VERMONT

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

HAZARDOUS WASTE PROGRAM ENVIRONMENTAL GUIDEBOOK

Small Quantity Generator (SQG) Guidebook

A Hazardous Waste Management Guide for SQGs

August 2022

PLEASE READ

This Guidebook is intended for facilities that generate between 220 and 2,200 lbs. of hazardous waste per month and are registered as small quantity generators (SQGs) of Hazardous Waste in the state of Vermont. A self-evaluation checklist is included along with instructions and explanations. The document is intended to provide general guidance to assist small quantity generators in maintaining compliance with the Vermont Hazardous Waste Management Regulations (VHWMR), and it replaces the Hazardous Waste Self-Evaluation Guidebook for Vermont Small Quantity Generators. It is not meant to replace the VHWMR. In the event of a conflict between this document and newly promulgated regulations, the regulations govern.

Each subchapter and appendix of the VHWMR is posted online as a separate document that may be viewed or printed separately. The current VHWMR, effective February 1, 2022, are available online at: https://dec.vermont.gov/waste-management/hazardous/regulations.

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SQG Facility Self-Evaluation Checklist

This Guidebook is designed for facilities that generate between 220 and 2,200 lbs. of hazardous waste per month and are registered as small quantity generators (SQGs) of Hazardous Waste in the state of Vermont. The purpose of the checklist is to help such facilities determine compliance with the **Vermont Hazardous Waste Management Regulations (VHWMR)** and identify areas for improvement. Detailed instructions, as well as useful examples follow this checklist, and will aid you in accurately evaluating your waste management and record keeping practices. For assistance with determining or confirming your generator category, refer to Appendix A at the end of this document. For a summary of regulatory requirements for each generator category, refer to Appendix B.

Carefully evaluate each question in this checklist: a **YES** answer indicates **compliance** with VHWMR, while a **NO** answer indicates **non-compliance** and will require corrective action. Refer to the instructions for information that may aide you in answering the questions; the last column of the checklist provides the corresponding page number where the question is explained. Check "**N/A**" for any questions that do not apply to your facility at this time. For questions where additional information is required to determine your facility's compliance, choose "**Unknown**" and follow-up accordingly to make a "Yes" or "No" determination.

Section 1. General Information

(Before completing this check list, please evaluate your monthly hazardous waste generation rate. If you generate between 220 and 2,200 lbs. of hazardous waste per month, you are a SQG)

YES	NO	N/A	Unknown	Question	Page #
				Q1.1: Have you determined which wastes generated at your facility are hazardous wastes? (i.e., made a hazardous waste determination)	21
				Q1.2: Do you have supporting documentation for all hazardous waste determinations?	21
				Q1.3: Have you filed a Hazardous Waste Handler Site Identification Form (EPA Form 8700-12)?	22

YES	NO	N/A	Unknown	Question	Page #
				Q1.4: Is the Hazardous Waste Handler Site Identification Form (EPA Form 8700-12) up to date – does it accurately describe current waste activity, waste generation, and provide current facility contact information?	22
				Q1.5: Have you paid the annual hazardous waste registration fee (due April 30th)?	23
				Q1.6: If your facility treats or recycles hazardous waste on-site, have you submitted a "Generator Treatment" notification form to the Agency for each treatment activity?	23
				Q1.7: With the exception of hazardous waste that is treated or recycled on-site, does your facility ship all hazardous waste off-site to a permitted treatment, storage, or disposal facility for proper management?	24
				Q1.8: Has your facility reported all reportable discharges/releases of a hazardous waste or a hazardous material immediately by phone and in writing within 10 days?	24
				Q1.9: Do you ensure that no hazardous waste is evaporated?	25
				Q1.10: Do you ensure that no hazardous waste is diluted?	25
				Q1.11: Do you ensure that no hazardous waste (or hazardous material) is disposed of on the ground, to surface waters, floor drains, storm drains, a sanitary sewer, or in the trash?	25
				Q1.12: For healthcare facilities: have you determined whether your facility is subject to VHWMR subchapter 10 for the management of hazardous waste pharmaceuticals?	25
				Q1.13: Has your facility experienced an episodic event, and did you follow appropriate notification procedures?	26

If you answered "NO" to any question(s), identify issue and corrective action needed.

Section 2. Management of Exempt Waste

(If you generate wastes that are managed using a conditional or recycling exemption, complete this section. Please be aware that this section only addresses the management of some of the most common exempt waste streams. Refer to the VHWMR (§7-203 and §7-204) for a complete list of wastes that can be managed as exempt. Please be aware that exemption from the requirements of the VHWMR is contingent on meeting exemption conditions.)

YES	NO	N/A	Unknown	Question	Page #
				Q2.1: If you launder contaminated shop wipes, are they stored in containers marked as "Excluded Contaminated Wipes" or with similar language?	26
				Q2.2: If you launder your contaminated shop wipes, are they stored in containers that are non-leaking?	26
				Q2.3: If you generate used oil filters, do you gravity-drain them prior to disposal and do you manage the drained oil appropriately? (See Section 6 for used oil requirements)	27
				Q2.4: If you generate used antifreeze for recycling or reuse, is it stored in containers that are marked with words that identify the contents?	28
				Q2.5: If you generate used antifreeze for recycling or reuse, is it stored in containers that are: kept closed; in good condition; stored on an impervious surface; and protected from rain and snow?	28
				Q2.6: If you generate used lead-acid batteries, do you store them under cover and on an impervious surface?	28
				Q2.7: If you generate water-miscible fluids, are they stored in containers that are: in good condition, kept closed, marked with words that identify the contents, and stored on impervious surface?	29

If you answered "NO" to any question(s), identify issue and corrective action needed.

Section 3. Waste Accumulation and Container Management

Q: Do you accumulate hazardous waste in Satellite Areas?

YES (*complete section 3A, below)*

NO

Q: Do you accumulate hazardous waste in Short Term Storage Areas (STSAs)?

YES (*complete section 3B, below)*

NO

Section 3A. Satellite Accumulation

(If you accumulate waste in Satellite Areas, complete this section)

YES	NO	N/A	Unknown	Question	Page #
				Q3.1: For each waste stream accumulating in a satellite area, are you accumulating less than 55 gallons (one drum) of hazardous waste or one cubic yard of VT-listed non-liquid hazardous waste?	29
				Q3.2: Is only one accumulation container per process waste stream being used to accumulate such waste in each satellite area?	30
				Q3.3: Is each satellite area at or near the location where waste is generated?	30
				Q3.4: In each satellite area, is the accumulating waste under the control of the operator of the process generating that waste?	30
				Q3.5: Are all satellite accumulation containers chemically compatible with the wastes that are being placed into them?	30
				Q3.6: Are all satellite containers in good condition?	30
				Q3.7: Are all satellite containers located within a structure that sheds rain and snow and has an impervious surface?	30

YES	NO	N/A	Unknown	Question	Page #
				Q3.8: Is each satellite container holding hazardous waste closed (except if actively adding or removing waste)?	31
				Q3.9: Is each satellite container marked with the words "Hazardous Waste" and an indication of the hazards of the contents?	32
				Q3.10: Are full satellite containers immediately dated? Are full satellite containers moved to a short-term storage area (or transported off-site) within three days of becoming full?	32
				Q3.11: Is there adequate aisle space between rows of containers to not obstruct movement of personnel and equipment?	32
Section 3B. Accumulation in Short Term Storage Area (STSA) *(If you accumulate waste in containers located in your STSA, complete this section)*					
				Q3.12: For each waste stream accumulating in a STSA, are you accumulating less than 55 gallons (one drum) of hazardous waste or one cubic yard of VT-listed non-liquid hazardous waste?	33
				Q3.13: Is only one accumulation container per process waste stream being used to accumulate waste in a STSA?	33
				Q3.14 Is the waste collected at the point of generation using a shift accumulation container brought directly to the STSA by a trained employee at the end of each work shift (< 12 hours)?	33
				Q3.15: Is the shift accumulation container chemically compatible with any accumulated waste?	33
				Q3.16: Is each shift accumulation container in good condition, kept closed and labelled as “Hazardous Waste” and other words that identify the hazards of its contents?	34
				Q3.17: Is each accumulation container in the STSA marked to indicate that it is an “accumulation container” and to identify the point of waste generation?	34
				Q3.18: Is each accumulation container in the STSA marked or labeled as required? (See Section 3, Questions 15 through 17 for specific requirements)	34
				Q3.19: Are accumulation containers located in the STSA dated immediately upon becoming full?	34
If you answered “NO” to any question(s), identify issue and corrective action needed.					

Section 4. Short-Term Storage of Hazardous Waste

Q: Does your facility have a Short-Term Storage Area (STSA) for Hazardous Waste?

YES (*complete the following section)*

NO

YES	NO	N/A	Unknown	Question	Page #
				Q4.1: Can you demonstrate that full containers of hazardous waste are stored on-site for less than 180 days?	35
				Q4.2: Do you have less than 13,200 pounds of hazardous waste on site at any one time?	35
				Q4.3: Does your STSA have an impervious storage surface (i.e., floor)?	35
				Q4.4: Is your STSA located in a structure that sheds snow and ice?	35
				Q4.5: Have measures been taken to prevent hazardous waste stored in your STSA from freezing (e.g., is the space heated)?	35
				Q4.6: Is spill or fire control equipment available in the vicinity of **each** STSA?	36
				Q4.7: Is aisle space between rows of containers **at least** 24 inches?	36
				Q4.8: Is hazardous waste labeling visible on all containers in the STSA?	36
				Q4.9: Is each container in the STSA closed, except to add or remove waste?	36
				Q4.10: Are incompatible hazardous wastes segregated or stored in separate enclosures?	36
				Q4.11: Have you avoided placing incompatible wastes into the same container?	36

YES	NO	N/A	Unknown	Question	Page #
				Q4.12: Have you avoided placing waste into an unwashed container that previously held an incompatible waste or material?	37
				Q4.13: Do you avoid opening, handling, or storing containers holding hazardous waste in a manner which may rupture the containers or cause them to leak?	37
				Q4.14: Are all containers holding ignitable or reactive waste located at least 50 feet from the property line?	37
STSA Container Markings and Labels					
				Q4.15: Are containers labeled with the words “Hazardous Waste”?	38
				Q4.16: Are containers marked with an indication of the hazards of the contents?	38
				Q4.17: Are containers marked with the date when they were first used to store hazardous waste (except for accumulation containers)?	38
STSA Security and Safety					
				Q4.18: Is a “Warning - Hazardous Waste” sign, visible from 25 feet, posted at each STSA?	39
				Q4.19: Is a "No Smoking" sign posted at each STSA where ignitable wastes are stored?	39
				Q4.20: If your facility is located in a county that borders the province of Quebec, are warning signs written in both English and French?	39
STSA Posted Information					
				Q4.21: Is the name and telephone number (office, cell, and home) of the emergency coordinator(s) posted in the vicinity of each STSA?	39
				Q4.22: Is the location of fire extinguishers, spill control material, and, if present, fire alarm, posted in the vicinity of each STSA?	39

YES	NO	N/A	Unknown	Question	Page #
				Q4.23: Is he telephone number of the fire department (unless your facility has a direct alarm) posted in the vicinity of each STSA?	40
STSA Inventory & Inspection					
				Q4.24: Do you maintain an up-to-date inventory of hazardous waste in each STSA, and is this inventory kept at a location apart from the STSA?	40
				Q4.25: Do you complete and document weekly inspections of each STSA?	40
				Q4.26: Are your weekly inspection records kept for at least 3 years?	40
STSA Weekly Inspection Log (Q4.27-4.31):					
				Q4.27: Does your weekly inspection log document the condition of hazardous waste drums?	40
				Q4.28: Does your weekly inspection log document the presence and condition of Safety and Emergency Equipment?	40
				Q4.29: Does your weekly inspection log document whether there is adequate aisle space (minimum 24 inches)?	40
				Q4.30: Does your weekly inspection log describe problems encountered and corrective actions taken?	40
				Q4.31: Does your weekly inspection log include the Date of Inspection/Inspector's Signature?	41
				Q4.32: If you use tanks to store hazardous waste, are the tanks marked with the words "Hazardous Waste" and other words to identify the contents of the tank?	41
If you answered “NO” to any question(s), identify issue and corrective action needed.					

Section 5. Hazardous Waste Manifests and Land Disposal Restrictions (LDR)

YES	NO	N/A	Unknown	Question	Page #
				Q5.1: Do you use a Hazardous Waste Manifest for each hazardous waste shipment?	43
				Q5.2: Is hazardous waste offered for shipment only to transporters and TSDFs with EPA ID numbers?	43
				Q5.3: Do you verify that each section of the manifest is completed accurately?	43
				Q5.4: Do you confirm that a completed copy of each manifest is returned to your facility from the designated TSDF within 35 days?	43
				Q5.5: If a completed copy of a manifest was not received by your facility within 45 days of the initial shipment, did you submit an exception report to the Agency?	43
				Q5.6: For applicable hazardous wastes, do you retain Land Disposal Restrictions (LDR) paperwork on file?	44

*If your facility ships hazardous waste outside the United States (i.e., exports), please review the specific **export requirements** in Subchapter 7 of the **VHWMR.***

If you answered "NO" to any question(s), identify issue and corrective action needed.

Section 6. Emergency Preparedness

YES	NO	N/A	Unknown	Question	Page #
				Q6.1: Is your facility operated in a manner that minimizes the potential for emergencies involving hazardous waste?	46
				Q6.2: Have you designated at least one employee to serve as the "emergency coordinator" for your facility and is that person familiar with the specific responsibilities of that position?	46
				Q6.3: Is at least one emergency coordinator either on the premises or on call at all times?	46
				Q6.4: Is emergency response information posted in the immediate vicinity of all short-term storage areas and locations where hazardous wastes are accumulated?	46
				Q6.5: Is the emergency coordinator(s) able to perform the required emergency responses?	48
				Q6.6: Is each employee with hazardous waste management responsibilities thoroughly familiar with the emergency procedures, proper waste handling procedures relevant to their job responsibilities, and evacuation signals/routes?	48
				Q6.7: Have you determined what types of emergency response equipment your facility is required to have?	49
				Q6.8: Is all emergency equipment tested and maintained as necessary to ensure its proper operation in time of emergency?	49
				Q6.9: Have you familiarized emergency response organizations with the information pertaining to potential hazards posed by your facility?	49
				Q6.10: Are you maintaining aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes?	50

If you answered "NO" to any question(s), identify issue and corrective action needed.

Section 7. Used Oil

Q: Does your facility generate used oil?

YES

NO

Q: Does your facility burn used oil fuel on-site in a space heater?

