulated) to a publicly owned treatment works (POTW) that treats industrial and domestic sewage for disposal. This discharge to a POTW must comply with the Clean Water Act.
- Already counted once during the calendar month, and has been treated on-site or reclaimed in some manner, and used again.

If you are uncertain about what to count or have any other questions, call TCEQ's Small Business and Local Government Assistance Hotline, at 800-447-2827.



DETERMINING YOUR GENERATOR STATUS

10 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY Industrial and Hazardous Waste: Rules and Regulations for Small-Quantity Generators

CHAPTER 3

COMPLYING WITH IDENTIFICATION AND NOTIFICATION REQUIREMENTS

IMPORTANT EXEMPTIONS

- All CESQGs are exempt from having to obtain an EPA identification number.
- Only industrial CESQGs that generate 220 pounds or more of Class 1 nonhazardous waste monthly must obtain a Texas solid-waste registration number from the TCEQ (See Appendix B for a discussion of what constitutes an "industrial" facility.)
- You need only register a site one time.

But if you exceed the CESQG limits, you must register with the TCEQ within 90 days of generating the volume of hazardous waste that moved you out of the exempt category. In addition, you must apply for an EPA identification number before you can continue transporting, treating, or disposing of your hazardous waste.

As noted in Chapter 2, your waste generator category will determine whether you need to obtain EPA identification and Texas solid-waste registration numbers. Depending on your generator category, you may also need to file additional registration forms and/or report regularly on the amount of waste generated and disposed of by your facility. Initial registration and ongoing reporting forms are described below and summarized in Table 5, at the end of this chapter.

GETTING STARTED

The first steps are to obtain the required EPA identification and Texas solid-waste numbers.

1. Obtain forms EPA-8700-12, TCEQ-00002, and TCEQ-10400 by calling the TCEQ's Registration and Reporting Help Line, at 512-239-6413, or the TCEQ's Small Business and Local Government Assistance Hotline, at 800-447-2827. Ask for an "initial notification package." Copies of the forms

may also be downloaded from the TCEQ's Web site, at <www.tceq.state.tx.us/goto/forms>.

- Fill out the forms. Complete one copy of each form for each of your plant sites or business locations where you generate hazardous waste or more than 220 pounds per month of class 1 industrial waste. Each site and/or location will receive its own EPA identification number and Texas solid-waste registration number.
 - a. You will be asked to list the number and location of all your waste management units (WMUs), defined as any area or equipment used to store, treat, recycle, or dispose of waste. A site with four container storage areas and one distillation unit, for example, has five separate WMUs.
 - b. You will also need to identify your hazardous waste by both its EPA hazardous waste code and its Texas waste code (see Chapter 5 of *Guidelines for the Classification and Coding of Industrial and Hazardous Wastes* [TCEQ RG-022]). Table 2 provides a list of common hazardous wastes, and their codes, for several industries. For a complete list of waste codes, consult 40 CFR, Part 261. For additional guidance on assigning waste codes, contact the TCEQ Registration and Reporting Help Line, at 512-239-6413.
 - c. You will also need to identify your industrial waste by its Texas Waste Code.
- 3. Sign each form and keep a copy for your company records.
- 4. Send the forms to: Registration and Reporting Section, MC 129 Texas Commission on Environmental Quality PO Box 13087 Austin TX 78711-3087

The TCEQ will give you an EPA identification number (12 characters long) along with a state solid-waste registration number (5 characters long), sometimes referred to as a "generator ID number." Both the federal and state ID numbers will be unique to the site identified on your form(s). Use these numbers for all waste management activities at your facility; on all hazardous waste shipping papers, such as manifests; and on correspondence to the TCEQ.

STAYING CURRENT

The EPA identification and Texas solid-waste registration numbers are permanently assigned to a business site or location. If you move your business, you must notify the state of your new location and submit new forms with a letter stating you have moved. Please provide the TCEQ with your old site's solid-waste registration number, so that our records can reflect your status.

If hazardous waste was previously handled at your new location and the new site already has an EPA ID number and/or a Texas solid-waste registration number, you will be assigned that same site number.

Along with the ID numbers, the TCEQ will also provide you with a Notice of Registration (NOR), which is a complete list of the hazardous and, if industrial, the nonhazardous wastes you generate. The NOR verifies the information you submitted. Keep your NOR current and in your on-site files and check it periodically to make sure that it accurately reflects your facility's waste streams and waste management units.

Keep your registration up-to-date, and report changes or additions to your waste management practices. Most changes can be reported electronically using the State of Texas Environmental Electronic Reporting System (STEERS). For more information on STEERS, call the TCEQ at 512-239-6925 or e-mail <steers@tceq.state.tx.us>.

REMEMBER:

If you plan to change any process, method of operation, or equipment at your business, you must consider how the change will affect your current generator status and, therefore, your waste management requirements. Make sure you keep, for the specified period of time, whatever records are necessary to verify your compliance with all regulations (see Table 5).

Using form TCEQ-00002, you may need to update your registration information if your facility:

Begins to generate a new waste or adds one or more waste streams. In this situation, you must inform the TCEQ and provide an additional waste code, either by using STEERS or form TCEQ-00002, and follow these instructions:
1.Complete all the items (1–7) in Part II, Section A, to identify the facility.

- 2.In Item 1, "Notification type," check "Update."
- 3.Go to Section B, "Waste Stream Information," and complete this section.
- 4. Using copies of Part II, repeat this process for each waste stream that you are adding to your existing Notice of Registration.
- •Adds a new waste management unit. In this situation, use STEERS or form TCEQ-00002, and follow these instructions:
 - 1.Complete all the items (1–7) in Part III, Section A, to identify the facility.
 - 2.In Item 1, "Notification type," check "Update."
 - 3.Go to Section B, "Waste Management Unit Information," and complete this section.
 - 4. Using copies of Part III, repeat this process for each waste management unit you are adding to your existing Notice of Registration.

To inactivate or make changes to a WMU at your site, you can simply write a letter to the TCEQ's Registration and Reporting Section. You do not need a special form, but make sure you include your solid-waste registration number and keep a copy of the letter in your records. The TCEQ will reply to these forms with an updated NOR, and instructions for inactivating.

- Needs to correct or update its information on the TCEQ Core Data Form (TCEQ-10400). In this case, you should complete a new Core Data Form.
- Undertakes new waste recycling. Use form TCEQ 00525, Generator Notification Form for Recycling Hazardous or Industrial Waste, to advise the TCEQ of any recycling processes for hazardous waste, such as distillation units, that are not already noted on your NOR. If you recycle on-site or send hazardous waste off-site to be recycled, you must send this form to TCEQ's Industrial and Hazardous Waste Permits Section, MC 130, Texas Commission on Environmental Quality, PO Box 13087, Austin TX 78711-3087.

You may also need to make regular reports on the amount and kind of waste you generate:

• Annual Waste Summary. Each calendar year, every facility registered as a hazardous or industrial waste generator must file with the TCEQ a report of all hazardous and nonrecycled industrial Class 1 wastes generated, managed, and/or disposed of. All registered generators will report electronically or automatically receive form TCEQ-00436 by December each year. To complete the Annual Waste Summary report, you will need information from your manifests (see the section on "Track-ing Hazardous Waste Shipments," in Chapter 5) and hazardous waste generation records. The form must be returned to the TCEQ by January 25. If



you are reporting electronically using STEERS, you must submit the information by March 1.

• Toxics Release Inventory. Under the federal Emergency Planning and Community Right-to-Know Act (EPCRA), certain facilities must report "releases" or "transfers" of specific toxic chemicals in waste, using Form R (EPA 9350-1). These reports are compiled into a state-by-state Toxics Release Inventory (TRI). Reportable items include toxics in your air emissions or water discharges and wastes you send to a landfill or for underground injection. You are required to file a report if you meet all of the following three conditions:

- have 10 or more full-time employees or their equivalent in total annual employee hours worked (that is, 20,000 hours);
- manufacture (defined to include importing), process, or otherwise use any EPCRA section 313 chemical in quantities greater than the established threshold in the course of a calendar year; and
- have a facility included in a North American Industry Classification System (NAICS) code listed on Table I of the *Toxic Chemical Release Inventory Forms and Instructions*. NAICS codes

