



# RCRA and Hazardous Wastes Regulations



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If you have questions about RCRA and hazardous waste regulations, contact Jon Jones at (907) 271-6329 [jones.jon@epa.gov](mailto:jones.jon@epa.gov) . Jon is Alaska's RCRA contact. You may also contact Zender Environmental at 277-2111, [lzender@zendergroup.org](mailto:lzender@zendergroup.org) and we will try to find out the information for you if we don't know it.

**"What Is RCRA?"** In 1976, the U.S. Congress passed the **Resource Conservation and Recovery Act (RCRA)** that directed the U. S. Environmental Protection Agency (EPA) to develop regulations that would protect human health and the environment from improper waste management practices. In addition to proper management of solid wastes and landfills, these regulations are designed to control the management of hazardous waste from its generation to its ultimate disposal, or from "cradle-to-grave."

Federal regulations that detail RCRA requirements for hazardous wastes are found in Title 40 of the Code of Federal Regulations, in Parts 260-279.

<http://www.epa.gov/epaoswer/osw/laws-reg.htm> . While normal solid wastes that are not "hazardous" are included in RCRA regulations, when professionals speak of "RCRA wastes", they typically mean **regulated hazardous wastes**.

It is EPA that manages the Hazardous Waste Program in the State of Alaska. The State does not have a formal hazardous waste program so they work cooperatively with EPA.

### "Cradle-To-Grave" Responsibility

Did you know you always remain liable for the hazardous waste you generate? The hazardous waste regulations are designed to assure that **businesses** generating hazardous waste take basic steps to assure that waste is managed in a protective manner. In fact, every handler involved in the process, from the generator to the ultimate waste disposal or treatment site, is responsible for assuring that the waste is managed in compliance with RCRA.

This "cradle-to-grave" responsibility is important. Your liability continues even if the waste is shipped to an approved recycling, treatment, storage, or disposal facility. You may still be financially responsible for a clean-up if your waste contributes to contamination of the environment. Of course, your liability in this situation should be a lot less if you make sure that you properly handled, staged, and shipped your waste when it was under your control.

**What Is A Hazardous Waste?** As a result of doing business, a company may generate wastes that can cause serious problems if not handled and disposed of carefully. Such wastes could:

- ◆ Cause injury or death



- ◆ Damage or pollute land, air, or water

These wastes are considered "hazardous" and are regulated by federal environmental safety laws. If you identify the type and quantity of wastes your businesses generate, you can identify the hazardous waste requirements that apply to them. If you operate a hazardous waste program where you are collecting household hazardous wastes from households and small businesses, you still need to consider your program as a business. However, the types of wastes that most of our villages generate do not require a lot of paperwork. The exception would be if you have a commercial industry. Then your responsibility as an environmental department is to make sure that this industry is complying with RCRA laws.

**Don't accept hazardous wastes from industries without preparing for a lot of paperwork and liability.**

**What is a "waste"?** A waste is any solid, liquid, or contained gaseous material that you no longer use, and either recycle, throw away, store, treat, dispose of, or abandon. Regardless of whether it is liquid, solid, or compressed gas, **these wastes are known as "solid waste"**.


Business generators of solid waste are required to immediately determine if their wastes are hazardous waste. **Everyone generates solid waste, so this rule applies to all businesses.** However, businesses are allowed to use their knowledge to make this determination. Or they can use analytical laboratory testing data. But **they must keep a record of how this determination was made.** If they fail to determine that the waste is hazardous, then the waste may be managed or accumulated improperly. This is one of the most common mistakes found by EPA inspectors.

**Keep in mind** that there are **many exemptions** for certain types of wastes and processes. In fact, because we are small and don't have industries, for most of our villages, our businesses and our own hazardous waste programs do not have much RCRA paperwork to follow. You can refer to 40 C.F.R. 261.4 when making your hazardous waste determination to find out if your waste is excluded from the hazardous waste regulations or exempt from the solid waste definition. These regulations are very complex though. So if it is not obvious, then call the EPA hazardous waste staff at number 1 **(800) 424-4EPA** and ask for **Jon Jones** or **Maria Tartaglia**.



## Summary of Hazardous Waste Identification

There are **two** ways a waste may be brought into the hazardous waste regulatory system: **listing**, and identification through **characteristics**.



