Designating Dangerous Waste

Ecology Fact Sheet **Publication #96-436**, *Revised October 2004*

As a business in Washington State, you are responsible for knowing what and how much dangerous waste you generate. The *Dangerous Waste Regulations* in Chapter 173-303-070 WAC describe the characteristics or properties that cause a waste to be considered dangerous, and what amounts of waste cause you to be regulated as a dangerous waste generator. This guide leads you through the steps that you must take to determine whether you generate a dangerous waste subject to special handling requirements. This process of classifying wastes is called "designation." The document also contains a flow chart that can be used with a copy of the regulations to help you designate wastes more easily and accurately.

The designation process identified in this guide is appropriate for most waste streams. Generators should be aware, however, that exclusions exist for certain waste streams. The majority of these exclusions may be found in Chapter 173-303-071 WAC.

What you need to know to start

Look around your facility and locate all of the wastes and processes that produce waste. You need to know how much of each waste you generate each month, and how much of each waste you have accumulated on-site. You will also need to know something about the physical and chemical nature of your wastes. It is usually necessary to know the name of all chemical components that make up the specific waste stream.

Material Safety Data Sheets may tell you something about the physical and chemical properties of your waste. They might also show the names of the chemicals used in a product. Without this type of information about your waste, you may have to test each waste stream to determine if it is dangerous waste.

How to use this document

This guide is a three-step process. It is designed for people who intend to dispose of their wastes. You will need a copy of the *Dangerous Waste Regulations* to use as a reference. If you are recycling or reusing your wastes, refer to sections -016 and -017.

Step 1 - Inventory Your Wastes

Find out what wastes you have, and how much waste you generate each month and accumulate on-site at any one time before disposal. Write these quantities in the Waste Inventory section of the Generator Status Worksheet printed on page 3.

Step 2 - Designating

For each of your wastes, follow the Dangerous Waste Designation Flow Chart on page 4. This flow chart leads you through a series of questions that will help you to decide if your waste is dangerous.

All dangerous wastes have a four-digit code number assigned to them based on their properties. If your waste meets the definition of a particular type of dangerous waste, write the four-digit waste number in the **Designation** column of the Waste Inventory table on page 3.

Following the flow chart, write down all of the waste numbers that apply to your waste on the **Generator Status** section of the worksheet. Stop when you reach a box on the flow chart that reads, "No further designation is required."

Step 3: Generator Status

After tracing each waste through the flow chart, go back to the generator status worksheet and follow the instructions. Add up all of the pounds of wastes that have been assigned waste numbers. You can now figure out if you are a small, medium or large quantity generator, and what you must do to correctly handle your waste. You may be:

- a ***small quantity generator*** (SQG) and responsible only for following the handling requirements described in WAC 173-303-070(8) in addition to any county or city hazardous waste management requirements; or
- a ***medium quantity generator*** (MQG) and required to follow the standards listed by WAC 173-303-201 and -202; or
- a ***large quantity generator*** (LQG) subject to full regulation under the requirements of WAC 173-303-170 and -200.

Generator Status Worksheet

Waste Inventory: Fill in the spaces below for each of your waste streams. First, write in the waste name, number of pounds you generate each month, and the number of pounds you accumulate on-site at any time. Once this information is complete, go through the steps of the flow chart to find out which dangerous waste numbers apply to your waste. Write in all of the dangerous waste numbers for each waste in the spaces marked "Waste Numbers".

	Waste Name	Pounds Generated Each Month	Pounds Accumulated On-site	Waste Number(s) (Designation)
Waste 1.	_____	_____	_____	_____
Waste 2.	_____	_____	_____	_____
Waste 3.	_____	_____	_____	_____
Waste 4.	_____	_____	_____	_____
Waste 5	_____	_____	_____	_____
Waste 6.	_____	_____	_____	_____
Waste 7.	_____	_____	_____	_____
Waste 8.	_____	_____	_____	_____
Waste 9.	_____	_____	_____	_____

Waste Totals: Add up the amount of waste you generate and/or accumulate on-site at any time that has any of these waste numbers: any number beginning with P, WT01, F020-F023, F026, and F027. Write these quantities on Line 1 below. On Line 2, write in the amount of spill residues from all numbers beginning with P, F020-F023, F026 and F027. Then write in the total amount of all other wastes that are "dangerous wastes" on Line 3.