Form Number	Form Name	Description	CESQG	SQG	LQG	Keep For
EPA-8700-12	Notification of Regulated Waste Activity	To register with the EPA as a hazardous waste generator, Large Quantity Handler of Uni- versal Waste, and receive an EPA ID number.	No	Yes	Yes	3 years
TCEQ-00002**	Notification for Hazardous or Industrial Waste Management (NHIWM)	To register with the TCEQ as a hazardous or industrial waste generator and receive a TCEQ registration number and NOR detailing specific waste streams and waste management units on file with the TCEQ.	No*	Yes	Yes	3 years
TCEQ-00002, Part II**	NHIWM: Waste Stream Notification	To notify the TCEQ any time a new waste stream is generated.	No*	Yes	Yes	3 years
TCEQ-00002, Part III**	NHIWM: Waste Management Unit Notification	To notify the TCEQ any time a new waste management unit is added at a facility.	No*	Yes	Yes	3 years
TCEQ-00524**	Notification Form for Receiv- ing and Recycling Hazardous or Industrial Waste	To notify the TCEQ any time a waste is received for recycling.	N/A	N/A	N/A	3 years
TCEQ-00525**	Generator Notification Form for Recycling Hazardous or Industrial Waste	To notify the TCEQ any time a waste is sent off-site for recycling or recycled on-site if the unit does not appear on the NOR.	No*	Yes	Yes	3 years
TCEQ-00436**	Annual Waste Summary	To notify the TCEQ of the amount of hazardous and Class 1 waste generated and handled at a facility each year.	No*	Yes	Yes	3 years
EPA Form R (EPA 9350-1)	Toxics Release Inventory	To report TRI regulated chemicals.	If needed	If needed	If needed	3 years

found in Table I correspond to the following Standard Industrial Classification (SIC) Codes: SIC 10 (except 1011, 1081, and 1094); SIC 12 (except 1241); SIC 20–39 and 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce); SIC 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce); SIC 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce); SIC 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce); SIC 4953 (limited to facilities regulated under RCRA Subtitle C, 42 USC section 6921 *et seq.*); and SIC 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis).

• For more information on TRI requirements, contact the TCEQ's TRI program at 512-239-4TRI (4874) or visit the EPA's Web site at <www.epa.gov/tri>.

IMPORTANT:

All CESQGS that generate less than 220 pounds of nonhazardous industrial Class 1 waste can skip chapters 4 and 5 of this publication and go directly to Chapter 6.

CHAPTER 4

MANAGING HAZARDOUS WASTE ON-SITE FOR SQGS

The material in this chapter applies *only* to Small-Quantity Generators (SQGs). Conditionally Exempt Small-Quantity Generators (CESQGs) are exempt from waste storage regulations (as long as they comply with the four basic requirements identified in Chapter 2). And Large-Quantity Generators (LQGs) must comply with more stringent hazardous waste management rules.

If you store, treat, or dispose of your hazardous waste on-site in any manner other than those described in this booklet, you must obtain a permit. Obtaining a permit to store, treat, or dispose of your hazardous waste on-site can be a costly and time-consuming process. (See 40 CFR, Part 270, for a description of the process.)

If you are not sure whether you need to obtain a hazardous waste permit, call the TCEQ Industrial and Hazardous Waste Permit Section at 512-239-2334. Staff will help you determine whether you need a permit and help you begin the process. Do *not* begin any activity requiring a permit until a permit has been issued.

STORAGE LIMITATIONS

For SQGs, there are certain limitations on storing hazardous waste on-site:

- SQGs may store no more than 13,200 pounds of hazardous waste on-site.
- SQGs may store permissible levels of hazardous waste no more than 180 days under normal conditions, or no more than 270 days if the waste must be shipped to a permitted treatment, storage, or disposal facility located more than 200 miles away.
- Universal Waste Handlers have one year to accumulate waste, but containers need to be marked and dated in accordance with 40 CFR 273 and 30 TAC 335.261–262.

SQGs are allowed longer storage periods than LQGs for an important reason: the longer storage time gives facilities that accumulate smaller amounts of hazardous waste the opportunity to accumulate enough for economical shipment to a treatment or disposal facility. However, if you exceed the time or quantity limits for an SQG, you will be considered a storage facility and be required to obtain a permit and meet all of the Resource Conservation and Recovery Act storage requirements. For further information on these requirements, call the Small Business and Local Government Assistance program at 800-447-2827.

When storing wastes, be careful to avoid mixing incompatible substances. Never use the same container to store different wastes that could react together to cause fires, leaks, or other releases. Containers with ignitable, corrosive, or reactive wastes must be stored in a safe manner (see the following lists) as far away as possible from your facility's property line.

STORAGE CONTAINERS

Hazardous waste may be stored in 55-gallon drums, tanks, or other containers appropriate for the type of waste generated. Whatever container you choose, be sure to follow certain commonsense rules to protect human health and the environment and reduce the likelihood of damage or injuries caused by leaks or spills of hazardous wastes. Above all, make sure the stored waste is taken off-site or treated on-site within the 180-day or 270-day time limit that applies to you.

Drums or Containers

Drums or containers used to store hazardous waste must be:

• Clearly marked with the words "HAZARDOUS WASTE" and the date you began to accumulate waste in that container (the "accumulation start date").

- Kept closed when not in use.
- Kept in good condition, handled carefully, and replaced if there are signs they may leak. Do not store hazardous waste in containers if the waste may cause rupture, leaks, corrosion, or other failures.
- Inspected weekly for leaks or corrosion. Remember to maintain inspection records on-site.

Tanks

Tanks used to store hazardous waste must be:

- Clearly marked with the words "HAZARDOUS WASTE."
- Used only for hazardous waste that will not cause the tank to rupture, leak, corrode, or fail.
- Kept aboveground unless they are designed for underground placement.
- Kept covered or left with at least two feet of "freeboard" (space from the top edge of an uncovered tank to the waste surface).
- Fitted with "secondary containment," a backup means of catching any spills or leaks.
- Equipped with an automatic waste feed that includes a waste-feed cutoff or bypass system for use in the event of a leak or overflow.
- Inspected each working day for signs of leaks or malfunctions in the tank, piping, associated equipment, and secondary containment.
- Located in an area that complies with buffer-zone requirements for tanks containing ignitable or reactive wastes established by the National Fire Protection Association (NFPA). These requirements specify distances considered as safe buffer zones for various liquids based on the characteristics of all combustible and flammable liquids. Call your local fire department, your TCEQ regional office (see Appendix A), or the National Fire Prevention Association (see inside back cover) if you need help with these requirements.

ON-SITE TREATMENT

As an SQG, you may treat characteristically hazardous waste on-site without a permit provided you take all of the following four measures.

- 1. Treat the waste in a container or tank.
- 2. Treat the accumulated hazardous waste within the applicable storage time limits.
- 3. Comply with the container and tank regulations described in 30 TAC, Chapter 335.
- 4. Take steps to prepare for and prevent accidents.

If you do not meet all of these requirements, you must obtain a hazardous waste treatment permit in order to treat hazardous waste on-site.

If you treat hazardous waste on-site without a permit, you must notify the TCEQ and complete a

waste analysis plan. In addition, you must list the on-site treatment on your NOR as both a waste stream and a waste management unit.

Call the TCEQ's Small Business and Local Government Assistance program at 800-447-2827 or the TCEQ's Industrial and Hazardous Waste Permits Section at 512-239-2334, to obtain applicable rules and regulations before beginning any on-site treatment.

SAFETY PRECAUTIONS

Whenever you generate hazardous waste and store it on-site, you must take precautions and steps necessary to prevent a fire or explosion, or a release of that hazardous waste.

As an SQG that stores hazardous waste on-site, you must:

- Install internal communications or an alarm system that can give immediate emergency instructions (voice or signal) to all personnel.
- Have devices—such as a telephone or two-way portable radio—capable of calling for emergency assistance from local police and fire departments or emergency response teams.
- Have portable fire extinguishers, fire control devices (including special extinguishing equipment that uses foam, water, inert gas, or dry chemicals), hoses, automatic sprinklers, or spray equipment that is immediately accessible to your employees.
- Provide adequate space for emergency equipment and response teams to reach any areas of your facility.
- Write your local fire, police, and hospital officials or state and local emergency response teams, explaining the types of wastes you handle and asking for their cooperation and assistance in handling potential emergencies.

In addition, you *must* establish basic safety guidelines and response procedures for employees to follow in an accident. All employees must know proper waste handling and emergency procedures and their responsibilities in an emergency.

It's also a good idea to develop a contingency plan that outlines the steps to be followed during an emergency and answers a set of "what if" questions: "What if a fire breaks out in the area where hazardous waste is stored?" or "What if a hazardous waste spills or one of my containers leaks?" Although a contingency plan is not required, having such a plan would provide an organized and coordinated course of action. To expedite emergency response, post emergency phone numbers and locations of emergency equipment near telephones. The posting might also summarize procedures to be followed (see example). You also *must* appoint an employee to act as emergency coordinator to ensure that emergency procedures are carried out in the event of an accident. The emergency coordinator must be available 24 hours a day, either at the facility or by phone, and know whom to contact and what steps to follow in an emergency. For most small businesses, the owner or operator may already perform these functions. You do not need to hire a new employee to fill this role.

EMERGENCY REPORTING

It is important to contain risks in an accident area. If you have a serious emergency, call your local fire department first. If you have a spill that extends outside your plant or that could reach surface water, you are required by state and federal law to immediately notify proper authorities: the National Response Center (800-424-8802, open 24 hours) and the TCEQ Spill Reporting line (800-832-8224).