YES

NO

<u>If NO to both questions, skip to next section.</u>

YES	NO	N/A	Unknown	Question	Page #
				Q7.1: If used oil is burned as fuel at your facility, have you tested it for used oil fuel specifications?	50
				Q7.2: Are containers of used oil/used oil fuel closed when not adding or removing used oil/used oil fuel?	51
				Q7.3: Are containers holding used oil/used oil fuel managed in a manner to prevent the container from rupturing or causing a release?	52
				Q7.4: Are containers holding used oil/used oil fuel compatible with oil?	52
				Q7.5: Are containers holding used oil/used oil fuel in good condition?	52
				Q7.6: Are containers holding used oil/used oil fuel marked with the words "Used Oil" or "Used Oil Fuel"?	52
				Q7.7: Are containers holding used oil/used oil fuel stored on an impervious surface?	52
				Q7.8: Are containers of used oil/used oil fuel protected from rain and snow?	52
				Q7.9: Are containers holding used oil/used oil fuel and water mixtures protected from freezing?	53

YES	NO	N/A	Unknown	Question	Page #
				Q7.10: If you store used oil in an above-ground storage tank, is the tank marked with the words "Used Oil" or "Used Oil Fuel"?	53
				Q7.11: If you store used oil in an aboveground storage tank located outdoors, is the tank equipped with secondary containment?	53

If you answered "NO" to any question(s), identify issue and corrective action needed.

Section 8. Universal Waste

Q: Does your facility manage spent lamps, mercury devices, light ballasts, or CRTs as Universal Waste?

YES *(complete the following section)*

NO

				Q8.1. Have you avoided disposing of universal waste as solid waste?	55
				Q8.2. Can you demonstrate accumulation/storage for less than one year?	55
				Q8.3. Are all employees familiar with proper handling of universal waste and emergency procedures?	55

Universal Waste Lamps (Fluorescent Lights)

				Q8.4. Are universal waste lamps packaged in containers that are structurally sound, adequate to prevent breakage, and kept closed?	55

YES	NO	N/A	Unknown	Question	Page #
				Q8.5. Are containers of universal waste lamps stored within a structure such that the containers are protected from precipitation?	56
				Q8.6: Are full containers of waste lamps sealed with tape?	56
				Q8.7: Are containers of waste lamps stacked no higher than 5 feet?	57
				Q8.8: Are all containers holding waste lamps marked as “Universal Waste - Lamps”, "Waste Lamps" or “Used Lamps”?	57
				Q8.9: Can you demonstrate waste lamps have been accumulated/stored for less than one year?	57
				Q8.10: Have you contained or transferred broken or damaged lamps and all residue to an appropriate container?	58
				Q8.11: Did you make a hazardous waste determination on the residue of broken and damaged lamps?	58
Mercury-Containing Devices (thermostats, switches)					
				Q8.12: Are mercury-containing devices packaged in containers that are structurally sound and adequate to prevent breakage, and are the containers kept closed?	58
				Q8.13: Are containers holding mercury-containing devices marked as “Universal Waste-Mercury Device(s)”, “Waste Mercury Device(s)”, or “Used Mercury Device(s)”?	59
				Q8.14: Can you demonstrate mercury-containing devices have been accumulated/stored for less than one year?	59
Light Ballasts					
				Q8.15: Are PCB-containing fluorescent light ballasts managed to prevent releases to the environment?	59
				Q8.16: Are PCB-containing fluorescent light ballasts, or their containers, marked as "Universal Waste- PCB Ballast(s)", "Waste PCB Ballast(s)", or "Used PCB Ballast(s)"?	59
				Q8.17: Can you demonstrate light ballasts have been accumulated/stored for less than one year?	60

YES	NO	N/A	Unknown	Question	Page #
Cathode Ray Tubes (CRTs)					
				Q8.18: Are CRTs packaged to prevent breakage during storage, handling, and transportation?	60
				Q8.19: Are CRTs, or their containers, marked as "Universal Waste- Cathode Ray Tube(s)", "Waste Cathode Ray Tube(s)", "Used Cathode Ray Tube(s)", "Universal Waste- CRT(s)", "Waste CRT(s)", or "Used CRT(s)"?	60
				Q8.20: Can you demonstrate CRTs have been accumulated/stored for less than one year?	61
Postconsumer Paint					
				Q8.21: Is waste postconsumer paint packaged in containers that remain closed, structurally sound, and compatible with the postconsumer paint?	61
				Q8.22: Are containers of waste postconsumer paint stored within a structure such that the containers are protected from precipitation?	61
				Q8.23: Are containers holding postconsumer paint marked as "Waste Paint", "Used Paint" or "Universal Waste Paint"?	61
Aerosol Cans					
				Q8.24: Are waste aerosol cans accumulated in a container that is structurally sound, compatible with the contents of the aerosol cans and protected from sources of heat?	62
				Q8.25: If you puncture and drain aerosol cans, are you using a device specifically designed to safely puncture aerosol cans and effectively contain the residual contents and any emissions thereof?	62
				Q8.26: If you puncture and drain aerosol cans, did you conduct a hazardous waste determination on the contents of the emptied aerosol cans?	62
				Q8.27: Are containers holding waste aerosol cans marked as "Waste Aerosol Cans", "Used Aerosol Cans" or "Universal Waste - Aerosol Cans"?	62
If you answered “NO” to any question(s), identify issue and corrective action needed.					

Hazardous Waste Management for SQGs

Facilities that generate between 220 and 2,200 lbs. of hazardous waste per month are required to register as small quantity generators (SQGs) of Hazardous Waste in the state of Vermont. For assistance with determining or confirming your generator category, refer to Appendix A at the end of this document. For a summary of regulatory requirements for each generator category, refer to Appendix B.

The purpose of the following sections is to provide clarification and additional information on the questions listed in the Self-Evaluation Checklist.

Section 1 - General Information

Small quantity generators include a diverse range of businesses. While most people realize that certain businesses produce or generate hazardous waste (e.g., dry cleaners, electroplaters, auto body shops), hazardous waste "generation" is less obvious for other businesses. For example, food product manufacturers, educational institutions, municipalities, and retail stores typically generate hazardous wastes through equipment cleaning, grounds-keeping, painting, other maintenance activities, and disposal of unwanted/expired products. The types of materials used by a facility often indicate if hazardous wastes will be generated, and businesses that use the following materials are likely to generate hazardous waste:

- Solvents, thinners, or cleaning fluids
- Sorbent materials (e.g., "kitty litter," sorbent pads)
- Petroleum products
- Dyes, paints, or inks
- Pesticides or herbicides
- Acids or caustic materials
- Toxic metals (e.g., arsenic, cadmium, chromium, lead, mercury)
- Flammable or reactive materials
- Materials that cause skin to burn or itch upon contact
- Materials that bubble or fume upon contact with water
- Products accompanied by a shipping paper, label, or safety data sheet indicating that the product is hazardous

Hazardous wastes have properties or contain chemicals which make them dangerous or capable of harming human health or the environment, as explained in detail in the **Vermont Hazardous Waste Management Regulations** (**VHWMR**). A waste is considered to have been "generated" when it is put into a container or tank for disposal, or a decision has been made that the material is no longer useable. Hazardous wastes managed in the course of running a business – including wastes from municipalities and from businesses operated out of a home – are regulated by the VHWMR.

All wastes that are regulated as hazardous waste in Vermont are identified in Subchapter 2 of the VHWMR. These wastes are either specifically "**listed**" or exhibit a hazardous "**characteristic**." Listed wastes are specifically named on several lists found in the VHWMR. Characteristic wastes exhibit one (or more) of four hazardous properties (ignitibility, corrosivity, reactivity, and toxicity). All hazardous wastes are identified by a waste-specific four-digit **"hazardous waste code"** that consists of one or two letters followed by two or three numbers (e.g., F005, VT02, D018).

Listed wastes: In Vermont, there are five categories of listed hazardous waste. The hazardous waste codes corresponding to these wastes begin with the letters VT, F, K, P or U. In general, VT- and F-listed hazardous wastes are much more commonly generated by SQGs than K-, P-, or U-listed wastes.

- **Vermont-listed wastes ("VT" codes) –** Vermont regulates eight specific wastes that are not regulated by the federal Environmental Protection Agency (EPA). Vermont-listed hazardous wastes include: wastes with >50 parts per million PCBs (VT01); wastes with >5% by weight petroleum distillates (VT02); water-soluble metal-working fluids (VT03); pesticides that are not federally regulated (VT06); antifreeze (ethylene glycol) (VT08); corrosive solids (VT20); liquid wastes containing perfluorooctanoic acid (PFOA) in concentrations equal to or greater than 20 parts per trillion (VT21); and liquid wastes containing perfluorooctanesulfonic acid (PFOS) in concentrations equal to or greater than 20 parts per trillion (VT22). *See* ***VHWMR § 7-211****.*

- **Wastes from non-specific sources ("F" codes)** - There are 28 "F-listed" wastes produced by general (non-specific) processes. Common examples include "spent halogenated solvents" such as trichloroethylene and tetrachloroethylene (F001, F002); "spent non-halogenated solvents" such as methyl ethyl ketone, xylene, acetone, and toluene (F003, F005); and "electroplating solutions and treatment sludges" (F006). *See* ***VHWMR § 7-210.***

- **Wastes from specific sources ("K" codes).** K-listed hazardous wastes are generated by specific processes such as organic chemical manufacturing, wood preservation and petroleum refining. *See* ***VHWMR § 7-212, Appendix I.***

- **Acutely hazardous wastes ("P" codes).** P-listed hazardous wastes are extremely hazardous discarded or off-specification commercial chemical products. More protective management standards apply to these wastes as well as to "empty" containers that once held acutely hazardous wastes. Examples include many herbicides and pesticides. *See* ***VHWMR § 7-215, Appendix IV.***

- **Discarded Commercial Chemical Products ("U" codes).** U-listed hazardous wastes include (non-acute) discarded or off-specification commercial chemical products**.** *See* ***VHWMR § 7-214, Appendix III.***

Characteristic wastes: A waste is also regulated as hazardous waste if it exhibits one (or more) of the following hazardous waste characteristics (all are identified by "D" codes):

- **Ignitability (D001 code)** Ignitable waste is liquid with a flash point of less than140° 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. Examples of ignitable wastes include petroleum-based parts washing solvents and strong oxidizers. *See* ***VHWMR § 7-205.***

- **Corrosivity (D002 code**) Corrosive waste is liquid with a pH ≤ 2 or ≥ 12.5; or corrodes steel at a rate greater than ¼ inch/year. Examples of corrosive wastes are battery acid and caustic drain cleaner. **Note that "corrosive solids" are regulated as a "Vermont-listed waste" and are identified by the VT20 code.** *See* ***VHWMR § 7-206.***

- **Reactivity (D003 code)** Reactive waste may have any of the following properties:
  - Normally unstable and undergoes violent change without detonating
  - Reacts violently with water
  - Forms potentially explosive mixtures with water
  - Produces toxic gases, vapors or fumes when mixed with water
  - It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes
  - Capable of detonation if it is subjected to a strong initiating source or if heated under confinement
  - Readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure

  Examples of reactive wastes include sodium metal, dynamite (munitions), picric acid, and peroxide formers like diethyl ether. *See* ***VHWMR § 7-207.***

- **Toxicity (D004 through D043 codes)** Wastes that exhibit the toxicity characteristic may leach any one of 40 specific contaminants to groundwater. These contaminants include eight metals (including arsenic, chromium, mercury, and lead), six pesticides, and 26 other organic compounds (including benzene which is a component of gasoline). The ***Toxicity Characteristic Leaching Procedure*** (TCLP) test method (i.e., EPA Publication SW-846, Method 1311) is used to determine if a waste exhibits the toxicity characteristic of hazardous waste. *See* ***VHWMR § 7-208.***

Hazardous Waste Determination:

The process of deciding if your wastes are hazardous is called a *hazardous waste determination*. It is your responsibility as the generator of this waste to make this determination.

1) Determine if the waste is **exempt** from regulation as hazardous waste. *See* ***VHWMR § 7-203, § 7-204.***

2) If the waste is not exempt, determine if the waste is **listed** as hazardous waste (i.e., it is assigned a VT, F, K, U or P code).

3) If the waste is not listed, determine if the waste exhibits is **characteristic** for ignitability, corrosivity, reactivity, and/or toxicity (i.e., it is assigned a D code).

To determine if a waste is listed or exhibits a hazardous waste characteristic, a generator may either use **knowledge of the process** that produces the waste or have the waste **tested by a laboratory**. If you chose to base a determination on process knowledge, reliable information about each of the products/raw materials used in the process (e.g., product labels, Safety Data Sheets [SDS]) must be evaluated. You must be able to clearly demonstrate how the knowledge was applied in making the determination. Documentation of the laboratory test results, or any other product information used to determine if a waste is hazardous, must be maintained by the generator. Also, re-characterization of the waste must be done whenever there is a change in the process that is generating the waste.

Be aware that Safety Data Sheets may not provide all information necessary for making a hazardous waste determination. In most instances, Safety Data Sheets only identify hazardous constituents that make up 1% or more of a product (1% = 10,000 parts per million). However, hazardous waste thresholds may be less than 1% of the product total (e.g., D018- benzene containing waste).

Additional Information about Determining if Waste is Hazardous Waste:

- Subchapter 2 of the Regulations (Identification and Listing of Hazardous Waste): https://dec.vermont.gov/sites/dec/files/wmp/HazWaste/Documents/VHWMR%20Effective%20Feb%2001%2C%202022%20Subchapter%202.pdf

For Assistance in Making Hazardous Waste Determinations, Contact:

- Vermont's Hazardous Waste Program has technical specialists available to answer questions about all aspects of hazardous waste management and can be reached at **(802) 828-1138**.

- Trade Associations - National, regional, or state-wide trade organizations (e.g., auto dealers, equipment rental industry, wood product manufacturers, drycleaners, ski areas) may be able to provide information about specific hazardous waste management issues that are of interest to their members.

Q1.1: Have you determined which wastes generated at your facility are hazardous wastes (i.e., made a hazardous waste determination)? *See VHWMR § 7-303.*

As a generator, you are required to assess all your waste and determine which wastes are hazardous. See above information for guidance.

Q1.2: Do you have supporting documentation for all hazardous waste determinations? *See §7-202(b)(6).*

As a generator, it is your responsibility to retain records of information used to determine if wastes are hazardous. This may include product information (e.g., product labels, Safety Data Sheets), waste analyses or other determinations for at least three (3) years from the date the waste was last treated on-site or sent off-site for treatment, storage, or disposal. Additionally, if a waste is re-characterized (e.g., if a process changes), those records must also be kept for three (3) years.

Q1.3: **Have you filed a Hazardous Waste Handler Site Identification Form (EPA Form 8700-12)?** *See VHWMR § 7-304(a), § 7-104.*

Any facility that handles hazardous waste in Vermont must submit a Hazardous Waste Handler **Site Identification Form 8700-12** ("Site ID Form") to the Agency. Upon submitting a Site ID Form, a site-specific **EPA Identification Number** is assigned to your facility. You must submit a revised Site ID Form if changes occur that substantively alter the information included on the previous Site ID Form on file with the Division (e.g., contact or generator category change). Alternatively, you may create a RCRAInfo Industry User Account, or login to your existing account, and update your information online.