**1. Listed wastes.** Your waste is considered hazardous if it appears on any one of the four lists of hazardous wastes contained in the RCRA's hazardous waste regulations. These wastes have been listed because they either exhibit one of the characteristics described below or contain any number of toxic constituents that have been shown to be harmful to health and the environment. There are four lists (which you can link to below) that identify over 400 chemical compounds that are hazardous wastes when discarded or spilled:

- **F listed wastes** are considered hazardous based upon the **process**. For example, spent trichloroethane used in degreasing is F-listed hazardous waste.
- **K listed wastes** are wastes regulated based on the specific **source**. Sludge from tanks used in refining leaded gasoline is an example of K-listed hazardous waste.
- **U listed wastes** are wastes regulated because they are a **discarded chemical** product or are spill-debris that contains a specific chemical compound which is considered toxic. Unused products like acetone, chloroform, and methylene chloride are examples of U-listed wastes.
- **P listed wastes** (Acute hazardous wastes) are also wastes regulated because they are a **discarded product** or are spill-debris that contains a specific chemical compound. But P wastes are also considered **acutely toxic**. **P listed wastes are dangerous, even in small amounts**, and are regulated the same way as larger amounts of other hazardous wastes. Dieldrin, endrin, epinephrine, and sodium cyanide are examples of P-listed wastes. Even the containers that hold these wastes are regulated as hazardous waste until they have been emptied and triple rinsed.

**Mixtures of any listed hazardous waste** with other wastes will require you to manage the **entire** mixture as a listed hazardous waste. Spills of listed waste that impact soils and other debris, are also regulated the same as the listed hazardous waste. So it is important that you take steps to prevent spills. If you have a spill of a listed hazardous waste, you should contact the DEC Spill Prevention And Response Program to determine how to best manage impacted soils or other debris that contain the listed waste. See the Spill Response Chapter of this guide for contacts.

**2. Characteristic wastes.** Even if a waste does not appear on one of the EPA lists, it is considered hazardous if it exhibits one or more of the following characteristics:

1. **Ignitable.** It is easily combustible or flammable with a flashpoint of less than 140 degrees F. This is called an **ignitable waste**. Examples are paint wastes, certain degreasers, or other solvents. The EPA waste code for ignitable wastes is "D001"
2. **Corrosive.** It dissolves metals, other materials, or burns the skin. This is called a **corrosive waste**. Examples are waste rust removers, waste acid or alkaline cleaning fluids, and waste battery acid. Corrosive wastes have a pH of <2.0 or >12.5. The EPA waste code for corrosive wastes is "D002"

3. **Reactive.** It is unstable or undergoes rapid or violent chemical reaction with water or other materials. This is called a **reactive waste**. Examples are cyanide plating wastes, bleaches, waste oxidizers, and waste explosives such as dynamite. The EPA waste code for reactive wastes is "D003"
4. **TCLP.** It exceeds the maximum regulatory level for certain chemicals including pesticides, heavy metals, and specific volatile compounds when tested using the Toxicity Characteristic Leaching Procedure (TCLP). This is a complicated laboratory test that you can read more about at <http://ehso.com/cssepa/TCLP.htm>

## DETERMINING GENERATOR CATEGORY

Once you know which wastes are "hazardous waste", you will be able to count the hazardous waste a business generates or manages and identify the requirements that apply. Categories of hazardous waste generators are based upon the amount generated in a calendar month and by the amount accumulated on-site. **They are only applied to businesses. Households are exempt from regulation** when they use and dispose household hazardous wastes in a manner and quantity that would be expected. The three business categories are:



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

Unless it is an industry or you are in a hub, your businesses are most likely CESQG's. Your hazardous waste program is most likely a CESQG, especially if you only handle Universal wastes, recycle used oil for heat, and operate a household hazardous waste exchange. That is good because CESQGs are exempt from RCRA reporting requirements as long as they meet the CESQG category and standards.

To determine for sure which category applies to your business, and what requirements you must meet, you must measure or "count" the hazardous wastes your business generates in a calendar month. In general, **you must add up the weight of all the hazardous wastes your business generates during each month.** The total will determine your generator category. The information below summarizes the kinds of wastes you must count.

## COUNT:

The business must count all quantities of "Listed" and "Characteristic" hazardous wastes described above that they:

- Generate and accumulate on-site for any period of time.
- Package and transport off-site.
- Place directly into an on-site recycling unit.