SAMPLE POSTING

Emergency Procedures In case of:

Fire:

Call the fire department or try to put the fire out using the right type of fire extinguisher.

Spill:

Contain the flow of hazardous waste as much as possible, and notify the National Response Center at its 24-hour toll-free number: 800-424-8802. Report the spill to the TCEQ Spill Reporting line: 800-832-8224.

Explosion, fire, or other release:

Immediately notify the National Response Center, 800-424-8802, and the TCEQ Spill Reporting line, 800-832-8224.

You may also be required to report a spill that does not leave your property, depending on the type of substance and the amount (or "reportable quantity") spilled. For example, the reportable quantity for spilled oil is 25 gallons into the environment, or enough to cause a sheen on water. So, you would have to contact state officials about an oil spill of 25 gallons or more into the environment. For more information on the "Spill Rule," go to 30 TAC, Chapter 327. The TAC is available on the Internet at <info.sos.state.tx.us/pls/pub/ readtac\$ext.ViewTac>. You should be prepared to provide the following information when you report an emergency:

- name, address, EPA identification number, and state solid-waste registration number
- date, time, and type of incident
- quantity and type of hazardous waste involved in the accident
- extent of injury, if any
- estimated quantity of recovered spill material, if any, and how it is being managed

Caution: Failure to call and report a release of hazardous waste may subject you to a \$10,000 fine, a year in jail, or both. An owner or manager of a business who also fails to report a release may have to pay for the entire cost of repairing any damage, even if the facility was not the single or main cause of damage. It is your responsibility to clean up hazardous waste and contaminated areas as soon as possible.



CHAPTER 5

SHIPPING HAZARDOUS WASTE OFF-SITE

CHOOSING A TRANSPORTER AND WASTE MANAGEMENT FACILITY

You are responsible for the proper management, transport, and disposal of the waste you generate. So you should carefully choose a transporter and a treatment, storage, and disposal facility (TSDF).

For help in choosing a transporter or a TSDF, check with the following sources:

- regional offices of the TCEQ or the EPA
- businesses that may have used a hazardous waste transporter or a TSDF in the past
- trade associations for your industry that might keep a file on companies that handle hazardous waste

After checking your sources, contact the transporter and the TSDF you choose and verify that they have an EPA identification number, that they can and will handle your hazardous waste, and that they have all necessary permits and insurance.

It takes time to choose a transporter and a TSDF and to check their references. Make sure you allow plenty of time to properly research your options so that you can responsibly ship your waste before the storage deadline expires.

If you decide to transport your own hazardous wastes, call the TCEQ to find out what state regulations apply to you. Not all states will allow you to transport your own hazardous wastes. If you have an accident during transport, you are responsible for the cleanup.

The Federal Motor Carrier Act also imposes certain financial responsibility and liability requirements. However, you may be exempt from these requirements if the following conditions all apply:

- You use a vehicle with a Gross Vehicle Weight Rating of less than 10,000 pounds.
- You transport your wastes for commerce within your state in containers with capacities of less than 3,500 gallons.
- You transport hazardous wastes that meet the "limited quantity exclusion" requirements of 49 CFR 172.101 (Department of Transportation [DOT] regulations).

PREPARING HAZARDOUS WASTES FOR SHIPMENT

When shipping hazardous wastes, use containers that meet the requirements for packaging and labeling hazardous wastes found in DOT regulations (49 CFR, Part 172). Make sure that the shipment has been properly prepared and is in proper condition for transportation. For help with understanding the shipping requirements, call the Federal Motor Carrier Safety Administration in Austin at 512-916-5474 or 512-536-5980, your transporter, or your TSDF.

TRACKING HAZARDOUS WASTE SHIPMENTS

State and federal regulations require "cradle to grave" tracking of hazardous and Class 1 industrial waste shipments, in order to ensure proper disposal. Two main forms are required: the hazardous waste manifest and the land ban documentation. SQGs may also have to submit other forms in certain circumstances—for example, when disposing of special waste, making a one-time special shipment, or exporting waste. Common hazardous waste reporting forms are described in detail in the rest of this chapter; the requirements are summarized in Table 6, at the end of this chapter.

Uniform Hazardous Waste Manifest

A hazardous waste manifest (EPA form 8700-22) must accompany all hazardous waste that is shipped off-site. The manifest is a multiform shipping document designed to track shipments of hazardous waste "cradle to grave"—from their point of generation to their final destination. In Texas, the Uniform Hazardous Waste Manifest must also be used for the shipment of Class 1 industrial wastes. The generator, the transporter, and the TSDF must each sign the waste manifest and keep a copy. The TSDF operator must also send the completed copy back to you—the generator—to confirm that your shipment arrived. You—the generator—must keep your copy on file for three years. Check for the signature of the transporter and TSDF.

The Uniform Hazardous Waste Manifest form has six copies, as follows:

- 1. Generator's Initial Copy
- 2. Transporter's Copy
- 3. Designated Facility's Copy

- 4. Designated Facility to Generator
- 5. Designated Facility to Generator State (if required)
- 6. Designated Facility to Destination State (if required)

When you use the manifest, you should keep the following general rules in mind:

- Use the Uniform Hazardous Waste Manifest form for shipping waste to a TSDF in Texas or to a TSDF in another state. The manifest must include your EPA identification number, Texas waste codes, and applicable EPA codes.
- Use the same EPA Uniform Hazardous Waste Manifest form for every state when shipping hazardous waste. When you sign the certification in Item 15 of the manifest, you are personally confirming that the manifest is complete and accurately describes the shipment; that the shipment is ready for transport as per DOT requirements; and that you have determined that your waste management arrangements are the most compatible with the nature of your hazardous wastes.

There are a couple of different ways to obtain copies of the manifest form:

- You can obtain blank copies of the manifest from any one of several printers that have registered with the EPA to print and distribute the form. (For a list of these printers, look for "Approved Registered Printers for the Manifest" on the EPA Web site.)
- CESQGs and SQGs may be able to obtain a limited amount of manifests free of charge from the TCEQ's Publication Unit (see the outside back cover of this guide).

Exception Report

You are responsible for what happens to any waste you generate, including proper disposal. After you ship the hazardous waste off-site and it is no longer in your possession, you remain potentially liable for any mismanagement of your hazardous waste. The manifest will help you track your waste during shipment and make sure it arrives at the proper destination. If you don't get the completed copy of your manifest back within 35 days of having your waste hauled, call your transporter and/or the TSDF. If you still have not received the completed copy within another 10 days, you must inform the TCEQ in writing. This is called filing an exception report; no special form is needed.

Land Ban Documentation

Listed and characteristic hazardous waste must be treated to meet appropriate standards before land disposal. All hazardous waste generators, except CESQGs, must determine whether their waste is restricted from land disposal. As explained in Chapter 1, this determination can be made via testing, process knowledge, or a combination of both. A generator shipping hazardous waste must attach a statement to the Uniform Hazardous Waste Manifest declaring whether any land disposal restrictions apply to the waste. This statement includes information on the constituents, categories, and testing data, if available.

Typically, disposal facilities and/or transporters will handle land ban testing of hazardous waste and will attach the appropriate information and statement to the manifest. However, generators are still responsible for their waste from "cradle to grave" and must keep copies of land ban statements with the appropriate manifests and copies of determination results. Keep all documentation and statements on file for three years.



Other Waste Shipping Forms

There are other federal and state forms for tracking the transportation and disposal of hazardous waste that may be required. These include:

- *Request for Authorization for Disposal of a Special Waste* (TCEQ-00152). This form may be required to authorize disposal of special waste in a municipal landfill.
- One-Time Shipment Request for Texas Waste Code (TCEQ-00757). This form allows an unregistered generator to transport and dispose of a certain waste generated only once, or at intervals longer than one year, without adding the waste to its NOR.
- *TCEQ Waste Shipment Summary* (TCEQ-00040A). This form is required of an unregistered generator who shipped waste using a One-Time Shipment form. A summary is required only for months in which shipments actually were made; it is due to the TCEQ by the 25th of the month following each month in which the shipment originated.
- EPA Notification of Intent to Export (and EPA Acknowledgment of Consent). The Notification of Intent to Export (not an actual form, but a notice sent in writing by the generator) is for international shipments only. Hazardous waste generators registered with the EPA who intend to ship a hazardous waste out of the country must notify the

EPA 60 days before shipment and wait for notification (the EPA Acknowledgment of Consent) that the receiving country has agreed to accept the waste. If you have questions about international shipments, please contact the Industrial and Hazardous Waste Permits Section at 512-239-2334 for more information.

Copies of forms can be obtained from a TCEQ regional office (see Appendix A) or the TCEQ Web site

or by contacting the TCEQ Publications Unit (see the back cover to this guide).

Appendix C gives examples of other forms and manifests you can use to track your transporters and your disposal and recycling facilities. You can copy these examples or use them to construct your own.

The most important thing is to keep track of who transports your waste and where it goes.