Additional Information:

- Information regarding EPA Site Identification Numbers is available at: https://dec.vermont.gov/waste-management/hazardous/administrative/epa-site-identification-numbers

- The Site ID Form is available at: https://dec.vermont.gov/sites/dec/files/wmp/HazWaste/Documents/Forms/EPAFORM8700-12Form.pdf

- Instructions for completing the Site ID Form are available at: Excerpt from the Resource Conservation and Recovery Act (RCRA) Subtitle C Reporting Forms and Instructions containing only the Site Identification form information (vermont.gov)

- Create a RCRAInfo Industry User Account at: https://rcrainfo.epa.gov/rcrainfo-help/application/industryHelp/index.htm#t=UserManagement%2FUG-UserMgmtCreateNewUser.htm

Q1.4: Is the Hazardous Waste Handler Site Identification Form (EPA Form 8700-12) up to date – does it accurately describe current waste activity, waste generation, and provide current facility contact information? *See VHWMR § 7-304(b).*

Changes that would require a revised Site ID Form include:

- A change in facility ownership
- A significant change to the type(s) or amount(s) of hazardous waste generated
- A change in generator category
- A change to facility contact information

Generators can change or update company name, types of waste generated, or generator category, and other facility information in one of two ways:

1. Complete and submit to the Agency the Site ID Form.
2. Update their facility's information using EPA's RCRAinfo Industry Application. Learn how to register for a RCRAinfo Industry User Account here.

For minor changes such as updating contact information or mailing address, please reach out directly to Wendy Edwards by phone: 802-522-0261, or email: wendy.edwards@vermont.gov.

If your facility is **moving to a new location**, notify the Division of the change and submit a **new Site ID Form**. Since EPA Identification numbers remain with the physical location to which they were originally assigned, your facility will be issued a new EPA Identification number that is unique to the new location. Be aware that **SQGs are required to renotify every 4 years** beginning in 2025. Renotification is required by September 1 for the years it is due, and it can be completed using the Site ID Form. *See VHWMR § 7-304(b)(1).*

Q1.5: Have you paid the annual hazardous waste registration fee (due April 30th)? *See VHWMR 7-307(c)(5).*

Once you determine you are a generator of hazardous waste and submit a Site ID Form to the Division, your facility will become registered. The Hazardous Waste Generator Registration Fee is an annual fee and registration requirement for all generators of hazardous waste. Fees are normally mailed out by April 1and payment is due by April 30th. The fee is currently $125 for an SQG. Municipalities are exempt from the generator fee requirement.

Q1.6: If your facility treats or recycles hazardous waste on-site, have you submitted a "Generator Treatment" notification form to the Agency for each treatment activity? *See VHWMR § 7-502(o).*

Generators may treat hazardous waste on-site in containers or tanks (without obtaining a certification pursuant to VHWMR Subchapter 5 provided:

- A **Generator Treatment Notification Form** is submitted that includes:
  - Facility and contact information
  - Description of the treatment process including design drawings or process diagrams
  - Estimate of the frequency that treatment will occur
  - Type(s) and estimated quantity of hazardous waste to be treated
  - Detailed description of how treatment products and by-products will be managed

- Hazardous waste being treated is generated and treated on-site, managed according to the VHWMR prior to treatment, and counted for the purpose of determining generator category.

- Records are maintained for 3 years, which document:
  - Type(s) and quantity of hazardous waste being treated
  - Method(s) of treatment used
  - Date(s) that treatment occurred

- All hazardous waste generated from the treatment process is managed according to the VHWMR.

- No thermal treatment processes are used (distillation and wastewater evaporation are not considered thermal treatment).

- No mercury-containing wastes or devices are treated (e.g., fluorescent lamps, thermostats).

- Drum-top crushing of mercury-containing lamps is specifically prohibited in Vermont.

- Treatment does not result in harm to human health or the environment.

Examples of generator treatment are compaction, distillation, curing, and filtration. Vermont's Hazardous Waste Generator Treatment Notification Form is available at: http://dec.vermont.gov/sites/dec/files/wmp/HazWaste/Documents/Forms/GenTreatmentForm.pdf

Q1.7: With the exception of hazardous waste that is treated or recycled on-site, does your facility ship all hazardous waste off-site to a permitted treatment, storage, or disposal facility for proper management? *See VHWMR § 7-309(b)(4).*

Most hazardous waste may only be shipped off-site to a permitted hazardous waste treatment, storage, or disposal facility, using a hazardous waste manifest. The only exceptions to this are:

- Small quantity generators are not required to use a hazardous waste manifest to ship hazardous waste that is being reclaimed under a contractual reclamation ("tolling") agreement. *See* ***VHWMR § 7-702(c).***
- Vermont-listed hazardous wastes may be shipped to an out-of-state facility (that is not a permitted hazardous waste treatment, storage, or disposal facility) using a shipping paper other than a hazardous waste manifest, provided that the receiving facility can accept such waste under applicable state and local laws, regulations, and ordinances. *See* ***VHWMR § 7-309(b)(5) and (7).***

Q1.8: Has your facility reported all reportable discharges/releases of a hazardous waste or a hazardous material immediately by phone and in writing within 10 days? *See VHWMR § 7-105(b) and (c).*

Discharges required to be reported include:

- Any release of hazardous waste or material that is more than 2 gallons
- Any release of hazardous waste or material that is less than or equal to 2 gallons ***and*** poses a threat to human health and the environment
- Any discharge of hazardous waste or material that must be reported under CERCLA. The National Response Center must also be notified at (800) 424-8802
- Is of non-aqueous phase liquid (NAPL) petroleum, or a material detected in environmental media in an amount that exceeds an environmental media standard

To report a release, call the Vermont Waste Management and Prevention Division at **(802) 828-1138 (7:45AM - 4:30PM)** or the Division of Emergency Management and Homeland Security at **(800) 641-5005 (24 hours/day)**. Written reports should be submitted to:

Vermont Department of Environmental Conservation
Waste Management & Prevention Division
1 National Life Drive – Davis 1
Montpelier, VT 05620-3704

All clean-up debris that is determined to be hazardous waste must be managed and disposed of in accordance with the VHWMR.

Q1.9: Do you ensure that no hazardous waste is evaporated? *See VHWMR § 7-302(a).*

Evaporation of hazardous waste is prohibited. All hazardous waste must be stored in containers that can be securely closed to prevent evaporation. *See Sections 2 & 3 of this guidance document.*

Q1.10: Do you ensure that no hazardous waste is diluted? *See VHWMR § 7- 302(b).*

Dilution of hazardous waste is prohibited. This ensures that wastes are treated properly and not merely diluted to decrease the concentration of hazardous constituents.

Q1.11: Do you ensure that no hazardous waste or hazardous material is disposed of on the ground, to surface waters, floor drains, storm drains, a sanitary sewer, or in the trash? *See VHWMR § 7-302(c).*

The release of hazardous material or hazardous waste onto the ground or into surface water, floor drains, storm drains, or the trash is prohibited. Such activity can contaminate ground and/or surface water and threaten drinking water supplies. Examples of wastes that inspectors have observed which have been illegally disposed of include oily wastes, ignitable wastes, contaminated sorbents, contaminated rags, dry cleaning lint, partially full aerosol cans and fluorescent light bulbs.

If a hazardous material or waste is released or discharged to the environment, you must follow specific emergency action and reporting requirements. *See* ***VHWMR § 7-105(a).***

More information about floor drains and spills/releases can be found at:
http://dec.vermont.gov/sites/dec/files/ead/documents/FactSheets/floordrain_fs.pdf

Q1.12: For healthcare facilities: have you determined whether you are subject to VHWMR subchapter 10 for the management of hazardous waste pharmaceuticals? *See VHWMR § 7-301(f).*

A healthcare facility that is either a small quantity generator or a large quantity generator is subject to subchapter 10 for management of hazardous waste pharmaceuticals, including the following requirements:

- Pharmaceutical hazardous waste containers must be labeled with the words 'Hazardous Waste Pharmaceuticals.' Generators must be able to document that they have accumulated the pharmaceutical hazardous waste for less than one year from the date it was generated. Dating the container is recommended to satisfy this requirement.
- Healthcare facilities must ensure that all personnel that manage hazardous waste pharmaceuticals are thoroughly familiar with proper waste handling and emergency procedures.
- Containers of non-creditable hazardous waste pharmaceuticals must be closed and secured, structurally sound, and compatible with their contents.
- A healthcare facility must ship non-creditable hazardous waste pharmaceuticals on a hazardous waste manifest and retain records for at least three years. This requirement does not apply to VSQG healthcare facilities.
- Potentially creditable hazardous waste pharmaceuticals may be shipped to a reverse distributor. Refer to VHWMR § 7-1004(e) and § 7-1010 for details.

- A healthcare facility shipping non-creditable hazardous waste pharmaceuticals on a manifest must write the word "PHRM" in Item 13. No other waste codes are required for non-creditable hazardous waste pharmaceuticals.

Q1.13: Has your facility experienced an episodic event, and did you follow appropriate notification procedures? *See VHWMR § 7-307(e) and § 7-312.*

An episodic event is an activity (or activities) that does not normally occur during operations causing the generator to create more waste, which could cause the generator to exceed the quantity limits for their current generator category. These events can either be planned (e.g., regular maintenance, tank cleanouts, short-term projects, or removal of excess chemical inventory) or unplanned (e.g., production errors, product recalls, accidental spills, fires, or "acts of nature," such as a tornado, hurricane, or flood). A facility is limited to one episodic event per calendar year unless a petition is granted. Episodic events only apply to VSQGs and SQGs. They do not apply to LQGs or household hazardous waste.

If it is a planned episodic event the facility must notify the Secretary no later than thirty (30) calendar days prior to initiating the event using the Site ID Form. If the episodic event is unplanned, the generator must notify the Secretary within 72 hours of the unplanned event and subsequently submit a Site ID Form. For more information use the following link to access the fact sheet: https://dec.vermont.gov/sites/dec/files/wmp/HazWaste/Documents/FactSheets/Episodic%20Generation%20Fact%20Sheet%202022.pdf

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Section 2 - Management of Exempt Waste

What is exempt waste?

Some of the waste generated at your facility may be managed under a conditional or recycling exemption. Contingent on proper management, these wastes streams are exempt from the requirements of the VHWMR. Exempt wastes include used rags contaminated with oil or solvent which are laundered, used oil filters that are drained, used antifreeze that is recycled, and lead-acid batteries that are returned to the vendor or recycled. Used oil is also exempt from some of the requirements of VHWMR contingent on proper management; refer to Section 8 of this guidance for a comprehensive review of used oil management.

Wastes managed under conditional or recycling exemptions do ***not*** count toward generator category, and they should not be marked as "Hazardous Waste". However, their exemption from the hazardous waste requirements is contingent upon following specific management practices. Improper management of exempt wastes makes them ineligible for an exemption from the VHWMR.

Q2.1: If you launder contaminated shop rags, are they stored in containers marked as "Excluded Contaminated Wipes" or with similar language? *See VHWMR § 7-203(w)(1)(A).*
Q2.2: If you launder your contaminated shop wipes, are they stored in containers that are kept closed and non-leaking? *See VHWMR § 7-203(w)(1) and (2).*

Many businesses generate used wipes and shop towels that have been in contact with oil or solvents, such as tetrachloroethylene, methylene chloride, toluene, or methyl ethyl ketone. Wipes contaminated with oil are considered VT02 wastes; wipes that are contaminated with solvents are considered F-listed wastes, even if they appear dry. Used oil and solvent-contaminated rags that do not exhibit a hazardous waste characteristic (i.e., flammability) and that are laundered for re-use, can be managed as a conditionally exempt waste. In order to manage this waste stream as conditionally exempt, your facility must launder the wipes through a commercial laundry service and must accumulate the contaminated rags in a container that is kept closed and that is clearly labeled to indicate that the contents are destined for laundering (i.e., "wipes for laundering").

If you choose not to use a laundry service and instead dispose of the used rags/wipes, you must manage this waste stream as hazardous. Wipes that have been contaminated with solvents must be managed under the F001, F002, F004, and/or F005 waste codes, as applicable; you may not dry the wipes and then dispose of them as solid waste. Wipes that are contaminated with oil (at more than 5% oil by weight) must be managed as VT02 waste.

Good example of conditionally exempt waste management – contaminated shop rags are accumulated into a closed container that is clearly labeled. Container with a large flip top lid allows for easy accumulation of contaminated rags into a hazardous waste container.

Q2.3: If you generate used oil filters, do you gravity-drain them prior to disposal and do you manage the drained oil appropriately? *See VHWMR § 7-203(o)(1) and (2).*

Used oil filters may be thrown away or recycled as scrap metal, provided they are gravity-drained using one of the following methods:

- Puncturing the filter anti-drain back valve or the filter dome end and hot-draining
- Hot-draining and crushing

- Hot-draining and dismantling
- Any other equivalent hot draining method that will remove used oil
- Draining and crushing using a mechanical, pneumatic, or hydraulic device designed for crushing oil filters

Drained used oil must be managed according to used oil requirements (see Section 6).

Q2.4: If you generate used antifreeze for recycling or reuse, is it stored in containers that are marked with words that identify the contents? *See VHWMR § 7-204(i)(2)(A).*
Q2.5: If you generate used antifreeze for recycling or reuse, is it stored in containers that are: kept closed; in good condition; stored on an impervious surface; and protected from rain and snow? *See VHWMR § 7-204(i)(2)(B), (C), and (D).*

Used antifreeze can be managed as a conditionally exempt waste if it will be recycled or reprocessed for reuse; check with your waste management company to confirm that it will be recycled. All spent antifreeze must be stored in containers that are labeled with the words, such as "Spent Antifreeze" or "Used Antifreeze" and not with the words "Hazardous Waste".

Used antifreeze must be stored in closed containers that are in good condition. All containers must be stored on an impervious surface. "Impervious surface" means a surface that is sufficiently impermeable to any waste material stored thereon to prevent that material from migrating into the surface (e.g., porous concrete) or to the soil, groundwater, or surface water. If stored outside, containers must be stored within a structure that will protect the container from precipitation; containers should never be placed directly on the ground. If used antifreeze is mixed with water, you must ensure that the container is stored in such a manner to protect the contents from freezing.

Q2.6: If you generate used lead-acid batteries, do you store them under cover and on an impervious surface? *See VHWMR § 7-204(f)(1).*

If you generate spent lead acid batteries, prior to recycling them, they must be stored on an impervious surface and under cover. If storing them outdoors, ensure that you store them in a structure that protects the batteries from rain and snow.

An example of inappropriate battery storage: batteries being stored outdoors with evidence of contact with precipitation.

An example of appropriate battery storage: batteries are stored indoors and on an impervious surface.

Q2.7: If you generate water-miscible fluids, are they stored in containers that are: in good condition, kept closed, marked with words that identify the contents, and stored on impervious surface? *See VHWMR § 7-203(l)(2).*

Containers and/or tanks holding water-miscible fluids must be in good condition (i.e., no severe rusting, apparent structural defects, or deterioration), kept closed except to add or remove spent material, marked with words that identify the contents, stored on an impervious surface, and if stored out-of-doors, within a structure that sheds rain and snow.