## HOWEVER, DON'T COUNT

**Businesses do not have to count wastes that are:**

- ◆ **Exempted Wastes:** RCRA lists specific wastes that you don't need to count in 40 C.F.R. 261.4. Examples of these exempted wastes are:
  - Spent **lead-acid batteries** that will be sent off-site for reclamation
  - **Used oil** that has not been mixed with hazardous waste, provided the used oil is recycled or burned for energy recovery
  - **Used oil filters** that have been crushed or punctured and hot drained
- ◆ **"Universal wastes"**, described further below, and covered in 40 C.F.R. 273.
- ◆ **Residual from "Empty Containers"**. Remain in the bottom of containers that have been completely emptied through conventional means, for example, by pouring or pumping. Containers that held an "acute hazardous waste" must be more thoroughly cleaned by triple rinsing with an appropriate solvent. See "What is Empty?" in the Construction waste chapter of this guide (around page 165) for more on how to tell if a container is "empty" under RCRA.
- ◆ **Wastes reclaimed continuously on-site** without storing the waste prior to reclamation. For example, a dry cleaning facility that incorporates a still unit to constantly clean solvent with the process. This is considered a "closed loop" system and waste is generated only when material is collected from the still
- ◆ **Wastes discharged directly (by piped water system) to a publicly-owned wastewater treatment facility** that has obtained an EPA Clean Water Act Permit. The waste cannot not be stored or accumulated first. The discharged waste must be approved by the treatment facility and may be required to meet pretreatment or other standards. Note for almost all of our villages, the water treatment pond/lagoon is not designed to accommodate hazardous wastes. It is unlikely that a discharge permit could be obtained.

**ONCE YOU HAVE COUNTED THE WASTES THAT SHOULD BE COUNTED:** See the summary table on the next page to determine your generator category. It depends on how much waste you make per month and how much you store (accumulate) at any one time.








**Generator Category Table.** The table is adopted from Tanana Chiefs Conference Draft Solid Waste Management Guide by Diana Ervin

**Summary of the Hazardous Waste Generator Categories**

Key: one 55 gallon barrel = about 440 pounds of hazardous waste (this assumes your waste weighs 8 lbs/gallon.)

		
<p align="center"><b>Conditionally Exempt Small Quantity Generator CESQG</b> (generators of no more than 220 pounds/month.)</p>	<p align="center"><b>Small Quantity Generator SQG</b> (generators of 220 – 2,200 pounds/month)</p>	<p align="center"><b>Large Quantity Generator LQG</b> (generators of 2,200 pounds/mo. or more)</p>
<ul style="list-style-type: none"> <li>• <b>Generate</b> less than 220 pounds of hazardous waste ( about 1/2 of a 55 gallon drum) per month.</li> <li>• <b>Generate</b> less than 2.2 pounds (or 1 quart) of “acute hazardous waste” per month</li> <li>• <b>Generate</b> less than 220 pounds of material from the cleanup of a <i>spill</i> of an acute hazardous waste</li> <li>• <b>Accumulate</b> less than 2,200 pounds of hazardous waste at any one time</li> <li>• <b>Accumulate</b> less than 2.2 pounds of an “acute hazardous waste” at any one time</li> <li>• <b>Accumulate</b> less than 220 pounds of material from the cleanup of a spillage of acute hazardous waste at any one time</li> </ul>	<ul style="list-style-type: none"> <li>• Generate 220 - 2,200 lbs (this is approximately 5 full 55 gallon drums)</li> <li>• Generate less than 2.2 lb of acute haz waste.</li> <li>• Generate less than 220 lb of spill cleanup of acute haz.</li> <li>• Accumulate less than 12,400 lb of hazardous waste at any one time</li> <li>• Accumulate less than 2.2 lb of an acute hazardous waste at any one time</li> <li>• Accumulate less than 100 kg of material from the cleanup of a spill of acute hazardous waste</li> </ul>	<p align="center">Generate or accumulate more than SQG.</p>

## Universal Wastes:

USEPA calls some hazardous waste a "Universal Waste". This waste does not count as hazardous waste for the purposes of generator categories and requirements. USEPA did this so the wastes would be much easier to transport and recycle. If a business generates or collects universal wastes, it is a "Handler of Universal Wastes". The collection and



backhauling programs for household and/or business batteries and fluorescent lights makes most Villages a Handler of Universal Wastes, along with the businesses in town that generate their own Universal Wastes. Households are not considered "Handlers of Universal Wastes" in the RCRA rules even if they use fluorescent bulbs and batteries.

Universal Wastes are limited to:

- ◆ Hazardous Waste Batteries (**lead-acid and household batteries** that are hazardous)
- ◆ Hazardous Waste Lamps (this includes **fluorescent lights**, neon lights, any other bulbs or the metal fixtures that contain mercury)
- ◆ Hazardous waste pesticides: (only certain classes and uses of pesticides.)
- ◆ Hazardous Waste Mercury-Containing Products (**thermometers, switches, sensors, etc.**).

Remember, none of these are considered "wastes" until they have been discarded or are completely used up.

There are two categories of Universal Waste Handlers.