CESQG es No* r- No*	SQG Yes	LQG Yes	Retention
r-	Yes	Yes	
No.*			3 years
INO*	Yes	Yes	3 years
No*	Yes	Yes	3 years
Yes, if from an industrial generator	Yes	Yes	3 years
No	Yes	Yes	3 years
e No	Yes	Yes	3 years
No	Yes	Yes	3 years
	Yes	Yes	3 years
	 No* Yes, if from an industrial generator No 	No*YesPart No*YesYes, if from an industrial generatorYesNoYesNoYesNoYesNoYesNoYesNoYesNoYesNoYes	Image: set of the

CHAPTER 6

POLLUTION PREVENTION

POLLUTION PREVENTION PLAN

The Waste Reduction Policy Act (WRPA) requires that certain facilities prepare a five-year Pollution Prevention (P2) plan. These facilities include LQGs, SQGs and any facility that reports on the EPA Toxics Release Inventory (TRI) Form R. If you are required to prepare a plan, then you must submit an Executive Summary of your plan to the TCEQ. You might have to submit an Annual Progress Report as well. Table 7 summarizes the requirements of a P2 Plan. For more information on WRPA requirements, please contact the TCEQ's Pollution Prevention and Education Section at 512-239-3100.

GOOD HOUSEKEEPING

Proper hazardous waste management can be thought of simply as using "good housekeeping" practices like reusing, recycling, or reclaiming waste. Reducing your hazardous waste can save you money on raw materials and lower your costs for managing and disposing of hazardous waste. The TCEQ has programs that help educate businesses about how to reuse, recycle, and reclaim waste. For more information about these options, contact the TCEQ's Pollution Prevention and Education Section at 512-239-3100. Here are some easy tips on reducing the amount of waste you generate:

- Don't mix nonhazardous wastes with hazardous ones. For example, keep nonhazardous cleaning agents or rags out of the containers you use for hazardous solvents.
- Avoid mixing several different hazardous wastes. Doing so may make recycling very difficult, if not impossible, or increase the costs of disposal.
- Avoid spills or leaks of hazardous products, since materials used to clean up spills or leaks may also become hazardous.
- Make sure that original containers of hazardous products are completely empty before you throw them away.
- Avoid using more of a hazardous product than you need. For example, use no more degreasing solvent or pesticide than you need to accomplish the job. Also, don't throw away a container that still has unused solvent or pesticide in it.

GOOD OPERATING PRACTICES

Knowledgeable employees and efficient inventory controls can significantly reduce your waste and save disposal costs, with little or no investment on your part.

Table 7. Pollution Prevention Plan Requirements				
Form	Description	CESQG	SQG	On-Site Retention
Pollution Prevention Plan	Outline pollution prevention activities. Required to be avail- able on-site.	No*	Yes	5 years
Executive Summary of P2 Plan	Summarize the pollution pre- vention activities outlined in the P2 plan.	No*	Yes	5 years
Certificate of Complete- ness and Correctness of the Executive Summary	Verify that the information submitted in an Executive Summary is valid.	No*	Yes	5 years
Annual Progress Report of the P2 Plan	Report on the progress of pollution prevention activities outlined in their P2 plan.	No*	No*	**

Train employees to use equipment and handle chemicals properly. If high turnover is hindering your efforts to educate employees about environmental health and safety, focus on the stable, permanent group of employees. They can serve as models for newer workers.

Ask employees for their ideas about ways to reduce waste. The people directly involved in production often have good ideas about how this can be done. Many companies have been pleasantly surprised by financial gains realized from their employees' ideas. Consider giving your employees incentives for cost-saving ideas.

Purchase chemicals in the smallest quantities possible—ideally through a centralized inventory and purchasing process—and limit access to chemical supplies. One company reduced its waste from 310 to 152 tons per year and saved \$7,200 in disposal and fee stock costs by placing a foreman in control of solvent distribution and by reusing solvent from cleaner to dirtier processes.

RECOMMENDATIONS FOR SPECIFIC INDUSTRIES Cleaning Operations

- Substitute aqueous-based solvent degreasers for the more hazardous petroleum-based products, or use solvents that are less toxic, such as dibasic acid esters, terpenes, amines, and alcohols.
- Instead of chemical processes, use an air blast system that shoots sand or plastic beads at a surface to strip paint, rust, or soil from a part. One company eliminated an F001 waste by sandblasting to remove paint instead of using methylene chloride.

Internet Resources

Additional pollution prevention ideas are readily available on the Internet. Check out the following organizations or projects:

Texas Commission on Environmental Quality www.tceq.state.tx.us/goto/p2options

U.S. Environmental Protection Agency http://es.epa.gov/oeca/sector/index.html

Northwest P2 Research Center www.pprc.org

Waste Reduction Resource Center http://wrrc.p2pays.org

Printers National Environmental Assistance Center www.pneac.org However, blast cleaning may still generate hazardous waste if the material you are removing from the part is hazardous. For example, if you sandblast lead paint from a part, then the resultant waste composed of sand and lead paint may be hazardous.

- Reclaim solvents for reuse by utilizing on-site or off-site filtration, gravity separation, or distillation processes. Save cleanup solvents also, and use them later as thinner for paint of the same color.
- Keep cleaning baths covered when not in use, in order to reduce cleaner or solvent evaporation.
- Extend solvent life by precleaning parts (wiping with a rag or using an air blower).
- Position cold-cleaning equipment away from drafts, fans, or windows. Minimize airflow over tanks to keep the vapors that hover above from being blown away and contributing to air pollution.

Metal Finishing Industry

Equipment

- Create a wastewater recycling system to keep pollutants out of the sewer system. Recover metals as part of the process.
- Install conductivity control systems that add water to rinse tanks only when necessary.
- Install drain boards that keep drips off the floor and send them back to the tank.
- Install overflow alarms for all tanks to prevent spills.
- Install containment structures around tanks and pipes in case they do overflow.

Operations

- With multiple rinse tanks, recirculate rinse water from the cleanest to the dirtiest tanks.
- Use spray nozzles as part of the rinse system to reduce drag-out of hazardous chemicals and the amount of rinse water needed.
- Use reverse osmosis to separate water from solutions of dissolved solids and metals.
- Regularly inspect all equipment and chemical storage areas for any sign of leaks, and check chemical inventory records for unexplained losses that could signal leaks. Make necessary repairs to pipes and tanks as soon as problems are discovered.
- Use aqueous-based solvents, which are less hazardous than petroleum-based solvents.
- Recycle solvents using on-site distillation equipment.
- Use cleaning products with a low volatile organic compound (VOC) content.

Surface Coating / Auto Body Facilities

You can reduce waste and increase efficiency with proper equipment and proper coating techniques. Equipment and training are closely linked. To achieve the highest transfer efficiency with the best equipment, employees must be trained properly. The combination of good equipment and proper training can yield impressive results. For example, a Houston furniture manufacturer with 65 employees saw its annual VOC emissions fall from 25 tons to 16 tons when it replaced conventional air-atomized spray guns with high-volume, low-pressure (HVLP) guns and trained workers in their proper operation. As a side benefit, annual expenditures on paints and coatings plummeted from \$69,000 to \$35,000.

The Spray Technique Analysis and Research (STAR) Training Program, developed by the Iowa Waste Reduction Center, is an effective model for teaching employees spray-paint techniques. In STAR training, staff first videotape students as they paint a car hood and bumper. Next, they teach proper techniques to the students, and then play the videotape, so that they can critique their own initial efforts. Spray transfer efficiencies increase from a range of 45 to 55 percent before training to 70 to 75 percent after training.

Remember that training is not just a one-time event but rather an ongoing process. From time to time, employees may need to brush up on efficient coating techniques. Following are suggestions for improving efficiencies. Many of these can be used together; others are choices that will depend on the specifics of the facility.

Equipment System	Transfer Efficiency
Conventional air-atomized spray	30-60%
Conventional pressure-atomized spray— e.g., high-volume, low- pressure (HVLP) guns	65–70%
Electrostatic air-atomized spray	65-85%
Electrostatic centrifugal-atomized spray	85–98%
Roller/flow coating machines	90–98%
Electrocoating systems	90–99%
Ultraviolet curing	over 99%

Equipment

- Use HVLP spray guns for higher efficiency, less booth maintenance, and reduced paint waste.
- Use enclosed gun-wash units to clean paint equipment. This will reduce thinner usage by 50 percent and cut labor time.
- Switch to electrostatic coating equipment to lower new paint purchases and painting time.
- Install a solvent distillation unit to reuse solvent and reduce hazardous waste.

- Install a proportioner on spray equipment for coatings like epoxies and polyurethanes that are a mixture of two or more parts, in order to reduce the amount of unused paint that is wasted.
- Use powder, ultraviolet-cured, or electric-ionbeam coatings.
- Use high solid/low VOC and water-based coatings.