Section 3 - Waste Accumulation and Container Management

Small quantity generators (SQGs) have two options for accumulating hazardous waste: accumulation of waste into containers maintained in satellite accumulation areas, or accumulation into shift accumulation containers and transferring the waste into a central accumulation container maintained in the short-term storage areas (STSA) at the end of each work shift (12 hours or less).

Depending on how hazardous waste is being accumulated at your facility, different regulatory requirements will apply to the management of the accumulation containers.

Section 3A. Satellite Accumulation

What is satellite accumulation?

Satellite accumulation is the collection of hazardous waste at the point of waste generation. Satellite accumulation areas hold waste containers that are intended for the temporary storage of such hazardous waste in a supervised work area. These containers may be in use for as long as it takes to fill them, but once full, must be moved out of the satellite accumulation area to a designated storage area or off-site for disposal. An example of a satellite accumulation container is a 55-gallon drum used for accumulating D001-listed waste from a printing process; this drum is located at or near the printing process line where the D001 waste is generated and is overseen by the operator of the printing process.

Q3.1: For each waste stream accumulating in a satellite area, are you accumulating less than 55 gallons (one drum) of hazardous waste or one cubic yard of VT-listed non-liquid hazardous waste? *See VHWMR § 7-310(a)(1).*

There are volume limits on the amount of hazardous waste that can be accumulated in each satellite areas, and for each waste steam being accumulated. A satellite accumulation container is limited to 55-gallons or less in volume for liquid hazardous waste, and one-cubic yard for Vermont-listed non-liquid hazardous waste (such as oil contaminated solids).

Q3.2: Is only one accumulation container per process waste stream being used to accumulate such waste in each satellite area? *See VHWMR § 7-310(c).*

In each satellite area, only ONE accumulation container **per process waste** may be used for accumulation of hazardous waste. Duplicate containers for a particular waste stream are not permissible. The size of each container must be less than 55 gallons. If you have multiple satellite accumulation areas at your facility for accumulation of the same waste stream (i.e.: three satellite areas for three separate printing process lines that all generate the same waste stream), you are permitted to have one container for the same waste stream at each of the distinct satellite accumulation areas.

Q3.3: Is each satellite area at or near the location where waste is generated? *See VHWMR § 7-310(a)(1).*

Each satellite accumulation area must be established in the vicinity of the process where the waste stream is generated. If your facility has multiple process lines that generate the same waste, but are located at a significant distance from each other, you will need to set up multiple satellite accumulation areas. Hazardous waste containers should never be placed in pathways where motor vehicles or people move.

Q3.4: In each satellite area, is the accumulating waste under the control of the operator of the process generating that waste? See VHWMR *§ 7-310(a)(1).*

All satellite accumulation containers must be under the control of the operator of the process that is generating the waste (i.e., facility representative(s) responsible for operating the equipment generating the waste). You should ensure that each person handling the satellite accumulation container is adequately trained and knows the container management requirements.

Q3.5: Are all satellite accumulation containers chemically compatible with the wastes that are being placed into them? *See VHWMR § 7-310(a)(1)(A).*

Hazardous waste containers must be compatible with the waste stored in them (e.g., do not store acidic waste in a metal container as it may cause the container to corrode and eventually leak). Review any SDS sheets for the materials generating the waste to ensure that there is no incompatibility with the storage container.

Q3.6: Are the satellite containers in good condition? *See VHWMR § 7-310(a)(1)(B).*

All containers holding hazardous waste must be in good condition and must be stored in a manner that does not subject them to physical damage or degradation due to contact with precipitation. Freezable hazardous waste must be managed in a manner that prevents the contents from freezing.

Q3.7: Are all satellite containers located within a structure that sheds rain and snow and has an impervious surface? *See VHWMR 7-310(a)(1)(C).*

As with all hazardous waste containers, satellite accumulation containers must be kept on an impervious surface and containers must be protected from precipitation. Hazardous waste containers

must never be placed directly on the ground. If the process generating the hazardous waste is out-of-doors, you may establish a satellite accumulation area out-of-doors as well, though you must ensure that the containers are stored on an impervious surface and protected from rain and snow.

An impervious surface must be sufficiently resistant to any waste material stored upon it to prevent that material from migrating to the soil, groundwater, or surface water. The type of surface material that is adequate to prevent any spilled waste from migrating through such surface will depend on the type(s) of waste that are being stored and differs for liquid and solid hazardous wastes. For example, the following illustrate the importance of understanding the compatibility of stored materials and the surfaces they are stored upon:

- Hard plastic surfaces are appropriate for storing containers of corrosive wastes (e.g., acids), but metal surfaces are not appropriate for storing such wastes
- Hard plastic surfaces should not be used for storing waste solvents (e.g., acetone), but metal surfaces will provide adequate protection in the event of a spill
- Porous surfaces (e.g., wood) are never an appropriate surface for storing containers of liquid hazardous waste(s)
- Aviation gas and other petroleum products can "eat" asphalt
- Drycleaning solvent can pass through untreated concrete

A good example of outdoor storage of hazardous waste containers. This outdoor shed provides both an impervious surface (hard plastic) and cover from rain and snow. Note that a shed like this would not prevent freezing during winter months; additional or alternative measures must be taken to ensure that freezable hazardous waste does not freeze.

Q3.8: Is each satellite container holding hazardous waste closed (except if actively adding or removing waste)? *See VHWMR 7-310(a)(1)(D).*

All hazardous waste containers must be kept closed except when adding waste to or removing waste from the container. A container equipped with a funnel does not meet the closed container requirement if the top of the funnel is exposed and not fitted with a lid. **Flip-top funnels** may be used, provided the lid is securely closed when the funnel is not in use.

The funnel screwed into the bung of this hazardous waste container has a flip-top lid that is closed and latched – this is a good example of a "closed" container.

Q3.9: Is each satellite container marked with the words "Hazardous Waste" and an indication of the hazards of the contents? *See VHWMR § 7-310(a)(1)(E).*

All satellite accumulation containers must be marked with the words **"Hazardous Waste" AND an indication of the hazards of the contents** (e.g., "ignitable"). This requirement can be met either by using a pre-printed label or by marking the required information directly on the container. Satellite accumulation containers do not have to be dated until they become full.

Q3.10: Are full satellite containers immediately dated? Are full satellite containers moved to a short-term storage area (or transported off-site) within three days of becoming full? *See VHWMR § 7-310(a)(1)(G).*

Satellite containers must be marked with the date immediately upon becoming full, and they must be removed from the satellite area within three days. Full satellite containers can be moved to a short-term hazardous waste storage area (where the containers may be stored for up to 180 days), or transferred to an off-site Treatment, Storage and Disposal (TSD) facility by a permitted Hazardous Waste Transporter. Storage of full containers of hazardous waste in satellite areas beyond three days is not permitted.

Q3.11: Is there adequate aisle space between rows of containers to not obstruct movement of personnel and equipment? *See VHWMR § 7-310(a)(1)(F), § 7-311(b)(3), and § 7-311(f)(4).*

Aisle space should be at least 24 inches wide in order to allow for movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation. Generators should note that some local, state, and federal fire and safety codes and/or regulations require up to 36 inches of aisle space for the storage of flammable and combustible liquids.

Section 3B. Accumulation in Short Term Storage Areas (STSAs)

What is a short-term storage area (STSA)?

A STSA is a designated location where hazardous waste containers are temporarily stored without the facility having to obtain a storage permit. Waste in STSAs has a defined storage time limit of 180 days, after which the waste containers must be transferred off-site to a treatment, storage, and disposal (TSD) facility. All STSAs must be established in accordance with specific design, operating and security standards.

Q3.12: For each waste stream accumulating in a STSA, are you accumulating less than 55 gallons (one drum) of hazardous waste or one cubic yard of VT-listed non-liquid hazardous waste? *See VHWMR § 7-310(b).*

Just as with satellite accumulation areas, if you're accumulating waste in your STSA, you are limited to collecting the waste into a container that is 55-gallons or less in volume for liquid waste, or one cubic yard of Vermont-listed non-liquid waste (such as oil-contaminated solids, managed as VT02). This volume restriction applies to each waste stream in accumulation; you may have multiple accumulation containers in the STSA, but each container must be used for accumulation of a different waste stream. Do not start a new accumulation container for a waste stream until the previous waste container for that waste stream has been determined full and has been marked with a date to indicate the fill date.

Q3.13: Is only one accumulation container per process waste stream being used to accumulate waste in a STSA? *See VHWMR § 7-310(c).*

Only ONE accumulation container per waste stream may be used for accumulation of hazardous waste. Duplicate containers for each waste stream are not permitted. The size of each container must be less than 55 gallons, for each liquid waste stream.

Q3.14: Is the waste collected at the point of generation using a shift accumulation container brought directly to the STSA by a trained employee at the end of each work shift (< 12 hours)? *See VHWMR § 7-310(b)(1).*

Waste that is accumulated in the STSA must be brought to the accumulation container in a shift accumulation container. "Shift accumulation containers" are containers used for collecting hazardous waste from a particular process by a trained employee and must be emptied into a storage container at the end of a defined work shift (typically 12 hours or less). An example of a shift accumulation container is a five-gallon bucket used by a worker to drain cleaning solvent from a mixing drum; the bucket is emptied into a larger accumulation container located in the short-term storage area at the end of that work shift.

Q3.15: Is the shift accumulation container chemically compatible with any accumulated waste? *See VHWMR § 7-310(b)(1)(A)(i).*

Q3.16: Is each shift accumulation container in good condition, kept closed and labelled as "Hazardous Waste" and other words that identify the hazards of its contents? *See VHWMR § 310(b)(1)(A)(ii, iii, iv).*

Container management requirements for shift accumulation containers are similar to those for satellite accumulation containers. All shift accumulation containers must be in good condition (check for leaks, bulging, severe rusting) and must be labeled with the words "Hazardous Waste" and other words that identify the contents.

Note that containers that are part of a process (i.e., container attached to a machine from which waste is continuously draining) are not considered shift accumulation containers and the labeling and management standards applicable to shift accumulation containers do not apply to such containers. However, you should ensure that such containers are placed in a safe and secure location, where the risk of waste spillage is minimized. Waste from these "part-of-the-process" containers should be transferred to either a satellite container or a short-term storage container, as soon as the container is filled, or when the process generating the waste is stopped (i.e., machine generating the waste is turned off).

Q3.17: Is each accumulation container in the STSA marked to indicate that it is an "accumulation container", and to identify the point of waste generation? *See VHWMR § 7-310(b)(2)(B).*

If you accumulate hazardous waste in a container maintained in the STSA, you must indicate (in writing) that the container is an "accumulation container" and state where the accumulating waste is being generated (example: "waste acetone from mixing room"). You may write this directly on the container or attach a label. Once the container is full and is no longer used to accumulate waste, remember to date it to indicate fill date, and remove the "accumulation container" wording from it.

Q3.18: Is each accumulation container in the STSA marked or labeled as required? (See Section 3, Questions 15 through 17 for specific requirements) *See VHWMR § 7-310(a)(1)(E).*

Each accumulation container maintained in the STSA must be marked or labeled with specific information to meet the STSA container management requirements. Please refer to Questions 15 through 17 of **Section 3: Short-Term Storage of Hazardous Waste** for a description of container labeling requirements that apply to all accumulation containers maintained in the STSA. You do not need to date an accumulation container until it is full.

Q3.19: Are accumulation containers located in the STSA dated immediately upon becoming full? *See VHWMR § 7-310(b)(2)(C).*

Once the accumulation container becomes full, or once you cease accumulating waste into the container for any reason (i.e., process discontinued), it must be dated immediately. You may store the container in your STSA for up to 180 days past this date before shipping the waste offsite for further management through a permitted hazardous waste transporter.

Section 4 - Short-Term Storage of Hazardous Waste

What is a Short-Term Storage Area (STSA)?

An STSA is a designated location where hazardous waste containers are temporarily stored without the facility having to obtain a storage permit. Waste is STSAs has a defined storage time limit of 180 days, after which the waste containers must be transferred off-site using a permitted hauler to a transfer, storage, and disposal (TSD) facility. All STSAs must be established in accordance with specific design, operating and security standards.

Q4.1: Can you demonstrate that full containers of hazardous waste are stored on-site for less than 180 days? *See VHWMR § 7-307(c)(2).*

A small quantity generator may store hazardous waste on-site in a designated **short-term storage area** for up to 180 days. All hazardous waste must be shipped off-site to a permitted hazardous waste treatment, storage, or disposal facility within this timeframe. Storage of hazardous waste for more than 180 days is a violation of the VHWMR (unless the facility is permitted as a hazardous waste storage facility).

A one-time 30-day extension to the 180-day storage time limit may be granted at the discretion of the Agency, on a case-by-case basis for unforeseen, temporary, and uncontrollable circumstances.

All containers in storage must be dated, in order to demonstrate that they have not been stored on-site for greater than 180-days.

Q4.2: Do you have less than 13,200 pounds of hazardous waste on site at any one time? *See VHWMR § 7--307(a)(4).*

In addition to the time requirement, small quantity generators may only have 13,200 lbs. (equivalent to thirty 55-gallon drums) of hazardous waste on site at any one time. This volume limit is for total waste on site and includes all the hazardous waste in storage (STSA), as well as any waste that is being accumulated in satellite accumulation areas.

Q4.3: Does your STSA have an impervious storage surface (i.e., floor)? *See VHWMR § 7-311(a)(1).*
Q4.4: Is your STSA located in a structure that sheds rain, snow, and ice? *See VHWMR § 7-311(a)(2).*
Q4.5: Have measures been taken to prevent hazardous waste stored in your STSA from freezing (e.g., is the space heated)? *See VHWMR § 7-311(a)(3).*

Each STSA at your facility must meet required design standards. All hazardous waste present in the STSA must be stored on an impervious surface. A STSA may be located outdoors only if it is within a structure that sheds rain and snow. Hazardous wastes that are subject to freezing and expansion must be stored in a heated space sufficient to prevent freezing. Refer to Section 2A, Question 7 (impervious surface).

Q4.6: Is spill and fire control equipment available in the vicinity of each STSA? *See VHWMR § 7-311(a)(4).*

You must ensure that spill and fire control equipment are located within an immediate area of each STSA, where staff can quickly access the equipment in the event of an emergency.

Q4.7: Is aisle space between rows of containers at least 24 inches? *See VHWMR § 7-311(b)(3).*

Facility and emergency response personnel must be able to move freely about a STSA to conduct inspections, check the inventory and, if necessary, respond to emergencies. To ensure unobstructed movement of personnel and equipment (fire protection, spill control and decontamination), there must be at least two (2) feet of space between rows of hazardous waste containers.

Q4.8: Is hazardous waste labeling visible on all containers in the STSA? *See VHWMR § 7-311(b)(2).*

Containers stored inside each STSA must be clearly marked or labeled, and the contents of the label must be visible. When transferring containers to the STSA, each container must be placed in a way that the label is easily observable (i.e., labels are facing the aisle and not the wall).

A good example of container management in a STSA, with at least 2 feet of aisle space in between rows and visible waste labels.