	Wastes	Pounds Generated Each Month	Pounds Accumulated On-site
Line 1.	All numbers beginning with P, WT01, F020-F023, F026, F027	_____	_____
Line 2.	Spill residues from all numbers beginning with P, F020-F023, F026, F027	_____	_____
Line 3.	All other Dangerous Waste numbers	_____	_____

Generator Status: Compare your totals to the quantities listed below to determine your generator status.

You are a Small Quantity Generator if:

Line 1 quantities are less than	2.2 pounds	and	2.2 pounds
and			
Line 2 quantities are less than	220 pounds	and	220 pounds
and			
Total of Lines 1, 2 and 3 is less than	220 pounds	and	2200 pounds

You are a Medium Quantity Generator if:

Line 1 quantities are less than	2.2 pounds	and	2.2 pounds
and			
Total of Lines 1, 2 and 3 is less than	2200 pounds	and	2200 pounds

You are a Large Quantity Generator if:

Line 1 quantities are more than	2.2 pounds	or	2.2 pounds
or			
Total of Lines 1, 2 and 3 is more than	2200 pounds	or	2200 pounds

DANGEROUS WASTE DESIGNATION

LISTED WASTES

Is the waste a product that has not been used or residue from clean-up of a spill of an unused product? ***[WAC 173-303-081]***

- Yes → Does the product contain more than one active ingredient?
  - Yes → Is the waste or the process producing the waste listed in WAC 173-303-9904? Or is the waste a residue from a clean-up of a spill of these listed wastes? ***Refer to WAC 173-303-082***
  - No → Is the ingredient listed on the "P" List in WAC 173-303-9903?
    - Yes → The waste is a dangerous waste. Known as a "P" Listed discarded chemical product. Put the "P" number on the worksheet.
    - No → Is the ingredient listed on the "U" List in WAC 173-303-9903?
      - Yes → The waste is a dangerous waste. Known as a "U" Listed discarded chemical product. Put the "U" number on the worksheet.
      - No → Is the waste or the process producing the waste listed in WAC 173-303-9904? Or is the waste a residue from a clean-up of a spill of these listed wastes? ***Refer to WAC 173-303-082***
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- Yes → The waste is a dangerous waste. Known as an "F" or "K" or "W" Listed source. Put the "F" or "K" or "W" number on the worksheet.
- No → Is the waste a liquid with a flashpoint less than 140 F? -or- Is the waste an ignitable solid? -or- Is the waste an iginitable gas? -or- Is the waste an oxidizer per 49 CFR 173.127 and 173.128? ***Refer to WAC 173-303-090(5)*** **See Tip 1**

CHARACTERISTIC WASTES

Is the waste a liquid with a flashpoint less than 140 F? -or-
Is the waste an ignitable solid? -or-
Is the waste an iginitable gas? -or-
Is the waste an oxidizer per 49 CFR 173.127 and 173.128?
Refer to WAC 173-303-090(5) **See Tip 1**

- Yes → The waste is a dangerous waste that exhibits the characteristics of ignitability. Put D001 on the worksheet.
- No → Is the waste a water-based liquid with a pH less than or equal to 2.0 or greater than or equal to 12.5? -or- Does the waste liquid corrode steel more than 0.25 in (6.35mm)/yr? -or- The waste is solid and when mixed with 50% water has a pH less than or equal to 2.0 or greater than or equal to 12.5? ***Refer to WAC 173-303-090(6)***

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Does the waste liquid corrode steel more than 0.25 in (6.35mm)/yr? -or-
The waste is solid and when mixed with 50% water has a pH less than or equal to 2.0 or greater than or equal to 12.5?
Refer to WAC 173-303-090(6)

- Yes → The waste is a dangerous waste that exhibits the characteristic of corrosivity. For liquids, put D002 on the worksheet. For solids, put WSC2 on the worksheet.
- No → Does the waste have cyanide or sulfide in it? -or- Is the waste water reactive? -or- Is the waste unstable? -or- Is the waste explosive? ***Refer to WAC 173-303-090(7)*** **See Tip 2**

Does the waste have cyanide or sulfide in it? -or-
Is the waste water reactive? -or-
Is the waste unstable? -or-
Is the waste explosive?
Refer to WAC 173-303-090(7) **See Tip 2**

- Yes → The waste is a dangerous waste that exhibits the characteristic of reactivity. Put D003 on the worksheet.
- No → Does the waste contain Toxicity Characteristic (TC) constituents from the TC List in 173-303-090(8)?
  - Yes → Does the concentration of the TC constituents exceed the standard?
    - Yes → The waste is a dangerous waste. Known as a TCLP waste. Put all of the "D" numbers that apply on the worksheet.
    - No → **You may not need to designate further under the Toxicity and/or Persistent Criteria. See below.**
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Did your waste designate as a "P" Listed Waste?