Operations

- Always use the suggested air pressure and tip sizes for spray equipment.
- Always hold the spray gun perpendicular to what you are coating and use parallel strokes.
- For small and medium panels, make each pass the full length of the panel, feathering the trigger at the beginning and end of each pass.
- For large panels, walk the full length if possible. Otherwise, overlap strokes by 4 to 5 inches.
- Spray edges first.
- Use color-hiding labels to determine when adequate coverage has been achieved.
- If you change paint colors frequently, use disposable paint-cup liners to keep the paint canister and cover clean after use. This practice will reduce the amount of solvent needed for cleanup.
- Use an aqueous-based solvent for degreasing and cleaning before coating.
- Save cleanup solvent to use later as thinner for paint of the same color.

Auto Repair Facilities Pollution Prevention

- Use solvents only over self-contained sinks or tanks in order to keep drips off the floor, and allow
- cleaned engines and parts to dry over solvent tanks.Regularly inspect solvent tanks for leaks and make
- needed repairs immediately.Catch fluid from leaking vehicles in a drip pan.
- Catch hund from leaking vehicles in a drip pan.Keep batteries and chemical containers dry and off
- the ground to prevent leaks.Use pump sprayers instead of aerosol cans for such

fluids as WD-40. This practice will allow you to buy the product in bulk to save money and reduce waste-disposal costs.

• Use reusable absorbents instead of "Kitty Litter" to reduce waste-disposal costs.

Recycling and Reuse

- Recycle and reuse motor oil, batteries, solvents, paints, oil filters, antifreeze, and lubricants, including fluids from stored vehicles that are being dismantled.
- Recycle wash water from engine and parts cleaning and vehicle washing.
- Send shop towels to an industrial laundry service for reuse rather than disposing of them.

Cleaning and Maintenance

- Clean separators and grease traps at least every three months.
- Dry sweep fuel-dispensing areas instead of hosing them down.
- Use sanders with attached vacuums to reduce cleanup time.
- Plug your shop-floor sewer drain when drainage is not required.

CHAPTER 7 Other regulations

Depending on your business processes, you may be subject to additional state and federal environmental laws. This document has primarily focused on waste regulations, but you also need to determine whether any air and water regulations apply to your facility. Issues such as storm water permitting and air authorization need to be considered. For more information, call the Small Business and Local Government Assistance program at 800-447-2827.

Local, city, county, state, and federal agencies may impose other requirements pertaining to registration, notification, permits, inspections, certificates of occupancy, and business licenses. For example, some municipal sewage treatment plants issue local sewer discharge permits. The Texas Department of State Health Services requires reporting of hazardous chemicals under its "Tier II" program, and local fire departments frequently have reporting requirements. Businesses are also subject to federal Occupational Safety and Health Administration standards. Telephone numbers for several relevant state and federal agencies are provided inside the back cover to this guide.

INSPECTIONS AND ENFORCEMENT

At any time, a TCEQ investigator may visit your facility to determine whether you are in compliance with environmental regulations. The following checklist will help you assess how well your facility is complying with hazardous waste regulations. Make sure you answer each question and can meet the applicable requirements.



- Do you have documentation on the amounts and kinds of hazardous wastes you generate and how you made your waste determinations? (Chapter 1)
- Have you properly determined your generator status? (Chapter 2)
- Do you need an EPA identification number and TCEQ solid-waste number? Do you have those? (Chapter 3)
- Is your hazardous waste stored in proper containers? Are the containers properly dated and marked? (Chapter 4)
- Are your employees thoroughly familiar with proper waste handling and emergency response procedures? (Chapter 4)
- Have you designated an emergency response coordinator and posted emergency telephone numbers and the location of emergency response equipment? (Chapter 4)
- Do you ship hazardous waste off-site? (Chapter 5)
- Do you have copies of manifests used to ship your hazardous waste off-site? Are they filled out completely and correctly? Have they been signed by the transporter and TSDF? (Chapter 5)
- If applicable, do you have a copy of your pollution prevention plan available for review? (Chapter 6)

If you are uncertain about how to handle your hazardous waste or have questions about the rules, contact the TCEQ's Registration and Reporting Help Line at 512-239-6413 or the Small Business and Local Government Assistance Section at 800-447-2827 *before* an investigator shows up. SBLGA may be able to schedule a free, confidential site visit for your facility. A professional consultant will walk through the facility with you, noting potential problems and making suggestions for resolving them. Information gathered during the visit is kept strictly confidential and separate from the TCEQ enforcement authority.

Only an official inspection can lead to enforcement action. *The TCEQ Has Inspected Your Business: What Does This Mean to You?* (TCEQ publication RG-344) describes the inspection and enforcement process. This pamphlet is available from the TCEQ Publications Unit (see the back cover to this guide).

TAX RELIEF FOR POLLUTION CONTROL PROPERTY PROGRAM

Your pollution control equipment may be tax exempt. Under the Tax Relief for Pollution Control Property Program, adopted by the Texas Legislature in 1993, certain property and systems used by businesses for environmental compliance can be exempt from property taxes. Your equipment may be on the preapproved list. If it is not, you may still ask the TCEQ to determine whether your pollution control equipment qualifies for a tax exemption.

Examples of preapproved tax-exempt pollution control equipment include:

- Secondary containment systems used to collect liquids spilled from a primary system.
- Water clarifiers and settling basins used to separate solids from wastewater.
- Boxes, bins, cans, barrels, and storage bunkers used for collecting or storing materials to be recycled.
- Distillation recycling systems.

If you think your business might qualify for this tax exemption, call the TCEQ's Pollution Prevention and Education Section at 512-239-3100.

TEXAS AUDIT PRIVILEGE ACT

The Texas Environmental, Health, and Safety Audit Privilege Act (known as the "Audit Act") provides an incentive for you to perform voluntary audits of your company's compliance with environmental, health, and safety regulations. You could be exempt from penalties for violations you find in a voluntary audit as long as you follow these steps:

- 1. Notify the TCEQ that you plan to do an audit.
- 2. Complete the audit.
- 3. Notify the TCEQ of what problems you found.
- 4. Correct the potential violations in a timely manner.

Information discovered from an audit may be kept privileged and confidential in most circumstances and cannot be used against you in civil or administrative proceedings. For more information, call TCEQ Litigation Support at 512-239-3400.

APPENDIX A

AREA & REGIONAL OFFICES

TCEQ AREA OFFICES

BORDER AND SOUTH CENTRAL TEXAS

Region 6, El Paso Region 11, Austin Region 13, San Antonio Region 15, Harlingen Region 16, Laredo

Area Director: Ramiro Garcia, MC 174 P.O. Box 13087 Austin, TX 78711-3087 512-239-4481 • FAX: 512-239-0404

COASTAL AND EAST TEXAS

Region 5, Tyler Region 10, Beaumont Region 12, Houston Region 14, Corpus Christi

Area Director: David Bower, MC 174 P.O. Box 13087 Austin, TX 78711-3087 512-239-2953 • FAX: 512-239-0404

TCEQ REGIONAL OFFICES

1 - AMARILLO

Regional Director: Brad Jones 3918 Canyon Dr. Amarillo, TX 79109-4933 806-353-9251 • FAX: 806-358-9545

Perryton Office

511 South Main Perryton, TX 79070 806-435-8059 • FAX: 806-434-8443

2 – LUBBOCK

Regional Director: Randy Ammons 5012 50th St., Ste. 100 Lubbock, TX 79414-3426 806-796-7092 • FAX: 806-796-7107

3 – ABILENE

Regional Director: Winona Henry 1977 Industrial Blvd. Abilene, TX 79602-7833 325-698-9674 • FAX: 325-692-5869

4 – DALLAS/FORT WORTH

Regional Director: Tony Walker 2309 Gravel Dr. Fort Worth, TX 76118-6951 817-588-5800 • FAX: 817-588-5700

Stephenville Office

(Confined Animal Feeding Operations) 580-D W. Lingleville Rd. Stephenville, TX 76401 254-965-9200 or 1-800-687-7078

5-TYLER

Regional Director: Leroy Biggers 2916 Teague Dr. Tyler, TX 75701-3734 903-535-5100 • FAX: 903-595-1562 6 – EL PASO Regional Director: Lorinda Gardner 401 E. Franklin Ave., Ste. 560 El Paso, TX 79901-1212 915-834-4949 • FAX: 915-834-4940

7 – MIDLAND

Regional Director: Jed Barker 3300 N. A St., Bldg. 4-107 Midland, TX 79705-5406 432-570-1359 • FAX: 432-570-4795

8 – SAN ANGELO

Regional Director: Randy Ammons 622 S. Oakes, Ste. K San Angelo, TX 76903-7035 325-655-9479 • FAX: 325-658-5431

Concho Watermaster Office

325-481-8069 or 1-866-314-4894 FAX: 325-658-5431

9 – WACO

Regional Director: Anna Dunbar 6801 Sanger Ave., Ste. 2500 Waco, TX 76710-7826 254-751-0335 • FAX: 254-772-9241