Q4.9: Is each container in the STSA closed, except to add or remove waste? *See VHWMR § 7-311(f)(4)(A).*

As with all hazardous waste containers, those located in the STSA must be kept closed, except when adding or removing waste.

Q4.10: Are incompatible hazardous wastes segregated or stored in separate enclosures? *See VHWMR § 7-311(b)(1).*

Q4.11: Have you avoided placing incompatible wastes into the same container? *See VHWMR § 7-311(f)(4)(C)(i).*

Incompatible wastes must not be stored in the same enclosure, building, or structure unless they are segregated in a way that prevents the wastes from coming into contact with one another under any circumstances.

Q4.12: Have you avoided placing waste into an unwashed container that previously held an incompatible waste or material? *See VHWMR § 7-311(f)(4)(C)(ii)*.

Incompatible wastes and materials should never be stored in the same container. A container holding a hazardous waste that is incompatible with any waste or materials accumulated or stored nearby must be separated from the other materials by means of a dike, berm, wall, or other device.

Many hazardous wastes, when mixed together with other waste materials, can produce effects that are harmful to human health and the environment, such as heat, pressure, fire, explosion, violent reaction, toxic mists, fumes, gases, or flammable fumes or gases. Facilities may generate wastes that are incompatible, and it is important to take this into account when setting up the STSA. Examples of incompatible wastes are acids and bases, oxidizers and flammable/combustible wastes, organics and acids, cyanide and acids, and alkali metals and aqueous waste. Information on a specific product's chemical incompatibilities can be found on that product's Safety Data Sheet (SDS).

Wastes that could potentially react if mixed must not be placed in the same container, an unwashed container that previously held an incompatible waste or material, or in an area where the wastes could mix if spilled. Containers holding potentially incompatible hazardous wastes that are stored in the same STSA must be physically separated by a dike, berm, wall, or other device (e.g., a secondary containment tray).

This photograph depicts a violation - reactive hazardous waste (cyanide, D003) and corrosive hazardous waste (acids, D002) could potentially react if mixed and should not be stored next to each other.

Q4.13. Do you avoid opening, handling, or storing containers holding hazardous waste in a manner which may rupture the containers or cause them to leak? *See VHWMR § 7-311(f)(4)(B).*

Containers holding hazardous waste must always be closed during storage except when it is necessary to add or remove waste, and they must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

Q4.14. Are all containers holding ignitable or reactive waste located at least 50 feet from the property line? *See VHWMR § 7-311(f)(6)(A).*

All containers storing ignitable or reactive waste it must be placed 50 feet from the property line unless a written approval is obtained from the authority having jurisdiction over the local fire code. A record of

the written approval must be maintained as long as ignitable or reactive hazardous waste is accumulated or stored in this area.

Q4.15: Are containers labeled with the words "Hazardous Waste"? *See VHWMR § 7-311(f)(1)(A).*
Q4.16: Are containers marked with an indication of the hazards of the contents? *See VHWMR § 7-311(f)(1)(B).*

An indication of the hazards of the contents must be noted on each container. Examples include, but are not limited to, the applicable hazardous waste characteristic(s) (i.e., ignitable, corrosive, reactive, toxic); hazard communication consistent with the Department of Transportation requirements at **49 CFR Part 172 subpart E** (labeling) or subpart F (placarding); a hazard statement or pictogram consistent with the Occupational Safety and Health Administration Hazard Communication Standard at **29 CFR 1910.1200**; or a chemical hazard label consistent with the **National Fire Protection Association code 704**).

Q4.17: Are containers marked with the date when they were first used to store hazardous waste (except for accumulation containers)? *See VHWMR § 7-311(f)(1)(C).*

Each container storing hazardous waste in the STSA must be marked with a date to indicate when the container became full (storage start date). You have 180 days from this date to remove the container from your facility. Containers used to accumulate hazardous waste (waste from shift accumulation) do not need to be marked with the date that the container was first used to accumulate hazardous waste. These containers, like satellite accumulation containers, must be marked with the date immediately upon becoming full.

A pre-printed label such as this can be used for labeling your hazardous waste containers located in the STSA. Please note that "Accumulation Start Date" is the date that the container became full and went into storage - the container can remain in the STSA for up to 180 days.

Q4.18: Is a "Danger-Hazardous Waste Storage Area-Authorized Personnel Only" sign, visible from 25 feet, posted at each STSA? *See VHWMR § 7-311(e)(1).*
Q4.19: Is a "No Smoking" sign posted at each STSAs where ignitable wastes are stored? *See VHWMR § 7-311(e)(2).*
Q4.20: If your facility is located in a county that borders the province of Quebec, are warning signs written in both English and French? *See VHWMR § 7-311(e)(1).*

Each short-term hazardous waste storage area must be posted with a sign that reads "Danger-Hazardous Waste Storage Area-Authorized Personnel Only." If your facility stores ignitable hazardous waste, then a "No Smoking" sign must also be posted if your facility. Both signs must be visible from a distance of at least 25 feet. In addition, if your facility is located in a county that borders Quebec, Canada, the sign(s) must be written in both English and French.

Correct signage at the entrance to a short-term hazardous waste storage area where ignitable waste is stored

English and French signage at the entrance to a short-term storage area

Q4.21: Is the name and telephone number (office, cell, and home) of the emergency coordinator(s) posted in the vicinity of each STSA? *See VHWMR § 7-307(c)(13)(B)(i).*

You are required to post contact information for each designated emergency coordinator next to telephones or in areas directly involved in the generation and short-term storage of hazardous waste. This information will be used to alert the emergency coordinator in an event of an emergency. The emergency coordinator's name and emergency telephone numbers must be posted.

Q4.22: Is the location of fire extinguishers, spill control material, and, if present, fire alarm, posted in the vicinity of each STSA? *See VHWMR § 7-307(c)(13)(B)(ii).*

Information regarding the location of the spill control material(s), a fire extinguisher, and a fire alarm must be posted in the vicinity of each STSA. This information will assist staff or designated responders to locate the necessary equipment quickly and efficiently in the event of an emergency.

Q4.23: Is the telephone number of the fire department (unless your facility has a direct alarm) posted in the vicinity of each STSA? *See VHWMR § 7-307(c)(13)(B)(iii).*

Unless your facility has a direct alarm that alerts the fire department in case of an emergency, you must post the telephone number of the local fire department at or in the vicinity of each STSA. Ensure that the posting is easy to locate and read, as staff will need quick access to this information in the event of an actual emergency.

Q4.24: Do you maintain an up-to-date inventory of hazardous waste in each STSA, and is this inventory kept at a location apart from the STSA? *See VHWMR § 7-311(d)(1).*

Your facility must keep an accurate list (i.e., an inventory) of all hazardous waste that is both accumulating and being stored in a short-term storage area; if your facility maintains more than one short-term storage area, a separate inventory must be maintained for each area. To help ensure that first responders can be informed of potential hazards in the event of an emergency, inventory records must be kept at a location apart from the short-term storage area(s); electronic records are an adequate way to satisfy requirements. The inventory must identify the type of waste held in each container of hazardous waste in the short-term storage area. An electronic inventory is acceptable provided it is available for review during an unannounced inspection by the Agency.

Q4.25: Do you complete and document weekly inspections of each STSA? *See VHWMR § 7-311(d)(2).*

Weekly inspections of short-term storage areas are required and must be conducted at least every seven (7) days when containers of hazardous waste are present in the STSA. If your facility has multiple STSAs, you must complete a separate inspection for each area.

If you accumulate hazardous waste in STSAs, you must conduct daily inspections during regular business days of each STSA. The inspections shall be recorded in a log that is kept at the facility for at least three years.

Q4.26: Are your weekly inspection records kept for at least 3 years? *See VHWMR § 7-311(d)(2)*

Weekly inspection logs must be retained on-site for a minimum of three years. These records may be requested for review by Agency inspectors conducting a hazardous waste inspection at your facility.

Q4.27: Does your weekly inspection log document the condition of hazardous waste drums? *See VHWMR § 7-311(d)(2)(A)(i).*
Q4.28: Does your weekly inspection log document the presence and condition of Safety and Emergency Equipment? *See VHWMR § 7-311(d)(2)(ii)*.
Q4.29: Does your weekly inspection log document whether there is adequate aisle space (minimum 24 inches)? *See VHWMR § 7-311(d)(2)(iii).*
Q4.30: Does your weekly inspection log describe problems encountered and corrective actions taken? *See VHWMR § 7-311(d)(2)(iv).*

Q4.31: Does your weekly inspection log include the Date of Inspection/Inspector's Signature? *See VHWMR § 7-311(d)(2)(v).*

Your weekly STSA inspection routine must include specific components. At a minimum, on a weekly basis (when facility is operating and hazardous waste is present in the STSA), you must inspect each of the following:

- Condition of hazardous waste drums, including signs of bulging or leaking
- The presence of the required safety and emergency equipment such as spill control and fire extinguishers
- The adequacy of aisle space between row of containers (at least 24")

The inspection log must also include each of the following:

- Space to record any problems/issues encountered and any corrective actions taken by the facility to resolve the problem(s)
- The date that each inspection is completed
- Signature or initials of the staff completing the inspection for the day

Inspections must be completed by a staff member that is trained to conduct hazardous waste inspections. While many facilities have only one staff member that is responsible for completing the weekly inspections, it is a good idea to have a second staff member designated as a back-up, in case the primary inspector is not available (vacation, sick, etc.).

While the exact format of the inspection form is up to each individual generator to develop, below (page 38) is an example of the form that meets all the requirements set by the VHWMR and can be used by any facility to complete inspections.

Q4.32: If you use tanks to store hazardous waste, are the tanks marked with the words "Hazardous Waste" and other words to identify the contents of the tank? *See VHWMR § 7-311(g)(1)(A).*

If you use tanks to store hazardous wastes, each tank must be labeled with the words "Hazardous Waste" and an indication of the hazards of the contents.

EXAMPLE: HAZARDOUS WASTE SHORT-TERM STORAGE AREA WEEKLY INSPECTION CHECKLIST

Name of Company: _____

HAZARDOUS WASTE STORAGE AREA WEEKLY INSPECTION CHECKLIST (for fully-regulated generators)

For Month of _____**; Year** _____

Date	Rusting, bulging or leaking container(s)?	Availability of safety and emergency equipment (fire extinguisher, spill kit, decontamination equipment)?	24-inch aisle space?	Problem areas and corrective actions taken?	Signature or initials of inspector

For Month of _____**; Year** _____

Date	Rusting, bulging or leaking container(s)?	Availability of safety and emergency equipment (fire extinguisher, spill kit, decontamination equipment)?	24-inch aisle space?	Problem areas and corrective actions taken?	Signature or initials of inspector

Note: Weekly inspections shall be conducted at least every seven (7) days

Section 5 - Hazardous Waste Manifests and Land Disposal Restrictions (LDR)

Q5.1: Do you use a Hazardous Waste Manifest for each hazardous waste shipment? *See VHWMR § 7-702(a)(1).*

SQGs are required to ship hazardous waste on a manifest. All manifests must be submitted, whether paper or electronic, to the U.S. Environmental Protection Agency's (EPA's) e-Manifest system (this is typically done by the permitted facilities that receive hazardous waste from generators referred to as "treatment, storage or disposal facilities" or TSDF). The e-Manifest system enables electronic tracking of hazardous wastes shipments from generators to TSDFs and will serve as a national reporting hub and database for all hazardous waste manifests and shipment data. Complete transition to electronic manifests will be phased in at a later date. Under this new system, there are several ways to submit manifests to EPA, ranging from mailing conventional paper to full electronic delivery. Receiving facilities will pay a fee that varies based on how manifests are submitted.

More information about the e-Manifest system can be accessed below:
www.epa.gov/e-manifest

Q5.2: Is hazardous waste offered for shipment only to transporters and TSDFs with EPA ID numbers? *See VHWMR § 7-309(b)(2).*

You must ensure that any hazardous waste that your company offers for shipment to a designated receiving facility is only handled by transporters who hold a current permit to transport hazardous waste in the state of Vermont and is received by treatment, storage, recycling, or disposal facilities that have an EPA Identification number.

Q5.3: Do you verify that each section of the manifest is completed accurately? *See VHWMR § 7-702.*

Except for hazardous waste subject to a tolling (reclamation) agreement, SQGs must prepare an electronic manifest when shipping hazardous waste off-site. Regardless of who fills out the manifest, it is always the generator's responsibility to ensure that the information included is legible, correct, and complete.

All applicable sections of the electronic manifest must be completed prior to shipping hazardous waste off-site. Among other things, your facility's name and EPA Identification number must be identified, along with the names and EPA Identification numbers for the hazardous waste transporter(s) and designated treatment, storage or disposal facility selected to handle the waste. The waste must also be described accurately in the space provided.

Q5.4: Do you confirm that a completed copy of each manifest is returned to your facility from the designated TSDF within 35 days? *See VHWMR § 7-702(b)(11).*
Q5.5: If a completed copy of a manifest was not received by your facility within 45 days of the initial shipment, did you submit an exception report to the Agency? *See VHWMR § 7-707(b).*

Upon accepting a shipment of hazardous waste, both the transporter(s) and the designated treatment, storage or disposal facility must sign and date the manifest in the appropriate spaces. The

designated facility is then required to send a copy of the **completed manifest** (i.e., a copy that has been signed by each handler) back to your facility. **This copy documents that the designated facility received your waste.**

If you do not receive a completed manifest within **35 days** of initial shipment, you must contact the designated facility and attempt to locate the manifest (and, if necessary, the shipment).

If you have not received a completed manifest within **45 days** of initial shipment, you must immediately submit an **Exception Report** to the Agency (*See **VHWMR § 7-707***).

Q5.6: For applicable hazardous wastes, do you retain Land Disposal Restrictions (LDR) paperwork on file? *See VHWMR § 7-106(a).*

Certain hazardous wastes may not be disposed of in or on the land. Land Disposal Restriction records are required for federally listed hazardous wastes generated at your facility; Vermont-listed hazardous wastes, such as VT02, do not require LDRs. Information provided on LDRs is used to ensure that hazardous waste has been properly treated (if necessary) prior to disposal in a hazardous waste landfill. Even though landfills are required to comply with strict requirements designed to protect their liners, and employ leak detection systems and groundwater monitoring equipment, the LDRs provide additional information to protect landfills from potential impacts of disposed hazardous waste. In short, hazardous waste landfill operators must be informed of the types of hazardous waste being disposed (i.e., hazardous waste codes) and of any underlying hazardous constituents that may be present in the waste in low concentrations.

Prior to the initial shipment of each hazardous waste stream, an accurately completed **LDR notification record** must be provided to the designated end facility. Transporters usually provide (and often complete) such forms for their customers (i.e., generators). The regulations do not require the use of a specific format for the form, and only specify the required information that must be provided to the designated facility. As the generator of the waste, it is **your responsibility** to ensure that an accurate and complete LDR notification is provided to the designated end facility, and to retain a copy of this notification for your facility's records.