- ◆ **Small Quantity Handlers of Universal Wastes - "SQHUW"** (RCRA 273, subpart B): Accumulates less than 11,000 pounds of universal wastes at any one time. This will be most villages and their businesses.
- ◆ **Large Quantity Handlers of Universal Wastes - "LQHUW"**: Accumulates more than 11,000 pounds of universal wastes at any one time.



The main difference is that **Small Quantity Handlers don't have to register with EPA or fill out any paperwork** to collect and ship these wastes. The *transporter/shipper* for these wastes must follow regulations in Part 273 Subpart D. The transporter would be the Post Office or the barge or plane company. They will know how to follow those regulations. Working with the Recycler, such as Total Reclaim for fluorescent bulbs, will ensure that these wastes are properly packaged for shipping. The Recyclers are great resources for help. See the appropriate Chapters in this guide for contact information.



The Table below adopted from the USEPA website summarizes EPA "Universal Waste" Rules.

**Differences in the Regulations for Small and Large Universal Waste Handlers**

	<b>Small Quantity Handlers of Universal Waste</b>	<b>Large Quantity Handlers of Universal Waste</b>
<b>Classification</b>	A universal waste handler who accumulates up to, 11,000 lb. on-site time (§273.9)*	A universal waste handler who accumulates more than 11,000 lb. on-site (§273.9)
<b>EPA Identification Number</b>	Not Required (§273.12)	Required (§273.32)
<b>On-Site Accumulation Limit</b>	Less than 11,000 pounds (§273.9)	No limit
<b>Shipping Manifests and Record keeping</b>	Not Required (§273.19)	Manifests Not required, but must keep basic shipping records (§273.39)
<b>Employee Training</b>	Basic handling and emergency procedures for these wastes (§273.16). Note proper handling, procedures, and packing for batteries and fluorescent bulbs and mercury products is available on-line at SWAN and also the end-recycler can help. HAZWOPER training is more than adequate for emergency procedure training.	Proper handling and emergency procedures geared towards employee responsibilities (§273.36)

**Managing Universal Waste Programs.** Most of us have battery and fluorescent bulb programs, or are trying to start one. The below table from USEPA summarizes the USEPA management requirements for these Universal Waste Programs for Small Quantity Universal Waste Handlers.

**USEPA Universal Waste Management Requirements for Small Quantity Handlers**

Issue	Rule
<b>Waste Management</b>	Must manage universal waste in a way that prevents releases into the environment. Specific standards apply to each type. The handouts and materials available on SWAN and <a href="http://www.zender-engr.net">www.zender-engr.net</a> provide basic management guides. For specific regulations see Part 273.13 and 273.33 of the Code of Federal Regulations (“CFR §273.13” and “§273.33”)
<b>Labeling/ Marking</b>	Must label or mark universal waste or containers of universal waste to identify universal waste type (CFR §273.14 or §273.34)
<b>Accumulation Time Limit</b>	One year unless for proper recovery treatment or disposal (CFR §273.15 or §273.35)
<b>Response to Releases</b>	Must immediately contain releases and handle residues appropriately and make hazardous waste determination on material resulting from release (§273.17 or §273.37)
<b>Shipments</b>	Must send universal waste only to other handlers, destination facilities, or foreign destination (§273.18 or §273.38). For example, Total Reclaim in Anchorage for fluorescent lights, and Interstate Batteries or Battery Specialists for lead-acid batteries.
<b>Prohibitions</b>	Disposing of, diluting, or treating universal waste - although some exceptions apply (§273.11 or §273.31)

**RCRA Resources** The links listed below contain further information about RCRA.

Site Title	Web address
EPA Region 10 RCRA site	<a href="http://yosemite.epa.gov/R10/owcm.nsf/7468f0692f73df9a88256500005d62e8/1a9900b8c988454b8825675f00775776!OpenDocument">http://yosemite.epa.gov/R10/owcm.nsf/7468f0692f73df9a88256500005d62e8/1a9900b8c988454b8825675f00775776!OpenDocument</a>
RCRA Orientation Manual 2006	<a href="http://www.epa.gov/epaoswer/general/orientat/">http://www.epa.gov/epaoswer/general/orientat/</a>
EPA General Hazardous Wastes site	<a href="http://www.epa.gov/osw/hazwaste.htm">http://www.epa.gov/osw/hazwaste.htm</a>
EPA Managing Hazardous Waste in Your Community	<a href="http://www.epa.gov/epaoswer/general/manag-hw/manag-hw.htm">http://www.epa.gov/epaoswer/general/manag-hw/manag-hw.htm</a>
A good one-page summary of generator requirements	<a href="http://www.cdphe.state.co.us/hm/generatortable.pdf">http://www.cdphe.state.co.us/hm/generatortable.pdf</a>