10 - BEAUMONT

Regional Director: Georgie Volz 3870 Eastex Fwy. Beaumont, TX 77703-1830 409-898-3838 • FAX: 409-892-2119

11 – AUSTIN Regional Director: Patty Reeh 2800 S. IH 35, Ste. 100 Austin, TX 78704-5700 512-339-2929 • FAX: 512-339-3795

NORTH CENTRAL AND WEST TEXAS

Region 1, Amarillo Region 2, Lubbock Region 3, Abilene Region 4, Dallas/Fort Worth Region 7, Midland Region 8, San Angelo Region 9, Waco

Area Director: Ricky Anderson, MC 174 P.O. Box 13087 Austin, TX 78711-3087 512-239-6566 • FAX: 512-239-0404

12 - HOUSTON

Regional Director: Donna Phillips 5425 Polk St., Ste. H Houston, TX 77023-1452 713-767-3500 • FAX: 713-767-3520

13 – SAN ANTONIO

Regional Director: Richard Garcia 14250 Judson Rd. San Antonio, TX 78233-4480 210-490-3096 • FAX: 210-545-4329

South Texas Watermaster Office

210-490-3096 • FAX: 210-545-4329 1-800-733-2733

14 - CORPUS CHRISTI

Regional Director: Susan Clewis NRC Bldg., Ste. 1200 6300 Ocean Dr., Unit 5839 Corpus Christi, TX 78412-5839 361-825-3100 • FAX: 361-825-3101

15 – HARLINGEN

Regional Director: David A. Ramirez 1804 W. Jefferson Ave. Harlingen, TX 78550-5247 956-425-6010 • FAX: 956-412-5059

Rio Grande Watermaster Office 956-430-6056 or 1-800-609-1219 FAX: 956-430-6052

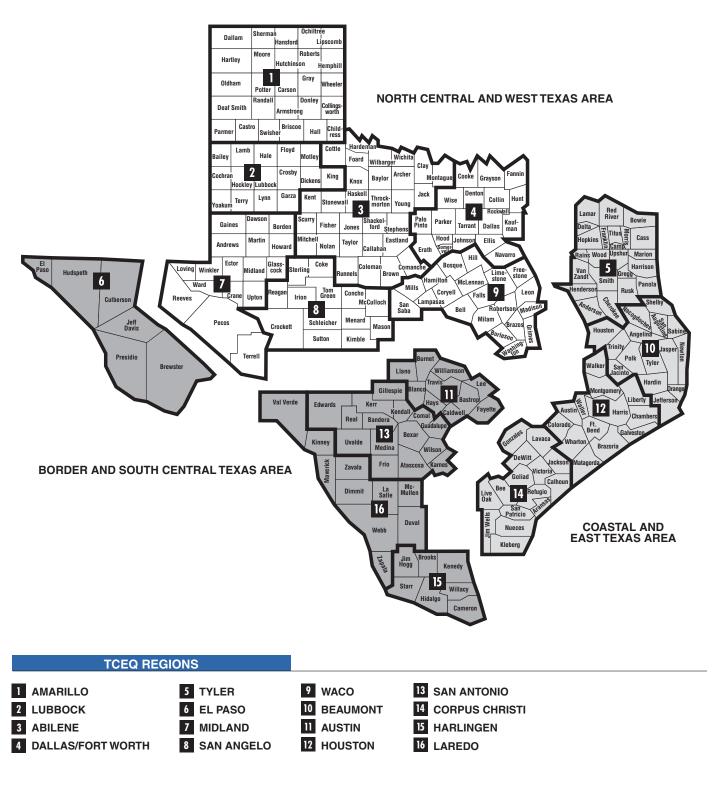
Eagle Pass Office

1152 Ferry St., Ste. H Eagle Pass, TX 78852-4367 830-773-5059 • FAX: 830-773-4103

16 – LAREDO

Regional Director: David A. Ramirez 707 E. Calton Rd., Ste. 304 Laredo, TX 78041-3887 956-791-6611 • FAX: 956-791-6716

TCEQ AREAS & REGIONS



APPENDIX B

WHAT IS AN INDUSTRIAL FACILITY?

Industrial facilities may face additional regulations that do not apply to nonindustrial facilities. Therefore, it is very important for you to be able to determine whether or not your facility is industrial. This guideline is intended to help in making that determination.

Remember that regardless of your facility's industrial or nonindustrial status, you must make a proper hazardous waste determination for each waste generated (see Chapter 1).

If you have questions about your status, please call the TCEQ's Industrial and Hazardous Waste Permits Section at 512-239-2334 or write to:

> TCEQ's Industrial and Hazardous Waste Permits Section, MC 130 Texas Commission on Environmental Quality PO Box 13087 Austin TX 78711-3087

Industrial Activity Defined

You have an industrial facility if you engage in any of the following activities:

- you make a product for wholesale according to an organized plan and with a division of labor,
- change materials by processing* them, or
- substantially support** either of those activities.

If you are involved in any of these industrial activities, all wastes that your facility produces are industrial waste ... even office trash.

*Repackaging by itself is not considered an industrial activity. **Substantially supportive activities include such activities as transporting products or chemicals to another location so they can become part of a manufacturing operation (for example, transporting refined petroleum chemicals to be used to produce plastics). They do not include activities that are not directly supportive, such as transporting vending machine snacks to a company that manufactures plastics.

EXAMPLES OF TYPICAL INDUSTRIAL FACILITIES

- Apparel and accessories manufacturers
- Cabinet and/or furniture manufacturers
- Ceramic floor and wall tile manufacturers
- Chemical and allied products manufacturers
- Electric generating plants
- Electronic assembly facilities
- Electroplating operations
- Fabricated metal products facilities

- Formulating operations (e.g., mixing operations)
- Intermediate product/chemical storage facilities
- Mining operations
- Mobile home construction
- Oil and/or chemical refineries
- Product testing facilities
- Product research and development
- Sawmills and planing mills
- Slaughterhouses
- Wineries

EXAMPLES OF TYPICAL NONINDUSTRIAL FACILITIES

(*Note:* If one or more of the following facilities or activities is located on a site considered industrial, wastes from the facility or activity are considered industrial wastes. For example, wastes from a printing operation located on an industrial facility's site are considered industrial wastes.)

- Artisans (e.g., custom furniture, custom art)
- Automobile dealers
- Commercial printers (e.g., business cards, forms)
- Concrete ready mix plants
- Crude oil and natural gas pipelines
- Custom cabinetmakers
- Distribution of electricity (no generation)
- Distribution of goods
- Dry cleaning facilities
- Funeral homes
- Furniture refinishing services
- Gasoline stations
- Grocery and convenience stores
- Health care and allied services
- Household hazardous waste collection
- Lawn and gardening services
- Meat packaging only (no slaughtering)
- One-hour eyeglass facilities
- Petroleum distributors only
- Photographic studios
- Public transportation
- Publishers/printers/newspapers
- Repair services
- Retail stores and outlets
- Schools
- Telecommunications
- Veterinary services

Table 8. Differentiating between Industrial and Nonindustrial Facilities			
	INDUSTRIAL	NON-INDUSTRIAL	
Bakeries/Food Services	facility produces goods for wholesale	only sells to the general public	
Correctional Institutions	does not apply (not considered industrial)	nonindustrial due to their nature and purpose	
Laboratories	located on an industrial site provides services mainly for production purposes	services provided for the general public (e.g., a laboratory only testing fecal coliform for households would be considered nonindustrial.)	
		services provided to both industrial and nonindus- trial customers	
Warehouses	located on an industrial site or the materials are to undergo further processing	located on a nonindustrial site and the materials be- ing stored are not to undergo further processing	
Machining Operations	machining occurs on an industrial site machining results in production of new parts machining results in remanufactured parts and occurs according to an organized plan and a division of labor	repairs parts for the general public (e.g., automobile engines)	
Recycling Operations	recycles industrial materials recycling results in the production of a product (e.g., smelting, plastic lumber)	recycles only nonindustrial materials and does not make products (e.g., city collection centers) separates or combines nonindustrial materials for recycling	
Transportation	transportation of unfinished goods or goods to be put into a manufacturing process (e.g., ship- ments of chemicals to manufacturing operation)	transportation of finished products that are not to undergo further processing (e.g., products to a gro- cery store or service station) transportation of people	

APPENDIX C

TRANSPORTATION RECORDS AND SAMPLE WASTE LOG

1. SAMPLE WASTE TRACKING DOCUMENT

Facility Receiving Waste

Company/Site Name:		
Address:		
Phone Number:		
Contact Person:		
TCEQ Registration Number (5 digits):		
EPA Identification Number (12 digits):		
Permit Number (5 digits):		
Date that waste was shipped from your facility:		
Date that disposal or recycling facility received waste:		

Waste Streams Received

1. TX waste code:	EPA HW #:	Quantity:
		(tons or pounds)
2. TX waste code:	EPA HW #:	Quantity:
3. TX waste code:	EPA HW #:	Quantity:
4. TX waste code:	EPA HW #:	Quantity:
5. TX waste code:	EPA HW #:	Quantity:
6. TX waste code:	EPA HW #:	Quantity:
7. TX waste code:	EPA HW #:	Quantity:

2. MANIFEST LOG

Manifest Number	Transporter EPA Number (12 Digit) TCEQ Number (5 Digit)	Disposal EPA Number	Land Ban (Y/N)	Generator's Copy Date	Destination Copy Date

APPENDIX D

COMMON QUESTIONS FROM Small-quantity generators

Small-quantity generators (SQGs) typically have a number of questions about their roles and responsibilities in hazardous waste management. Following are the most frequently asked questions, along with the answers. Please note that these responses pertain only to TCEQ's Industrial and Hazardous Waste program; they do not cover other situations, such as cleanups, closure, and enforcement activities.