An example of a Land Disposal Restriction notification:

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM PHASE IV

Page _____ of _____

Generator Name: _____ EPA ID #_____ State Manifest No. _____

1. If waste is a wastewater (see 40 CFR 268.2) place "w" next to the applicable code(s) Profile # _____

2. CODES WITH SUBCATEGORIES (place appropriate letter from section 8 before each code that applies) (See 40 CFR 268 for details)

____ D001 Hi-TOC	____ D008 Lead acid batteries	____ K069 Not Calcium Sulfate	____ P065 Lo RMERC Res.	____ U151 Hi Hg
____ D001 Except Hi-TOC	____ D009 Organic Hg > 260ppm	____ K071 Rmerc Res.	____ P065 Not Inc./RMERC Res.	____ U240 2, 4 D
____ D003 Reactive Cyanide	____ D009 Inorg. Hg > 260	____ K071 Not Rmerc Res.	____ P065 Hi Inc./RMERC Res.	____ U240 2, 4 esters & Salts
____ D003 Reactive Sulfide	____ D009 Hg < 260	____ K106 Lo Rmerc Res.	____ P092 Lo Inc. Res.	
____ D003 Explosive	____ F025 Light ends	____ K106 Not Rmerc Res.	____ P092 Lo RMERC Res.	
____ D003 Water Reactives	____ F025 Spent filter	____ K106 > 260 ppm Hg	____ P092 Not Inc/RMERC Res.	
____ D003 Unexp Ord. Emg	____ K006 Hydrated	____ P047 Salts	____ P092 Hi Inc//RMERC Res.	
____ D003 Other Reactives	____ K006 Anhydrous	____ P047 Nonsalts	____ U151 Lo RMERC Res.	
____ D006 Batteries	____ K069 Calcium Sulfate	____ P065 Lo Inc. Res.	____ U151 Lo Not RMERC Res.	

The subcategory for D018-D043 waste is "treated in nonCWA/nonSDWA facility" unless the following box is checked: ☐ "treated in CWA/SDWA facility"

3. COMMON CODES (Place appropriate letter from section 8 before each code that applies)

____ D002	____ P012	____ P030	____ P051	____ P098	____ P105	____ P205	____ F006	____ F007	____ F008	____ F009	____ F010	____ F011	____ F012	____ F019	____ F039
____ D004	____ D005	____ D006	____ D007	____ D008	____ D009	____ D010	____ D011	____ D012	____ D013	____ D014	____ D015	____ D016	____ D017	____ D018	____ D019
____ D020	____ D021	____ D022	____ D023	____ D024	____ D025	____ D026	____ D027	____ D028	____ D029	____ D030	____ D031	____ D032	____ D033	____ D034	____ D035
____ D036	____ D037	____ D038	____ D039	____ D040	____ D041	____ D042	____ D043	____ F001	____ F002	____ F003	____ F004	____ F005	____ U002	____ U003	____ U006
____ U007	____ U044	____ U061	____ U072	____ U080	____ U108	____ U117	____ U122	____ U123	____ U136	____ U154	____ U188	____ U213	____ U220	____ U226	____ U279
															____ K061

ADDITIONAL CODES (Enter all codes not identified above which are associated with waste)

4. USEPA HAZARDOUS WASTE CODE(S)	5. TREATMENT STANDARDS FOR NON-PHASE II STATES (INDICATE THE APPLICABLE TREATMENT STANDARD 268.41, 268.43 OR SPECIFIED TECHNOLOGY BELOW)	6. HOW MUST THE WASTE BE MANAGED? ENTER THE LETTER FROM BELOW

To identify F039, or UHCs managed in non-CWA, use the "F039/Underlying Hazardous Constituents Form" provided and check here: ☐
If no UHCs are present upon generation check here: ☐ Check here if disposal facility will check for all UHCs ☐ (i.e. no UHC form required)
To list additional EPA waste code(s), use the supplemental sheet and check here: ☐ In lieu of supplemental sheet you may use multiple copies of this form.

7. SOLVENT CONSTITUENTS (F001 - F005) Check here if disposal facility will check for all spent solvents ___

____ Acetone	____ Benzene	____ n-Butyl alcohol	____ Carbon disulfide
____ Carbon Tetrachloride	____ Chlorobenzene	____ O-Cresol	____ Cresols (m&p)
____ Cyclohexanone	____ o-Dichlorobenzene	____ 2-Ethoxyethanol	____ Ethyl acetate
____ Ethyl benzene	____ Ethyl ether	____ Isobutanol	____ Methanol
____ Methylene chloride	____ Methyl ethyl ketone	____ Methyl isobutyl ketone	____ Nitrobenzene
____ 2-Nitropropane	____ Pyridine	____ Tetrachloroethylene	____ Toluene
____ 1,1,1 Trichloroethane	____ 1, 1, 2-Trichloroethane	____ 1, 1, 2-Trichloro, 1, 2, 2-trifluoroethane	____ Trichloroethylene
____ Trichloromonofluoromethane	____ Xylenes		

8. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.)

A. or ✓ RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

B.1 RESTRICTED WASTE TREATMENT TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

B.2 (CERTIFICATION REMOVED BY PHASE IV)

B.3 GOOD FAITH AND ANALYTICAL CERTIFICATION - FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

E. WASTE NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature_____

Title _____ Date _____

FORM # OES-78B

GENERATOR COPY

Section 6 - Emergency Preparedness

Q6.1: Is your facility operated in a manner that minimizes the potential for emergencies involving hazardous waste? *VHWMR § 7-309(a).*

You must operate in a manner that minimizes the possibility of fire, explosion, or release of hazardous waste to the air, soil, or water, which could threaten human health or the environment. This can be accomplished through implementing standard operating procedures, effective maintenance schedules, and comprehensive emergency response procedures. The potential for incidents can be further minimized through "common sense" prevention measures such as:

- Locating hazardous waste containers away from high-traffic areas and floor drains
- Providing secondary containment in container storage and accumulation areas
- Repairing cracked or damaged floors in waste handling and storage areas
- Minimizing the movement of hazardous waste containers
- Ensuring that designated storage areas are kept at a temperature appropriate for the wastes
- Ensuring containers are kept closed
- Ensuring containers are not overfilled

Q6.2: Have you designated at least one employee to serve as the "emergency coordinator" for your facility and is that person familiar with the specific responsibilities of that position? *See VHWMR § 7-307(c)(13)(A).*

All SQG facilities must designate at least one employee to serve as an emergency coordinator for the facility. This individual must have the authority to commit the resources needed to carry out an emergency response and must be routinely on-site or available on call any time when an emergency may arise (i.e., 24-hour/day and 7 days per week). An emergency coordinator is responsible for:

- Coordinating all response measures in an event of an emergency at the facility
- Being thoroughly familiar with all aspects of facility operations, activities, and layout
- Knowing the location and characteristics of wastes handled
- Knowing the location of all hazardous waste-related records within the facility

Q6.3: Is at least one emergency coordinator either on the premises or on call at all times? *See VHWMR § 7-307(c)(13)(A).*

The designated emergency coordinator(s) must either be on premises or on call at all times. Staff that needs to be away from the facility and may not always be available to respond to an emergency within a short period of time may not be the most appropriate staff to serve as the emergency coordinator.

Q6.4: Is emergency response information posted in the immediate vicinity of all short-term storage areas and locations where hazardous wastes are accumulated? *See VHWMR 7-307(c)(13)(B).*

In addition to designating an emergency coordinator(s) for your facility, SQGs must post the following up-to-date information in the vicinity of all short-term storage areas and other locations where hazardous wastes are accumulated:

- Name and telephone number(s) of each designated emergency coordinator (work and off-site phone numbers)
- Telephone number of the fire department unless the facility has a direct alarm
- Location of fire extinguishers, spill control materials, and, if present, the location of the fire alarm

An example of an emergency response posting:

Emergency Response Information

Emergency Coordinator(s)	Work Phone	Pager # or Home Phone

Fire Department	Phone	
Police Department	Phone	
Hospital	Phone	
Vermont DEC Spill Response Team	Phone	802-828-1138
Vermont 24-hour Emergency Response Line	Phone	800-641-5005
National Response Center (24-hour)	Phone	800-424-8802

Location of Emergency Response Equipment

Fire Extinguishers _____

_____

Fire Alarm (if present) _____

Spill Control Materials _____

Special Equipment (if present) _____

Q6.5: Is the emergency coordinator(s) able to perform the required emergency responses? *See VHWMR § 7-307(c)(13)(D).*

- In the event of a fire, call the fire department, or, if appropriate, attempt to extinguish the fire
- In the event of a discharge of hazardous waste or a release of hazardous material, take appropriate actions to protect human health and the environment including, but not limited to, emergency containment measures and further clean-up actions or corrective actions as may be required and approved by federal, state, or local authorities
- In the event of a discharge of hazardous waste or release of hazardous materials that could threaten the environment or human health outside the facility, notify the following:
    - During normal business hours: Vermont Waste Management & Prevention Division **802-828-1138**; or
    - Vermont Department of Public Safety, Division of Emergency Management and Homeland Security (24 hours/day) **800-641-5005**; or
    - If local evacuation is necessary, the National Response Center, **800-424-8802.**

Q6.6: Is each employee with hazardous waste management responsibilities thoroughly familiar with the emergency procedures, proper waste handling procedures relevant to their job responsibilities, and evacuation signals/routes? *See VHWMR § 7-307(c)(13)(C).*

Small quantity generators must ensure that all employees who handle or otherwise manage hazardous waste or sign hazardous waste manifests are familiar with proper waste handling procedures (relevant to their responsibilities during normal facility operations), facility evacuation routes and emergency response procedures. There are no specific requirements for the format of the training that SQG staff must complete, or specific topics that each training session must include. Each facility must develop its own effective training plan. Suggested hazardous waste training topics include:

- How to make a hazardous waste determination
- Proper marking/labeling of hazardous waste containers
- Hazardous waste container handling
- Conducting inspections and maintaining an inventory of hazardous waste containers in a short-term storage area
- Emergency response procedures and equipment (i.e., fire extinguishers, spill control material, fire alarms)
- Management of used oil, conditionally exempt wastes, and universal wastes
- Hazardous waste manifest requirements.

While not required, the Agency suggests initial hazardous waste training for new employees (within a month of hire) and annual refresher training for all employees with hazardous waste responsibilities.

In a typical facility, personnel who should be trained include employees who:

- Place hazardous waste in containers or move containers of hazardous waste

- Conduct short-term storage area (STSA) inspections
- Complete and/or sign Hazardous Waste Manifests or Land Disposal Restriction notifications
- Track manifests and have record-keeping responsibilities
- Are designated as the emergency coordinator or an alternate emergency coordinator.

Q6.7: Have you determined what types of emergency response equipment your facility is required to have? *See VHWMR § 7-309(a)(1)(A) through (D).*

It is your responsibility to determine which emergency equipment must be present at your facility. Emergency response equipment typically includes:

- An internal communication or alarm system capable of providing emergency instructions to facility personnel.
- A device that is immediately available on-site and capable of summoning emergency assistance (e.g., cellular telephone).
- Fire-control equipment, spill-control equipment, and decontamination equipment; and
- Availability of water, foam-producing equipment, or automatic sprinklers as appropriate for facility operations.

All facility communications or alarm systems, fire protection equipment, spill-control equipment, and decontamination equipment must be tested and maintained as necessary to ensure it is in proper working order in time of emergency.

Q6.8: Is all emergency equipment tested and maintained as necessary to ensure its proper operation in time of emergency? *See VHWMR § 7-309(a)(2).*

All communication and alarm systems, fire protection and spill control equipment, and decontamination equipment must be tested and maintained to ensure that it will operate properly in the event of an emergency. Contact your local fire department for information on testing and maintenance.

Q6.9: **Have you familiarized emergency response organizations with the information pertaining to potential hazards posed by your facility?** *See VHWMR § 7-309(a)(4).*

Your facility is required to make an attempt to familiarize local emergency response organizations (e.g., fire and police departments, hospitals, and emergency response contractors, as appropriate) with the types and properties of hazardous waste handled, facility layout, and evacuation routes. Hospitals should also be made aware of the types of injuries or illnesses that could result from wastes handled at your facility.

Communication with the emergency response organizations should be in writing, and copies of communications should be retained for your records.

Q6.10: Are you maintaining aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes? *See VHWMR § 7-309(a)(5).*

Section 7 - Used Oil Management

Although used oil is exempt from regulation as hazardous waste under **Section 7-203(n),** it is subject to and regulated under the Used Oil Management Standards of VHWMR **Subchapter 8**: https://dec.vermont.gov/sites/dec/files/wmp/HazWaste/Documents/VHWMR%20Effective%20Feb%2001%2C%202022%20Subchapter%208.pdf

VHWMR subchapter 8 identifies those materials that can be managed as used oil and establishes standards for the handling, storage, transportation, aggregation, collection, and burning used oil as fuel. Since used oil that meets fuel burning specifications has value as a commodity, "used oil fuel" is distinguished in subchapter 8 from "used oil" by allowing used oil fuel to be managed according to abbreviated standards.

Used oil is defined as any petroleum product refined from crude oil or any synthetic oil that has been used and has been contaminated as a result of that use. Used oil is a free-flowing liquid at standard temperature and pressure and has a flash point greater than 100 degrees (F). Examples of used oil include:

- Vehicle crankcase oils, transmission fluids, and power steering fluids
- Hydraulic, compressor and straight cutting oils
- Machine gearbox oil, tramp oil, and oil drained from evaporators

See the *Used Oil* fact sheet for more information about used oil: https://dec.vermont.gov/sites/dec/files/wmp/HazWaste/Documents/FactSheets/Used%20Oil%20Fact%20Sheet%202022.pdf

Q7.1: **If used oil is burned as fuel at your facility, have you tested the used oil for fuel specifications?** *See VHWMR § 7-812(c)(1).*

In Vermont, used oil may be burned as fuel provided that certain minimal requirements are met. If you burn your own used oil on-site or receive off-site generated used oil in shipments of 55-gallons or less, you must test the used oil from each source for total halogens prior to burning it as fuel. If you receive off-site generated used oil in shipments of more than 55 gallons, either you or the used oil generator must test the used oil to verify that all used oil fuel specifications are met.

Only used oil that passes the total halogens test or meets all the used oil fuel specifications may be managed as Used Oil Fuel. If the used oil fails the test for total halogens or fails to meet the used oil fuel specifications, it **cannot** be burned in small fuel-burning equipment (e.g., space heaters).

Used oil from a specific source only needs to be tested one time. However, if an oil-generating process changes or if you have reason to believe that the quality of the used oil has changed, you must retest the used oil.

You must retain records documenting that your used oil fuel has been evaluated for used halogens and/or used oil fuel specification for a period of three years.

Used oil test kit for evaluation of total halogens in used oil fuel prior to burning. You may use this type of kit for evaluating oil that your facility generates or that you receive from off-site facilities in shipments of 55 gallons or less.

Used Oil Fuel Specifications

Constituent / Property	Allowable Level
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash Point	100°F minimum
Total Halogens	1000 ppm maximum
PCBs	< 2 ppm maximum
Net Heat of Combustion	8000 BTU/lb. minimum

Used oil fuel specifications – if you receive off-site used oil in shipments of greater than 55s-gallons, you must ensure that all these specifications are met prior to burning the used oil as fuel.