Note: Some "U" listed wastes may be WT01 under State Criteria, and have a 2.2 pound exclusion limit.

- Yes → No further designation is necessary.
- No → Did your waste designate as a Listed or Characteristic Waste?
  - Yes → Is the total amount of all the listed and characteristic wastes that you generate more than 220 pounds per month, or have you accumulated more than 2200 pounds of these waste types on-site? **See Tip 3**
    - Yes → Would designation under criteria change how the waste is managed?
      - No → No further designation is necessary.
      - Yes → Go to Toxic Criteria Wastes
    - No → Go to Toxic Criteria Wastes
  - No → Go to Toxic Criteria Wastes

DANGEROUS WASTE DESIGNATION

TOXIC CRITERIA WASTES

Is your waste an unused product?

- Yes → Does it contain a "highly toxic" hazardous ingredient according to Section VI (acute and chronic health hazards section) of the MSDS?
  - Yes → The waste is a dangerous waste. Known as a Toxic EHW. Put WT01 on the worksheet. No further designation is necessary.
  - No → Do you know the toxicity of the whole waste?
- No → Do you know the toxicity of the whole waste?

Do you know the toxicity of the whole waste?

- Yes → Does the toxicity of the waste fall within one of the definitions of Toxic Category's X, A, or B in the table in WAC 173-303-100?
  - Yes → The waste is a dangerous waste. Known as a Toxic EHW. Put WT01 on the worksheet. No further designation is necessary.
  - No → Does the toxicity of the waste fall within one of the definitions of Toxic Category's C or D in the table in WAC 173-303-100?
    - Yes → The waste is a dangerous waste. Known as a Toxic DW. Put WT02 on the worksheet. Go to Persistence Criteria Wastes.
    - No → Go to Persistent Criteria Wastes
- No → Do you know the toxicity of some of the components in your waste?

Do you know the toxicity of some of the components in your waste?

- No → You must test the toxicity of your waste. Refer to WAC 173-303-100(5)(c).
- Yes → Determine which Toxic Category each of those components fits into from the table in WAC 173-303-100. If all of the components are less toxic than Toxic Category D, go to Persistence Criteria Wastes.

Box 1

Add together the concentrations of the components that are in the same Toxic Category and put the results below.

X		A		B		C		D	
ppm	or %	ppm	or %	ppm	or %	ppm	or %	ppm	or %
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Box 2

Do any of the concentrations from Box 1 equal or exceed these values?

X		A		B	
ppm	or %	ppm	or %	ppm	or %
10,000	1	100,000	10	1,000000	100

- Yes → The waste is a dangerous waste. Known as a Toxic EHW. Put WT01 on the worksheet. No further designation is necessary.
- No → Box 3a

Box 3a

Copy the % concentrations from Box 1 onto the dotted lines in the formula below, (to change ppm concentrations to %, divide the ppm value by 10,000). Place your answers on the lines in Box 3b. The % value for X from Box 1 should be copied directly to Box 3b.