1. What information do small quantity generators (SQGs) have to report to the TCEQ?

SQGs need to report:

- generator type (industrial or nonindustrial)
- what classifications of hazardous wastes they generate
- how much hazardous waste they generate per month
- what they do with their waste (disposal, recycling, and so forth)

TCEQ can provide you with the forms you will need to report this information.

See Chapter 2 of this booklet for instructions about who needs to use these forms to report to the TCEQ. See Chapter 3 for information about specific forms.

2. My company produces two truckloads of nonhazardous waste per month. Do I have to report this waste to the TCEQ?

Nonindustrial facilities do not have to report their nonhazardous waste to the TCEQ. In *industrial facilities*, the waste is classified as Class 1, 2, or 3 and reported on the annual waste summary.

3. Someone collects my hazardous waste solvent for recycling. Do I have to report this waste to the TCEQ?

Yes. Waste that is sent off-site for recycling must be reported on both the annual waste summary and your Notice of Registration. This waste *will* count toward your generator status—unless the solvent is used in a continued-use program, in which event it will *not* count. In any case, you will not be charged fees by the TCEQ on this waste.

4. What wastes do I have to manifest?

If your generator status is SQG, you need to manifest the hazardous waste you send off-site. If you are an industrial operation, you also need to manifest the Class 1 waste you send off-site, unless it is sent for recycling. (Class 1 waste sent for recycling does not need to be manifested.) Waste that qualifies for the Universal Waste management option is not counted and does not have to be manifested.

5. Do I need to get a hazardous waste permit?

A permit is required only for businesses that treat, store, or dispose of hazardous or industrial waste. Most operations do not need to apply for such a permit. However, industrial generators and hazardous waste generators receive a solid-waste registration number when they notify us of their waste activities. This number is sometimes referred to as a "registration number," "generator number," or "state I.D. number." See Chapter 3 for details on notification, reporting, and identification numbers.

6. My company has recently moved. How do I let the TCEQ know about my new mailing address and change my registration numbers?

Unlike your company, your solid-waste registration number does not move. This number is permanently associated with a physical location. Therefore, if you have moved to a new location that previously had a solid-waste registration number, you will use that number. If your new location does not have a solid-waste registration number, you will need to apply for one.

In either case, send TCEQ a letter stating that you have moved and indicate the solid-waste registration number of your old location. Attach to your letter a completed Notification for Hazardous or Industrial Waste Management (form TCEQ-00002). We ask for this information because many times a company's waste generation or waste management activities will have changed. This also helps keep us from making assumptions about your operations. If you need to find out whether your new location has a solid-waste registration number, call the TCEQ at 512-239-6413.

7. My business generated an unusually large amount of waste last calendar month. How does that affect my generator status?

If you generate more waste than your generator status allows (for example, a CESQG generating more than 220 pounds of hazardous waste in a calendar month), then you are regulated as the next highest generator status from the time you generated the excess waste until it has been properly disposed of. If the excess is due to an unanticipated event, like a process change, and you are unregistered or inactive, then you may fill out a One-Time Shipment Request (form TCEQ-00757) to report the generation and to receive waste codes. If you are registered, you may assign your own waste codes and inactivate that waste code after disposal has occurred. You should not have to change your status on your registration.

8. I used to be a registered SQG but now generate less than 220 pounds of hazardous waste per calendar month. Do I still have to report as an SQG?

You will still be required to complete the current year's reporting requirements as an SQG. When reporting, send a letter to the TCEQ that explains that you are no longer generating more than 220 pounds of hazardous waste in a calendar month. You will be claiming "exempt status" and will no longer be required to report to the TCEQ. It will be your responsibility to maintain records confirming this status. If you are a CESQG but still active and getting an Annual Waste Summary you can check the box "no report required."

9. I don't know how I can reduce my wastes. Does the TCEQ provide any assistance?

Yes. The TCEQ's Small Business and Environmental Assistance Division provides pollution prevention assistance to facilities. For further information, call 512-239-3100.

APPENDIX E GLOSSARY

For readers' convenience, this chapter gives the full version of some abbreviations and brief descriptions of some important terms used in this guidance document. Full, official definitions can be found in the sources cited. Nothing in this chapter takes the place of any definitions in laws, rules, or regulations.

- Acutely hazardous wastes (40 Code of Federal Regulations (CFR) Parts 261.31–33 and subject to the exclusion established in 40 CFR Part 261.5: EPA hazardous waste numbers F020, F022, F023, F026, and F027)—A subset of *listed hazardous wastes* that carry the "H" code; they are considered very harmful to human health and the environment. ASTM—American Society for Testing and Material CFR—Code of Federal Regulations
- **Characteristically hazardous waste** (40 CFR Part 261 Subpart C)—Any waste that exhibits the characteristics of ignitability, corrosivity, reactivity, and/or toxicity as defined by the EPA in 40 CFR Part 261 Subpart C. These are often referred to as the "D" wastes.
- (Also see Chapter 3 of this guidance document.)
- Class 1 waste [30 TAC Section 335.1(14)]—Any waste or mixture of waste that, because of its concentration or physical or chemical characteristics is toxic; corrosive; flammable; a strong sensitizer or irritant; a generator of sudden pressure by decomposition, heat, or other means; or may pose a substantial present or potential danger to human health or the environment when improperly processed, stored, transported, disposed of, or otherwise managed. (The checklist in Chapter 3 takes you through the process of distinguishing hazardous waste from nonhazardous Class 1 waste.)
- **Class 2 waste** [30 TAC Section 335.1(15)]—Any individual waste or combination of waste that cannot be described as hazardous waste or as nonhazardous Class 1 or Class 3 waste.
- **Class 3 waste** [30 TAC Section 335.1(16)]—Waste that is *inert* and *essentially insoluble* (see definitions of terms in italics), usually including but not limited to materials such as rock, brick, glass, dirt, certain plastics, rubber, and similar materials that are not readily decomposable.

Classification code (30 TAC Section 335.503)—This last digit of the Texas waste code represents the classification of the waste stream. The letter H represents hazardous wastes; and the number 1, 2, or 3 represents nonhazardous industrial waste Class 1, 2, or 3.

Conditionally Exempt Small-Quantity Generator (30 TAC Section 335.78)—Generators of less than 100 kg (220 lbs) per month of hazardous waste, or less than 1 kg (2.2 lbs) per month of *acutely*

hazardous waste (see description of term in italics in this chapter).

- **Essential insolubility** (30 TAC Section 335.507)—Is established when using:
 - the Seven-Day Distilled Water Leachate Test, and the extract from the sample of waste does not leach greater than the Maximum Contaminant Level listed in Appendix 1, Table 3 of 30 TAC Chapter 335, Subchapter R;
 - the test methods described in 40 Code of Federal Regulations Part 261, Appendix II, and the extract from the sample of waste does not exhibit detectable levels of the constituents found in Appendix 1, Table 1 of 30 TAC Chapter 335, Subchapter R;
 - an appropriate test method, and a representative sampling of the waste does not exhibit detectable levels of total petroleum hydrocarbon (TPH); ("Petroleum substance wastes" are not subject to 30 TAC's subsection one essential insolubility.)
 - an appropriate test method, and a representative sampling of the waste does not exhibit detectable levels of polychlorinated biphenyls (PCBs).
- Form code (30 TAC Section 335.503)—This code describes the general type of waste stream. It consists of three numbers, the 5th, 6th, and 7th digits in the Texas waste code (see Figure 4-1 in Chapter 4). More than one form code may apply to a particular waste stream.
- Hazardous waste (40 CFR 261.3)—The EPA defines a waste as hazardous if it exhibits one or more of four hazardous "characteristics," or if it is one of several hundred wastes "listed" as hazardous. For details, see Chapters 1 and 3 of this guidance document.

Hazardous waste determination (30 TAC Section 335.504)—An evaluation of a waste to determine whether it meets the RCRA definition of a hazardous waste.