In addition to burning used oil fuel that is generated on site, burners may accept used oil fuel from:

- Do-it-yourselfers (households that generate used oil); or
- Off-site facilities that are owned and operated by the burner; or
- Other businesses and municipalities.

See the *Used Oil Burning* fact sheet below:
https://dec.vermont.gov/sites/dec/files/wmp/HazWaste/Documents/FactSheets/Used%20Oil%20Burning%20Fact%20Sheet%202022.pdf

Q7.2: Are containers of used oil/used oil fuel closed when not adding or removing used oil/used oil fuel? *See VHWMR § 7- 806(b)(1).*

All containers holding used oil must be kept closed, except when actively adding or removing the used oil. A container equipped with a funnel does not meet the closed container requirement unless the funnel is fitted with a lid and fastened securely to the drum. Flip-top funnels that are screwed into the bung may be used, provided the lid is securely closed when the funnel is not in use.

Q7.3: Are containers holding used oil/used oil fuel managed in a manner to prevent the container from rupturing or causing a release? *See VHWMR § 7-806(b)(2).*

If a container holding used oil ruptures or leaks, the used oil must be immediately transferred from the leaking container to a container that is in good condition.

Improper storage of used oil containers

Q7.4: Are containers holding used oil/used oil fuel compatible with oil? *See VHWMR § 7-806(b)(3).*
Q7.5: Are containers holding used oil/used oil fuel in good condition? *See VHWMR § 7-806(b)(4).*
Q7.6: Are containers holding used oil/used oil fuel marked with the words "Used Oil" or "Used Oil Fuel"? *See VHWMR § 7-806(b)(5).*
Q7.7: Are containers holding used oil/used oil fuel stored on an impervious surface? *See VHWMR § 7-806(b)(6).*
Q7.8: Are containers of used oil/used oil fuel protected from rain and snow? *See VHWMR § 7-806(b)(7).*

Used oil must be stored in containers that are made of or lined with compatible material. These containers must be in good condition, with no severe rusting, apparent structural defects, or deterioration. Used oil containers must be marked or labeled with the words "Used Oil", which must be clearly visible. Containers must be stored on an impervious surface that is sufficiently resistant to prevent the oil from migrating to the soil, groundwater, or surface water. Porous surfaces (such as

wood) are not appropriate for storing containers of used oil. Containers holding used oil may be stored outdoors only if the containers are placed in a structure that sheds both rain and snow.

Q7.9: **Are containers holding used oil/used oil fuel and water mixtures protected from freezing?** *See VHWMR § 7-806(b)(8).*

Any container holding a mixture of used oil and water must be placed in a structure that protects the container from freezing.

Improper outdoor storage of used oil containers – they are not on an impervious surface or protected from precipitation.

Proper outdoor storage of used oil containers – containers are protected from precipitation and are stored on an impervious surface.

Q7.10: If you store used oil in an above-ground storage tank, is the tank marked with the words "Used Oil" or "Used Oil Fuel"? *See VHWMR § 7-806(d)(2).*
Q7.11: If you store used oil in an aboveground storage tank located outdoors, is the tank equipped with secondary containment? *See VHWMR § 7-806(d)(4).*

All aboveground tanks storing used oil/used oil fuel must be marked or labeled as "Used Oil" or "Used Oil Fuel". If located outdoors, tanks must be equipped with a secondary containment. This containment system must consist of dikes, berms, or retaining walls, as well as a floor, covering the entire area. The whole containment area must be impervious to oil to prevent any spilled oil from migrating to soil, groundwater, or surface water. Porous surfaces (such as wood) are not appropriate for storage of used oil. Alternatively, a double-walled storage tank may be used; double walled tanks do not require separate secondary containment.

Proper secondary containment for an aboveground storage tank holding used oil outdoors

Improper secondary containment for aboveground storage of used oil outdoors - single-walled, unlabeled tank containing used oil.

Section 8 - Universal Waste

Some commonly used items in businesses contain hazardous materials. Upon becoming spent, these items may release hazardous materials to the environment if not properly managed. Collectively called "Universal Waste", these wastes are generated by a wide variety and large number of businesses and pose a relatively low risk compared to other hazardous wastes. In order to streamline the hazardous waste management of these items, alternative management standards have been established for the following:

- Batteries
- Certain pesticides
- Mercury thermostats
- PCB-containing fluorescent light ballasts
- Lamps (e.g., fluorescent bulbs)
- Mercury-containing devices (e.g., switches and gauges)
- Cathode ray tubes (e.g., older computer monitors and TV screens)
- Postconsumer paint (e.g., unused latex architectural paint). For more information about postconsumer paints, visit: http://dec.vermont.gov/waste-management/solid/product-stewardship/paint

These wastes have been designated for management according to the streamlined Universal Waste standards of **VHWMR Subchapter 9**. Managing these hazardous wastes using the Universal Waste standards is optional; a benefit of opting into these alternative standards is that wastes managed as Universal Waste are exempt from regulation as hazardous waste [**See VHWMR § 7-203(s)**] *and therefore do not count towards the quantity of hazardous waste generated by your facility each month*. All universal wastes must be managed in a way that prevents breakage and releases to the environment. Additionally, your employees must be informed of proper waste handling and emergency response procedures when managing universal waste.

In general, universal waste handlers (i.e., a generator of universal waste or a facility that receives universal waste from other generators) must meet only basic standards for:

- Waste management (waste stream-specific)
- Container labeling/marking
- A one-year-per-container waste accumulation time limit (beginning when waste is first accumulated in a container)
- Employee training (e.g., waste handling, emergency response procedures)
- Response to releases
- Off-site shipments and exports

Universal Waste is regulated under the Universal Waste Management Standards of **VHWMR Subchapter 9**:

Effective: February 1, 2022 (vermont.gov)

General Requirements

Q8.1: Have you avoided disposing of universal waste as solid waste? *See VHWMR § 7-912(b)(1).*
Q8.2: Can the universal waste handler demonstrate accumulation/storage for less than one year? *See VHWMR § 7-912(f)(3).*

A handler who accumulates universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. To demonstrate the accumulation/storage time see VHWMR § 7-912(f)(3)(A), (B), (C), (D), (E), and (F).

Q8.3: Are all employees familiar with proper handling of universal waste and emergency procedures? *See VHWMR § 7-912(g).*

Both small and large quantity handlers must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.

Universal Waste Lamps

Q8.4: Are universal waste lamps packaged in containers that are structurally sound, adequate to prevent breakage, and kept closed? *See VHWMR § 7-912(d)(5)(A)(i).*

Spent lamps, such as fluorescent bulbs and tubes, often contain mercury. All universal waste lamps must be packaged in structurally sound containers, which must be kept closed (except when adding to them) and not show any damage, leakage, or spillage. The boxes that new lamps come in may be used for the storage of spent lamps; fiberboard drums may also be used. Any lamps that get broken must be managed as hazardous waste, as the residue contains mercury (D009 hazardous waste code); the broken pieces must be immediately cleaned up and placed into an appropriate container (see Section 2 for hazardous waste container management and requirements and **VHWMR § 7-912(d)(5)(C**)).

Intentional breaking or crushing of mercury-containing lamps is prohibited in Vermont under the VHWMR [See § 7-912(b)(2)].

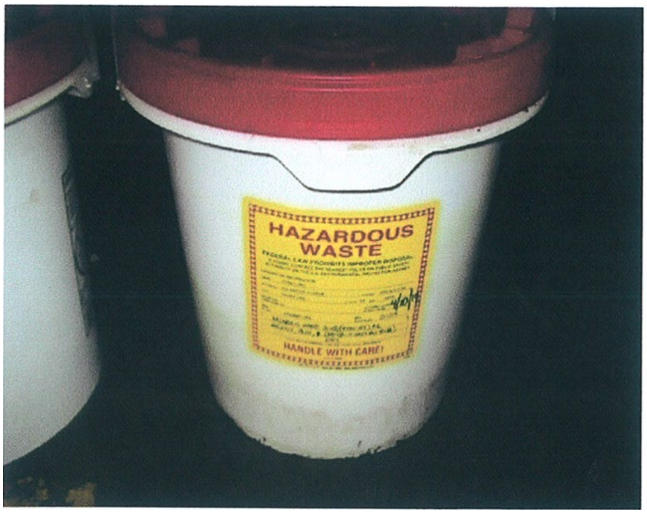
Q8.5. Are containers of universal waste lamps stored within a structure that the containers are protected from precipitation? *See VHWMR § 7-912(d)(5)(A)(ii).*
Q8.6: Are full containers of waste lamps sealed with tape? *See VHWMR § 7-912(d)(5)(A)(iii).*

As soon as a container is filled with waste lamps, it must be securely sealed with tape around the box openings.

Improper storage of waste lamps – lamps are not packaged in containers adequate to prevent breakage

Proper storage of waste lamps- closed box of used bulbs is labeled and dated

Improper management of broken fluorescent lamps- accumulation in an open container



Proper management of broken fluorescent lamps- accumulation in a closed and labeled container

Q8.7: Are containers of waste lamps stacked no higher than 5 feet? *See VHWMR § 7-912(d)(5)(A)(iv).*

Containers of lamps must not be stacked more than 5 feet high. This prevents crushing of lamps stored in containers on the bottom and reduces the chance for containers to tip over. However, waste lamp containers may be stored in an area which is higher than 5 feet, such as up on a shelf away from foot or vehicle traffic.

Q8.8: Are all containers holding waste lamps marked as "Universal Waste - Lamps", "Waste Lamps", or "Used Lamps"? *See VHWMR § 7-912(e)(6).*

All containers holding waste lamps must be clearly labeled or marked with any of the following phrases: "Universal Waste – Lamps", "Waste Lamps", or "Used Lamps".

Q8.9: Can you demonstrate waste lamps have been accumulated/stored for less than one year? *See VHWMR § 7-912(f)(1) and (3).*

Universal waste may not be stored on-site for longer than one year from the date the waste is first generated (e.g., when you start accumulating universal waste in a container). To demonstrate this, waste lamp containers can be marked with the date the waste is first placed in them (i.e., accumulation start date). Alternatively, storage time can also be demonstrated by maintaining an inventory system on site showing the earliest date waste lamps were added to a container.

If you generate a low volume of any type of Universal Waste, you may be able to accumulate it for longer than one year. See ***VHWMR § 7-912(f)(2)*** or contact the Agency.

Proper storage and labeling for waste lamps – containers are closed and labeled.

Q8.10: Have you contained or transferred broken or damaged lamps and all residue to an appropriate container? *See VHWMR § 7-912(d)(5)(A)(v).*

You must immediately contain and transfer any waste lamps that show evidence of damage. All residue and other waste from broken lamps must be in a container that meets the requirements of **§§ 7-311(f)(2) through (4).**

Q8.11: Did you make a hazardous waste determination on the residue of broken and damaged lamps? *See VHWMR § 7-912(d)(5)(B).*

You must determine whether residue and/or other waste from broken lamps exhibits a characteristic of hazardous waste identified in §§ 7-205 through 7-208.

Mercury-Containing Devices (Switches, Relays)

Devices such as switches, relays, gauges (e.g., temperature), manometers, and barometers contain small amounts of mercury necessary for their operation (Note: batteries, lamps, and thermostats are not included in this category).

Q8.12: Are mercury-containing devices packaged in containers that are structurally sound and adequate to prevent breakage, and are the containers kept closed? *See VHWMR § 7-912(d)(6)(A).*

All mercury-containing devices must be packaged in structurally sound containers, which must remain closed (except when adding to them) and not show any damage or leakages.

Q8.13: Are containers holding mercury-containing devices marked as "Universal Waste-Mercury Device(s)", "Waste Mercury Device(s)", or "Used Mercury Device(s)"? *See VHWMR § 7-912(e)(7).*

All containers holding universal waste mercury-containing devices must be clearly labeled or marked with any of the following phrases: "Universal Waste – Mercury Devices", or "Waste Mercury Devices", or "Used Mercury Devices".

Q8.14: Can you demonstrate mercury-containing devices have been accumulated/stored for less than one year? *See VHWMR § 7-912(f)(1) and (3).*

Universal waste may not be stored on-site for longer than one year from the date the waste is first generated (e.g., when you start accumulating universal waste in a container). To demonstrate this, containers holding mercury-containing devices can be marked with the date that waste is first placed in them (i.e., starting accumulation date). Alternatively, storage time can also be demonstrated by maintaining an inventory system on site showing the earliest date waste mercury-containing devices were added to a container.

If you generate a low volume of any type of Universal Waste, you may be able to accumulate it for longer than one year. See ***VHWMR § 7-912(f)(2)*** or contact the Agency.

Light Ballasts

The use of polychlorinated biphenyls (PCBs) in light ballasts was not regulated prior to 1978, and many fluorescent light ballasts manufactured prior to 1978 contain PCBs. The Environmental Protection Agency (EPA) banned the manufacture of PCBs in 1978, therefore, all light ballasts manufactured in 1979 or later should not contain PCBs. Additionally, EPA required that light ballasts manufactured after 1979 be labeled by the manufacturer indicating that the ballast does not contain PCBs ("NO PCB" notation). If a light ballast is not labeled as "NO PCB" and if you cannot confirm its manufacture year, it should be assumed that it contains PCBs and managed accordingly.

Q8.15: Are PCB-containing fluorescent light ballasts managed to prevent releases to the environment? *See VHWMR § 7-912(d)(4).*

Light ballasts containing PCBs must be managed to avoid breakage and the release of contaminants into the environment. Ballasts showing evidence of leakage or damage must be contained and transferred to an appropriate hazardous waste container (see Section 2 for hazardous waste container management and requirements).

Q8.16: Are PCB-containing fluorescent light ballasts, or their containers, marked as "Universal Waste- PCB Ballast(s)", "Waste PCB Ballast(s)", or "Used PCB Ballast(s)"? *See VHWMR § 7-912(e)(5).*

Each universal waste light ballast containing PCBs, as well as all containers holding these light ballasts, must be labeled, or clearly marked with any of the following phrases: "Universal Waste – PCB Ballast(s)", or "Waste PCB Ballast(s)", or "Used PCB Ballast(s)".

Q8.17: Can you demonstrate light ballasts have been accumulated/stored for less than one year? *See VHWMR § 7-912(f)(1) and (3).*

Universal waste PCB-containing light ballasts may not be stored on site for longer than one year from the date the waste is first generated (e.g., when you start accumulating universal waste). To demonstrate this, the waste ballast, or containers containing the ballasts, can be marked with the starting accumulation date. Alternatively, storage time can also be demonstrated by maintaining an inventory system on site showing the earliest date the ballast(s) became a waste.

If you generate a low volume of any type of Universal Waste, you may be able to accumulate it for longer than one year. See ***VHWMR § 7-912(f)(2)*** or contact the Agency.

Cathode Ray Tubes

Cathode Ray Tubes (CRTs) were a major component of older-style computer monitors and television screens. These units contain glass that may contain lead to protect the user from x-rays present inside the actual CRT.

