

Making a Hazardous Waste Determination

What does it mean to make a hazardous waste determination?

This is the procedure used to evaluate whether a waste is regulated as a hazardous waste under the Vermont Hazardous Waste Management Regulations (VHWMR).

Everyone knows that some businesses generate hazardous waste (e.g., dry cleaners, electroplaters, auto body shops). For other businesses, hazardous waste generation may be less obvious. For example, most people do not think of food product manufacturers, educational institutions, and retail stores as producing hazardous waste. Upon closer examination, however, these businesses may discover that hazardous wastes are generated through grounds-keeping, painting, vehicle maintenance and other activities.

Who is responsible for making a hazardous waste determination?

Any business, municipality or other organization that generates a waste must determine if that waste is a hazardous waste. While household waste is exempt from regulation, waste generated by a business operating out of a home is not.

What wastes need to be evaluated?

All waste must be evaluated to determine if it is a hazardous waste. However, if a material is not usable by one entity, but can legitimately be used as is (i.e. without first being recycled, filtered or otherwise processed in any way) by another, the material is not considered to be a waste and therefore does not have to be evaluated.

A good way to start is by preparing an inventory of all wastes generated at your facility. Be sure to include:

- Process wastes, manufacturing by-products, and spent laboratory chemicals
- Maintenance wastes like oily sorbents, spent fluorescent lamps and parts washing solvent (even if the unit is maintained by another company)
- Out-dated or otherwise un-needed chemicals or raw materials
- Spill clean-up materials, emission control residues and boiler blow-down water

How is a hazardous waste determination made?

STEP 1: See if the waste is exempt from regulation as a hazardous waste. Section 7-203 of the VHWMR includes exemptions for certain wastes so long as specific management conditions are met. Section 7-204 includes additional exemptions that are conditioned upon the waste being reused or recycled. Examples of exempt wastes include: oil filters, lead-acid batteries, antifreeze and “universal wastes” (e.g. fluorescent lamps, cathode ray tubes and mercury-containing devices).

STEP 2: If a waste is not exempt, determine if it is a “listed” hazardous waste (i.e., the waste is found on one of five lists in the VHWMR and is assigned a “VT,” “F,” “K,” “P,” or “U” code*). In Vermont, “VT” and “F” wastes are far more common than other listed wastes.

- **Vermont-listed wastes** (see VHWMR Section 7-211). Vermont regulates eight specific wastes that are not regulated under the federal hazardous waste program. An example is oily waste that contains > 5% by weight petroleum distillates – assigned the VT02 code.
- **F-listed wastes** (see VHWMR Section 7-210) are “wastes from non-specific sources.” There are 28 such wastes. An example is “spent non-halogenated solvent”, like acetone – assigned the F003 code.
- **K-listed wastes** (see VHWMR Appendix I) are “wastes from specific sources”. An example is “distillation bottoms from aniline production” – assigned the K083 code – and like most K-listed wastes, is rarely, if ever, generated in Vermont.
- **P-listed wastes** (see VHWMR Appendix IV) These “acutely hazardous wastes” have more protective standards. An example is “sodium cyanide” – assigned the P106 code.
- **U-listed wastes** (see VHWMR Appendix III) These are specific “discarded commercial chemical products or off-specification batches of commercial chemical products”. An example is “methanol” that has never been used and is no longer needed – assigned the U154 code.

STEP 3: If the waste is not listed, the generator must then determine if it exhibits any one of four hazardous waste “characteristics” (i.e., ignitability, corrosivity, reactivity and/or toxicity and is assigned a “D” code*).

Ignitable waste (see VHWMR section 7-205) is liquid with a flash point of less than ~140° F; or is not a liquid and is capable under standard temperature and pressure of causing fire and creating a burning hazard; or is an ignitable compressed gas. Ignitable waste is assigned the D001 waste code.

Corrosive waste (see VHWMR section 7-206) is liquid with a pH <2 or ≥ 12.5; examples are battery acid and caustic drain cleaner. Corrosive waste is assigned the D002 code. Note: corrosive solids are regulated under “Vermont-listed wastes” and are identified by the VT20 code.

Reactive waste (see VHWMR section 7-207) may have any of the following properties: is normally unstable; reacts violently with water, forms a potentially explosive mixture with water or can generate toxic gases when in contact with water; or is capable of detonation. Examples are picric acid and dynamite (munitions). Reactive waste is assigned the D003 code.

Toxicity Characteristic wastes (see VHWMR section 7-208) are wastes capable of leaching any one of 40 specific contaminants in excess of “regulatory levels” when tested in a laboratory using the Toxicity Characteristic Leaching Procedure (TCLP). Toxicity characteristic wastes are assigned the D004 through D043 codes.

* All hazardous wastes are identified by a four-digit “hazardous waste code” that consists of one or two letters followed by two or three numbers (e.g., F005, VT02, D018). The waste codes are used to identify the waste on container labels and other required documents such as the hazardous waste manifest shipping document.

How do you determine if a waste meets a listing or exhibits a characteristic?

A generator can use either his or her knowledge of the process that produces the waste or analytical testing. A generator may assume that a waste exhibits a characteristic without knowing if it actually meets the criteria for ignitability, corrosivity, reactivity or whether the concentration of suspected toxicity characteristic contaminants actually exceeds regulatory levels.

How does one use process knowledge?

In order for a generator to use process knowledge, sufficient information (such as that provided on labels or Material Safety Data Sheets) must be available for all materials used in the process or that otherwise contribute to the waste. Be aware, however, that such information only represents raw materials and may not accurately represent what is in the waste. This is especially relevant when it comes to determining if the regulatory level for a toxicity characteristic constituent is exceeded. Generators that rely on process knowledge to make a hazardous waste determination must be able to demonstrate the basis for their claim.

What about analytical testing?

If sufficient information is not available to make a hazardous waste determination, it may be necessary to have a sample of the waste analyzed by a laboratory. Since analytical testing can be expensive, it is important to provide the laboratory with as much information as possible about the waste. For example, if you know that arsenic is the only potentially hazardous contaminant in a waste, there is no need to test for other contaminants. You must keep any test results for at least three years from the date the waste was last sent to a treatment, storage or disposal facility.

How often must a hazardous waste determination be made?

An initial determination must be made on each waste, and the waste must be re-characterized whenever a change is made to the waste-generating process.

Where can I get help in making a hazardous waste determination?

Vermont DEC - Hazardous Waste Management Program Call: 1-802-828-1138

Vermont DEC - Environmental Assistance Office Call: 1-800-974-9559

Chemical Manufacturers and Suppliers - Check the Safety Data Sheet (SDS) for any chemical products you use. Your supplier/distributor may be able to assist with questions about their products although they often are not knowledgeable about hazardous waste regulations or the composition of your facility's waste.

Trade Associations - Same caveat as above.