%A	%B	%C	%D
- - - - - - -	- - - - - - -	- - - - - - -	- - - - - - -
÷10	÷100	÷1000	÷10,000

Box 3b

%X		%A		%B		%C		%D		Total
_____	+	_____	+	_____	+	_____	+	_____	=	_____

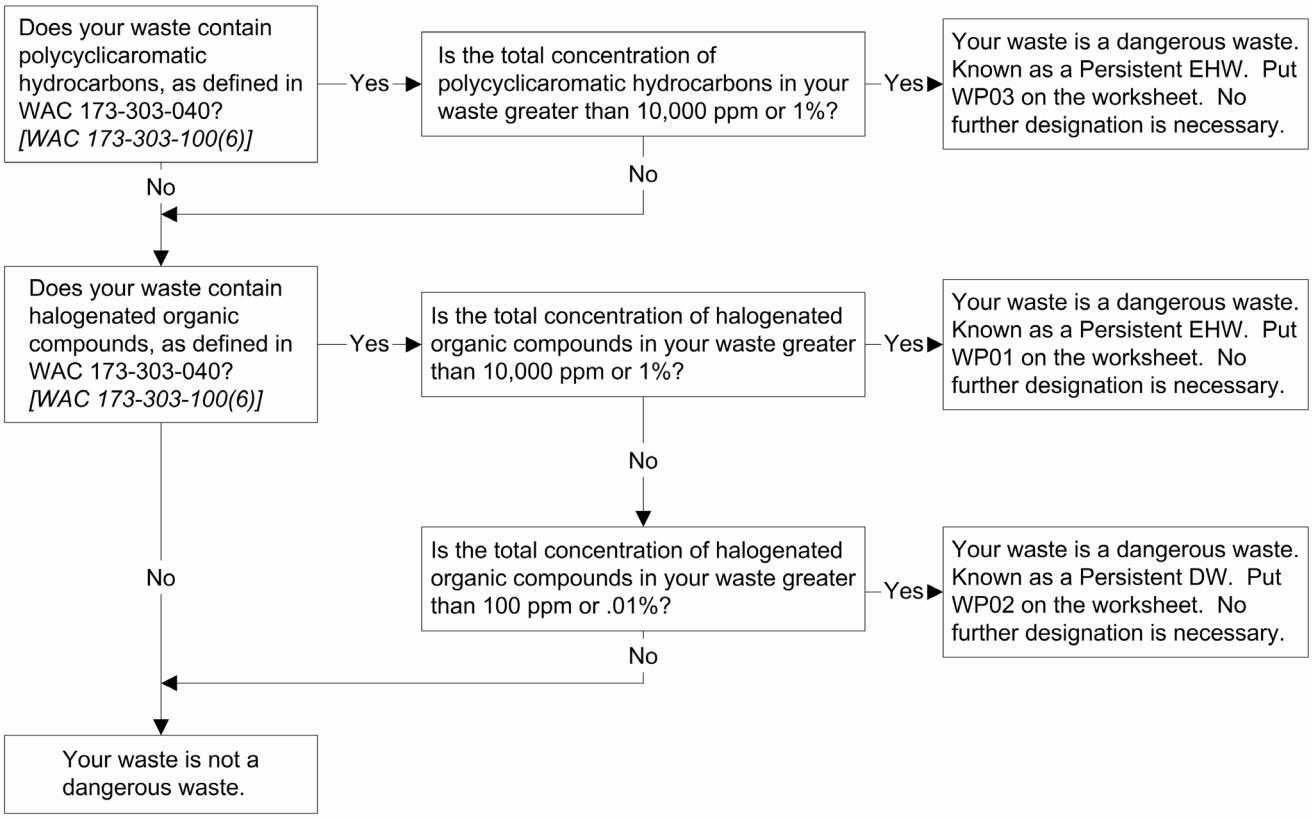
Does the total value from the formula equal or exceed 1.0?

- Yes → The waste is a dangerous waste. Known as a Toxic EHW. Put WT01 on the worksheet. No further designation is necessary.
- No → Does the total value from the formula above exceed 0.001?

Does the total value from the formula above exceed 0.001?

- Yes → The waste is a dangerous waste. Known as a Toxic DW. Put WT02 on the worksheet.
- No → Go to Persistence Criteria Wastes.

PERSISTENT CRITERIA WASTES



TIP 1
These definitions correspond to U.S. Department of Transportation (USDOT) regulations. If your waste is an unused product that has USDOT flammable, ignitable solid, oxidizer, or peroxide labels then it meets the definition of ignitable waste.

TIP 2
The definition of reactive waste and explosive waste corresponds to USDOT regulations. If your waste is an unused product that carries these warning labels then the waste meets the definition of dangerous waste.

TIP 3
If you are designating more than one waste you should designate them all to this point before you go further so you can use the total amounts to answer the question in this box.

For More Information

The Hazardous Waste and Toxics Reduction Program is responsible for the management and reduction of hazardous wastes and toxic substances in Washington State. We are available to answer your questions. Contact a regional office near you and ask for a Toxics Reduction Specialist for information on reducing or recycling hazardous waste. If you are uncertain about your responsibilities as a hazardous waste generator, ask for a Hazardous Waste Specialist.