Q8.18: Are CRTs packaged to prevent breakage during storage, handling, and transportation? *See VHWMR § 7-912(d)(7).*

Waste CRTs must be packaged in a manner that prevents breakage during storage, handling, and transportation. CRTs must also be protected from precipitation while in storage or transportation. Used, broken CRTs should be placed in a container that is structurally sound, kept closed and managed according to standards listed in Questions 19 and 20 below.

Q8.19: Are CRTs, or their containers, marked as "Universal Waste – Cathode Ray Tube(s)", "Waste Cathode Ray Tube(s)", "Used Cathode Ray Tube(s)", "Universal Waste – CRT(s)", "Waste CRT(s) or "Used CRT(s)"? *See VHWMR § 7-912(e)(8).*

All waste CRTs and containers holding waste CRTs must be labeled or clearly marked with one of the following phrases: "Universal Waste – Cathode Ray Tube(s)", "Waste Cathode Ray Tube(s)", "Used Cathode Ray Tube(s)", "Universal Waste – CRT(s)", "Waste CRT(s)", or "Used CRT(s)".

Proper storage and marking of container holding mercury-containing devices

Proper Labeling of CRTs while in storage

Q8.20: Can you demonstrate CRTs have been accumulated/stored for less than one year? *See VHWMR § 7-912(f)(1) and (3).*

Universal waste CRTs may not be stored on-site for longer than one year from the date the waste is first generated (i.e., when you start accumulating universal waste). To demonstrate this, each CRT, or containers holding the CRTs, can be marked with the starting accumulation date. As an alternative, storage time can also be demonstrated by maintaining an inventory system on site showing the earliest date the CRT(s) became a waste.

If you generate a low volume of any type of Universal Waste, you may be able to accumulate it for longer than one year. See ***VHWMR § 7-912(f)(2)*** or contact the Agency.

Postconsumer Paint

Q8.21: Is waste postconsumer paint packaged in containers that remain closed, structurally sound, and compatible with the postconsumer paint? *See VHWMR § 7-912(d)(8)(A).*
Q8.22: Are containers of waste postconsumer paint stored within a structure such that the containers are protected from precipitation? *See VHWMR § 7-912(d)(8)(C).*
Q8.23: Are containers holding postconsumer paint marked as "Waste Paint", "Used Paint" or "Universal Waste Paint"? *See VHWMR § 7-912(e)(9).*

Postconsumer paint that can be managed as universal waste includes architectural coatings such as interior and exterior paints, primers, sealants, and wood coatings. To meet the criteria for management as universal waste, it must be sold in containers of five gallons or less.

Postconsumer paint must be managed in containers that remain closed, structurally sound, and compatible with the postconsumer paint. The containers must lack evidence of leakage, spillage, or damage that could cause leakage.

Aerosol Cans

Q8.24: Are waste aerosol cans accumulated in a container that is structurally sound, compatible with the contents of the aerosol cans and is protected from sources of heat? *See VHWMR § 7-912(d)(9)(A).*
Q8.25: If you puncture and drain aerosol cans, are you using a device specifically designed to safely puncture aerosol cans and effectively contain the residual contents and any emissions thereof? *See VHWMR § 7-912(d)(9)(D)(i).*
Q8.26: If you puncture and drain aerosol cans, did you conduct a hazardous waste determination on the contents of the emptied aerosol cans? *See VHWMR § 7-912(d)(9)(D)(v).*
Q8.27: Are containers holding waste aerosol cans marked as "Waste Aerosol Cans", "Used Aerosol Cans" or "Universal Waste - Aerosol Cans"? *See VHWMR § 7-912(e)(10).*

Aerosol cans must be accumulated in a container that is structurally sound, compatible with the contents of the aerosol cans, lacks evidence of leakage, spillage, or damage that could cause leakage, and is protected from sources of heat.

You must conduct a hazardous waste determination of the contents of the emptied aerosol can per **§ 7-303**. If hazardous waste is generated as a result of puncturing and draining the aerosol can, it is subject to all applicable requirements of subchapter 1 through 7.

Appendix A: Determining your Hazardous Waste Generator Category

In Vermont, generators fall into three categories. These include large quantity generators (LQGs), small quantity generators (SQGs), and very small quantity generators (VSQGs). Simplified, LQGs generate the largest amount of waste, VSQGs generate the least amount of waste, and SQGs fall somewhere in between. Generator classification is ***not*** based on how much you ship offsite for disposal per month. Although this is an indication of how much you produce, your classification is based on generation and ***not*** disposal volume. As the generator categories increase from VSQG to SQG to LQG, so do the compliance obligations. These three classifications are summarized below:

You are a **small quantity generator** if:

- You generate greater than or equal to 220 pounds (100 kilograms) but less than 2,200 pounds (1,000 kilograms) of hazardous waste in a calendar month; or
- Less than 2.2 pounds (1 kilogram) of acutely hazardous waste per calendar month; or
- Less than 220 pounds (100 kilograms) of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a discharge of any acutely hazardous waste per calendar month; or
- The quantity of hazardous waste accumulated on-site never exceeds 13,200 pounds (6,0000 kilograms).

You are a **large quantity generator** if:

- You generate 2,200 pounds (1000 kilograms) or more of hazardous waste per calendar month; or
- You generate 2.2 pounds (1 kilogram) or more of acutely hazardous waste per calendar month; or
- You generate 220 pounds (100 kilograms) or more of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a discharge of any acutely hazardous waste per calendar month; or
- The quantity of hazardous waste accumulated on-site exceeds 13,200 pounds (6,000 kilograms) at any one time; or
- The quantity of acutely hazardous waste accumulated on-site equals or exceeds 2.2 pounds (1 kilograms) at any one time; or
- The quantity of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a discharge of any acutely hazardous waste, accumulated onsite equals or exceeds 220 pounds (100 kilograms) at any one time.

You are a **very small quantity generator** if:

- You generate less than 220 pounds (100 kilograms) of hazardous waste per calendar month; and
- You generate less than 2.2 pounds (1 kilogram) of acutely hazardous waste per calendar month; and
- You generate less than 220 pounds (100 kilograms) of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a discharge of any acutely hazardous waste in a calendar month; and

- The quantity of hazardous waste accumulated on-site does not exceed 2,200 pounds (1000 kilograms).

TIP:
When calculating generation rates, a half of a 55-gallon drum of water roughly weighs 220 pounds, and five 55-gallon drums of water weigh about 2,200 pounds. The density of each type of hazardous waste will likely differ from that of water however keeping this in mind may help in determining your rate of generation based on the number of drums of hazardous waste that you generate per month.

For Vermont-listed wastes only ("**VT**" wastes), a generator can average the amount of waste generated over a six-month period and use that value when calculating generator category. For example, if a business generates 600 pounds of oily absorbents (VT02) in January, but none in February, March, April, May and June, the generation rate for that waste for the purpose of calculating generator category is 100 pounds per month.

Conditionally exempt wastes do ***not*** count toward generator category. Examples of these wastes are:

- Oily rags that are laundered;
- Used antifreeze that will be recycled or reused;
- Used lead-acid batteries that will be recycled;
- Used oil filters that have been punctured and drained; and
- Used oil that is processed, reused, or burned for energy recovery.

Appendix B: Comparison of LQG, SQG, and VSQG Categories

Selected Regulatory Requirements	LQG	SQG	VSQG
File a Site Identification Form 8700-12	yes	yes	yes
Must determine Generator Category	yes	yes	yes
Maximum amount of hazardous waste generated per month *	no limit	2,200 pounds	220 pounds
Maximum amount of hazardous waste that may be stored on-site at any one time *	no limit	13,200 pounds	2,200 pounds
Maximum length of time hazardous waste may be stored on-site *	90 days**	180 days**	no limit
Must follow hazardous waste storage requirements, including:			
Keep waste under cover to protect from precipitation	yes	yes	yes
Store waste on impervious surface	yes	yes	yes
Keep waste container(s) closed	yes	yes	yes
Assure waste containers are in good condition	yes	yes	yes
Assure waste containers are compatible with waste	yes	yes	yes
Protect freezable wastes from freezing	yes	yes	yes
Maintain aisle space of 24 inches or greater	yes	yes	no
Post "Danger- Hazardous Waste Storage Area – Authorized Personnel Only" warning sign(s)	yes	yes	no
Post "No Smoking" sign(s) (only if store ignitable waste)	yes	yes	no
Conduct weekly inspection of hazardous waste storage area and maintain inspection log	yes	yes	no
Maintain an inventory of hazardous wastes in storage	yes	yes	no
Store ignitable waste at least 50 feet from the property line	yes	yes	no
Must label hazardous waste containers with:			
The words "Hazardous Waste"	yes	yes	yes
An indication of hazards of the contents	yes	yes	yes

* Generation or storage of more than 2.2 pounds of acutely hazardous waste confers LQG status. Acutely hazardous wastes – identified by the waste code "P" followed by three numbers – are listed in Appendix IV of the VHWMR.

** Section 7-311(c) of the VHWMR allows generators to request up to a 30-day extension "due to unforeseen temporary and uncontrollable circumstances," to be granted at the Secretary's discretion.

Selected Regulatory Requirements (cont'd)	LQG	SQG	VSQG
The date that waste was placed into storage	yes	yes	no
Hazardous waste disposal			
Must use a Hazardous Waste Manifest to ship waste	yes	yes	no
Must ship hazardous wastes with a certified transporter	yes	yes	no
Must comply with Federal land disposal restrictions	yes	yes	no
Must follow emergency preparedness measures			
Report spills or releases of greater than two gallons	yes	yes	yes
Have at least one person on-site or on-call at all times to respond to emergencies	yes	yes	no
Post emergency information near phones where hazardous waste is handled	no	yes	no
Provide hazardous waste training to employees	annually	initial***	no
Provide emergency communication device at hazardous waste storage area(s)	yes	yes	no
Provide fire and spill control equipment	yes	yes	no
Make arrangements with local emergency services	yes	yes	no
Maintain a written contingency plan	yes	no	no
Maintain a written training plan	yes	no	no
Reporting			
Submit biennial report on hazardous wastes generated	yes	no	no
Must certify facility closure if no longer generate hazardous waste	yes	no	no

REMINDER: The VHWMR cover each of the requirements listed above in detail. The VHWMR also address special case situations, such as the import and export of hazardous wastes. The VHWMR provide several conditional exemptions. When determining generator status, do not include wastes exempted in Sections 7-203 and 7-204 of the VHWMR.

*****SQG Training Requirement:** Ensure that each employee is thoroughly familiar with evacuation signals and routes, and proper waste handling and emergency procedures relevant to their responsibilities during normal facility operations as well as emergencies.

Appendix C: Glossary of Useful Terms

Abbreviation/Term	Definition and Additional information
Agency	When we refer to "the Agency" we mean the Hazardous Waste Regulatory Program within the Vermont Agency of Natural Resources.
ANR	Vermont Agency of Natural Resources. The Agency promotes sustainable use of Vermont's natural resources, protects, and improves the health of the people and ecosystems of Vermont, and promotes sustainable outdoor recreation.
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act; also known as Superfund.
DEC	Vermont Department of Environmental Conservation. The Department oversees the preservation, enhancement, restoration, and conservation of Vermont's natural resources.
DOT or USDOT	U.S. Department of Transportation. The federal department concerned with transportation.
Electronic Manifest System (or “e-Manifest system”)	EPA’s national information technology system through which the electronic manifest may be obtained, completed, transmitted, and distributed to users of the electronic manifest and to regulatory agencies.
EPA or USEPA	U.S. Environmental Protection Agency. The federal agency which oversees protection of human health and the environment.
Exempt Hazardous Waste	Wastes that meet the criteria for hazardous waste but may be managed using waste-specific standards (e.g., safe handling, labeling, and recycling of waste) that allow them to be exempt from the VHWMR.
Hazardous Waste	Waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. Hazardous waste is generated from many sources, ranging from industrial manufacturing process wastes to batteries and may come in many forms, including liquids, solids gases, and sludges. The term is defined in the Vermont Hazardous Waste Management Regulations and described in Section 1 of this guidance.
Hazardous Waste Determination	The process by which a generator determines if a waste is regulated as a hazardous waste.
Hazardous Waste Generator	Any person, by site, whose act or process produces hazardous waste.
LDR	Land Disposal Restrictions. The rules require hazardous waste to be treated before land disposal.
LQG	Large quantity generator of hazardous waste. See Appendix A for a more complete description.
Manifest	A form required by EPA and the DOT for generators who transport (or offer for transport) hazardous waste for off-site treatment, recycling, storage, or disposal.
Satellite Accumulation	The practice of accumulating hazardous waste in containers or tanks at or near the point of generation.
SDS	Safety Data Sheet. An SDS is required by federal regulations for each hazardous chemical to communicate the hazards to users. The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical.

Abbreviation/Term	Definition and Additional information
SQG	Small quantity generator of hazardous waste. See Appendix A for a more complete description.
STSA	Short Term Storage Area is a designated location where hazardous waste containers are temporarily stored.
TCLP	Toxicity Characteristic Leaching Procedure is a sample extraction method for chemical analysis using an analytical method to simulate leaching through a landfill.
TSD	Treatment Storage and Disposal. TSD is usually used to describe an end facility that is permitted to treat, store, or dispose of hazardous waste.
Universal Waste	Common wastes (such as batteries, fluorescent bulbs, and mercury thermostats) that meet the criteria for hazardous waste but can be managed according to streamlined standards because they are relatively low risk.
VHWMR	Vermont Hazardous Waste Management Regulations. The complete regulations can be accessed via the following: http://dec.vermont.gov/waste-management/hazardous/regulations
VSQG	Very small quantity generator of hazardous waste. The classification of hazardous waste generator that generates the least amount of hazardous waste. See Appendix A for more information.
WMPD	Waste Management and Prevention Division is a division within the Department of Environmental Conservation that oversees the use, treatment, and handling of solid and hazardous waste.

Appendix D: Contact for the Waste Management & Prevention Division

Division Phone Numbers

Division Main Number (Weekdays 7:45AM-4:30PM) ..... (802) 828-1138

Other Phone Numbers

Emergency Hazardous Materials Spill Reporting (Business Hours) .....(802) 828-1138
Vermont 24-hour Emergency Spill/Release Reporting Line ..... (800) 641-5005
National Response Center *(impacts or potential impacts to surface water)* .....(800) 424-8802

Websites

Vermont Department of Environmental Conservation: http://dec.vermont.gov/

Waste Management & Prevention Division: http://dec.vermont.gov/waste-management

Vermont Hazardous Waste Program: http://dec.vermont.gov/waste-management/hazardous

Vermont Hazardous Waste Management
Regulations (VHWMR): http://dec.vermont.gov/waste-management/hazardous/regulations

Resources for Hazardous
Waste Handlers: http://dec.vermont.gov/waste-management/hazardous/resources

Mailing Address

Hazardous Waste Program
Waste Management and Prevention Division
Vermont Department of Environmental Conservation
1 National Life Drive – Davis 1
Montpelier, VT 05620-3704
802-828-1138
https://dec.vermont.gov/waste-management/hazardous