- **Inert** (30 TAC Section 335.507)—Inertness refers to the chemical inactivity of an element, compound, or waste. Ingredients added to mixtures chiefly for the purposes of bulk and/or weight are normally considered inert.
- Listed hazardous wastes (40 CFR Part 261 Subpart D)—Specific wastes that have been identified by the EPA as hazardous. These are often referred to as the "F" wastes (waste from nonspecific sources); "K" wastes (wastes from specific sources); "P" wastes (acutely hazardous off-specification materials, container residues, and spill residues of these materials); and "U" wastes (toxic, hazardous off-specification materials, container residues, and spill residues).

A waste is considered hazardous if

- it is listed in 40 CFR Part 261 Subpart D, or
- is mixed with or derived from a waste listed there, and
- has not been provided a particular exclusion from the definition of hazardous as provided in 40 CFR Sections 261.3–4.
- Notice of Registration (NOR)—TCEQ term for the information it collects in its database on each hazardous or industrial waste handler: generator, receiver, transporter, and recycler. The NOR includes the facility's physical and mailing addresses, information on waste streams that are generated or handled at the site, a list of individual units at the facility where wastes are managed, and other information. It also contains the state facility identification numbers and the EPA facility number, issued by the TCEQ. The NOR serves to verify the information submitted by each handler. When a generator registers with the TCEQ using form TCEQ-00002, the agency sends back a printout of the information in its database about the site and generator. The handler should keep the NOR current and in on-site files and check it periodically to make sure that it accurately reflects the facility's waste streams and waste management units.
- Petroleum-hydrocarbon-containing wastes (30 TAC Section 335.508)—Wastes resulting from the cleanup of leaking underground storage tanks (USTs), which are regulated under 30 TAC Chapter 334 Subchapter K (relating to Petroleum Substance Waste), are not subject to classification under 30 TAC Chapter 335 Subchapter R (Waste Classification).
- **Petroleum substance**—A crude oil, or any refined or unrefined fraction or derivative of crude oil, that is

a liquid at standard conditions of temperature and pressure. These substances include the following:

- combinations or mixtures of basic petroleum substances, such as crude oils, crude oil fractions, petroleum feedstocks, and petroleum fractions;
- aviation gasolines, aviation jet fuels, distillate fuel oils, residual fuel oils, gas turbine fuel oils, illuminating oils, lubricants, building materials, insulating and waterproofing materials, used oils;
- solvents or a combination or mixture of solvents except for any listed substance regulated as a hazardous waste under the federal Solid Waste Disposal Act, Subtitle C (*United States Code*, Title 42, Section 6921, et seq.)—that are liquid at standard conditions of temperature (20° centigrade) and pressure (1 atmosphere). Examples include Stoddard solvent, petroleum spirits, mineral spirits, petroleum ether, varnish makers' and painters' naphthas, petroleum extender oils, and commercial hexane.

The following materials are *not* considered petroleum substances:

- polymerized materials, such as plastics, synthetic rubber, polystyrene, high- and low- density polyethylene;
- animal, microbial, and vegetable fats;
- food-grade oils;
- hardened asphalt and solid asphaltic materials, such as roofing shingles, roofing felt, hot mix and cold mix; and
- cosmetics.
- **Process Knowledge**—See examples in Chapter 4 under this subheading.
- **RCRA**—Resource Conservation and Recovery Act (amendment to the Solid Waste Disposal Act). Primarily designed to regulate five types of disposal activities: hazardous waste, solid waste, underground storage tanks, oil waste, and medical waste. In this guidance document, any mention of "RCRA" refers to RCRA Subtitle C, which applies to all handlers of hazardous waste, including generators; transporters; and operators of treatment, storage, and disposal (TSDF) facilities. (RCRA, a federal law, covers only whether a solid waste is either hazardous or nonhazardous. Texas regulations further subdivide nonhazardous waste into Classes 1, 2, and 3.)

Regulated asbestos-containing material (RACM)

- (30 TAC Sections 335.508)—RACM includes the following:
- **friable** asbestos containing more than 1 percent asbestos¹ that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure;

¹As determined using the method specified in 40 CFR Part 763, Subpart E, Appendix E, Section 1, Polarized Light Microscopy.

- **nonfriable** asbestos-containing material containing more than 1 percent asbestos as measured by the method found in 40 CFR Part 763, Subpart E, Appendix E, Section 1 that, when dry, *cannot* be crumbled, pulverized, or reduced to powder by hand pressure.
- Category I nonfriable asbestos includes packings, gaskets, resilient floor coverings, and asphalt roofing products);
- Category II nonfriable asbestos includes transite shingles, transite pipes, and any nonfriable asbestos material not defined as Category I.

Regulated generators (30 TAC Chapter 335

Subchapters A and C)—If you generate the following amounts of waste, you are a regulated generator and must follow regulations in Chapter 335:

Waste Type	Monthly Amount
Class 1	100 kg (220 lbs) or more
Hazardous	100 kg (220 lbs) or more
Acutely hazardous	1 kg (2.2 lbs) or more

If you generate less than the amounts shown above, you are considered a Conditionally Exempt Small-Quantity Generator and are not subject to regulations requiring notification, manifesting, and fees.

- Sequence number (30 TAC Section 335.503)—The first 4 digits of the waste code (actually these four characters may be numbers, letters, or a combination of the two). The sequence number is used as an internal numbering system determined by each generator. The number of a waste may range from 0001 to 9999, and can only be used once.
- **Solid waste** (30 TAC Section 335.1 and 40 CFR Section 261.2)—Any discarded material such as garbage; refuse; sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility; or other material including solid, liquid, semisolid, or contained gaseous material resulting from industrial, municipal, commercial, mining, and agricultural operations. Solid wastes include any material that is abandoned by being disposed of; burned or incinerated; or accumulated, stored, or treated before or in lieu of these activities. Certain recycled materials are also considered wastes. Solid wastes are often referred to simply as "wastes." For the complete definition of a "solid waste," please refer to 30 TAC Section 335.1 (Solid Waste).
- Specific industrial solid waste (30 TAC Section 335.508) —A nonhazardous waste for which specific classification criteria and/or a form code have been established.

TAC—Texas Administrative Code. Title 30 of TAC contains TCEQ rules on industrial solid waste and municipal hazardous waste, among other subjects.

TSDF—Treatment, storage, and disposal facilities. **Universal Waste** (30 TAC Section 335.261 and

40 CFR Part 273)—This rule covers five types of waste:

- all hazardous waste batteries as described in 40 CFR 273.2;
- mercury-containing equipment, including thermostats as described in 40 CFR 273.4;
- some hazardous waste pesticides as described in 40 CFR 273.3;
- paint and paint-related waste as described in §335.262(b);
- lamps as described in 40 CFR §273.5, and §335.261(b)(16)(F).

The rule establishes a reduced set of regulatory requirements for facilities managing universal waste, depending on whether the facility falls into one of four categories:

- small-quantity handler of universal waste (SQHUW),
- large-quantity handler of universal waste (LQHUW),
- transporter of universal waste, or
- final destination facilities. In addition, the rules establish a

In addition, the rules establish a petitioning procedure whereby additional wastes may be added to the universal waste rule.

U.S.C.A.—United States Code Annotated.

Used oil (30 TAC Section 335.1, 30 TAC Section 324 (relating to used oil), and 40 CFR Part 279 (relating to standards for management of used oil)²— Any oil refined from crude oil, or any synthetic oil, that has been used and, from such use, is contaminated by physical or chemical impurities and cannot be used for its intended purpose (that is, it is a spent material).

Used oil fuel includes any fuel produced from used oil by processing, blending, or other treatment.

- **Waste**—Unwanted materials left over from a manufacturing process; refuse from places of human or animal habitation.
- Waste code—Also referred to as Texas waste code (30 TAC Section 335.503)—This 8-digit code identifies a waste stream. The first 4 digits are the *sequence number*, the next 3 digits are the *form code*, and the last digit is the waste's *classification* (sequence number + form code + classification code = waste code). (Some of the "digits" referred to here actually may be letters or a combination of letters and numbers.)

²Rules applicable to nonhazardous used oil, are found in Chapter 324, state regulations on recyclable used oil, and 40 CFR Part 279, federal regulations on used oil recycling. Wastes generated out-of-state (30 TAC Section 335.508) —All nonhazardous industrial waste generated outside the state of Texas and transported into or through Texas for processing, storage, or disposal is classified as Class 1 unless the waste satisfies the Class 2 or 3 criteria as defined in 30 TAC Sections 335.506–8. A Class 2 or 3 waste determination, accompanied by all supporting process knowledge and analytical data, must be submitted to the TCEQ for approval. Waste stream (30 TAC Section 335.503)—The total flow of solid waste from homes, businesses, institutions, and manufacturing plants that is recycled, burned, or disposed of in landfills; or segments of that total flow, such as the "residential waste stream" or the "recyclable waste stream." (It should be noted that the terms "waste stream", "solid waste", and "waste" are often used interchangeably by federal and state regulators as well as many members of the regulated community).



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