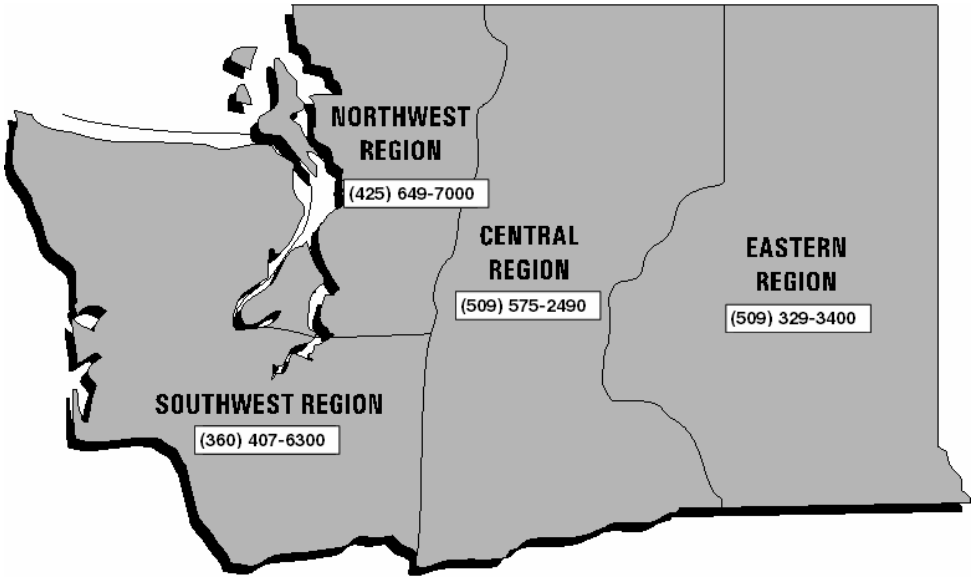
Additionally, staff from our program have authored over one hundred publications to help answer your questions about safely managing your hazardous waste. A few are listed below.

Step-by-Step: Fact Sheets for Hazardous Waste Generators This packet of fourteen, easy to use guidelines provides an overview of the requirements of the *Dangerous Waste Regulations*. All of the fact sheets listed can be obtained as part of the packet, or individually, according to their corresponding publication number.
Hazardous Waste: More Common Than You Think, #91-12a, Rev. 11/00
Hazardous Waste Generator Checklist, #91-12b, Rev. 10/04
Fact Sheet 1: *Identify Your Generator Requirements*, #91-12I, Rev. 11/00
Fact Sheet 2: *Obtain A RCRA Identification Number*, #91-12j, Rev. 10/04
Fact Sheet 3: *Report Annually*, #91-12k, Rev. 10/04
Fact Sheet 4: *Perform Preventive Maintenance*, #91-12l, Rev. 11/00
Fact Sheet 5: *Properly Accumulate Hazardous Waste*, #91-12m, Rev. 5/03
Fact Sheet 6: *Plan For Emergencies*, #91-12n, Rev. 6/03
Fact Sheet 7: *Use Proper Containers and Manage Them Correctly*, #91-12o, Rev. 5/03
Fact Sheet 8: *Arrange For Proper Transportation and Disposal*, 91-12p, Rev. 5/03
Fact Sheet 9: *Manifest Shipments of Hazardous Waste*, #91-12q, Rev. 6/03
Fact Sheet 10: *Keep Records of Hazardous Waste Activity*, #91-12r, Rev. 10/04
Glossary, #91-12x, Rev. 10/04
Subject Index, #91-12, Rev. 4/03

Hazardous Waste Services Directory, publication #98-412, offers a list of businesses that can help you identify, quantify, and describe any hazardous waste that you may generate and can provide a variety of management options. The directory is available online at *http://www.ecy.wa.gov/apps/hwtr/hwsd/default.htm*.

State and Federal Rule Differences, publication #96-401, Rev. 9/02. This discussion paper outlines the regulatory differences between Washington State's *Dangerous Waste Regulations* and the federal RCRA program.

View a complete list of publications offered by the Hazardous Waste and Toxics Reduction Program online at *http://www.ecy.wa.gov/biblio/hwtr.html*.



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