BRITISH COLUMBIA | Ministry of Environment and Climate Change Strategy

Hazardous Waste Regulation Guidance for Emptying Containers

This document provides guidance to regulated parties emptying and managing containers that previously held hazardous materials or hazardous wastes (HW).

The Hazardous Waste Regulation (HWR) does not include a definition of "empty container" or any specific provisions regarding their management with the exception of pesticide and PCB containers. This document provides guidance regarding how containers should be emptied such that the remaining residue within the container is no longer considered to be HW and no longer subject to the HWR, with the exception of a few minor provisions outlined below. Information is presented below using answers to the following frequently asked questions:

Note: The *Environmental Management Act* prohibits the introduction of waste into the environment in a manner or quantity that causes pollution.

Responses to Frequently Asked Questions on Containers that Previously Held Hazardous Wastes or Hazardous Materials

1. What is a "container" in the Hazardous Waste Regulation (HWR)?

1.1 The term "container" is defined in the HWR as follows: "container" means a **portable** receptacle in which waste is stored, transported, treated, disposed of, or otherwise handled.

Although inner liners may be a part of a container, there is separate guidance for inner liners (See Question 5). For the purpose of this guidance, inner liner constitutes a piece of material used to cover the inside surface of a container.

1.2 Items not considered to be containers are:

a. Used oil filters – these are managed through a director's approved delisting method/protocol under section 53 of the HWR

b. Biomedical intravenous bags, delivery tubing and syringes, capsules and ampules, etc. – these are managed as biomedical waste

c. Underground storage tanks – they are not portable receptacles

d. Above-ground storage tanks that are not portable receptacles

e. Any storage tanks that are not portable when full

f. Batteries, including the casing

1.3 The definition of container also includes the container of a household hazardous waste. Household hazardous waste is a type of hazardous waste.

2. When are used containers considered to be a waste?

2.1 A used container becomes a waste once it is no longer used as a container. As a waste, it will be subject to the *Environmental Management Act* and its regulations, including the HWR, as applicable.

3. How much residue can remain in a container to be considered "empty"?

A. COMMON HAZARDOUS WASTES

3.1 Common hazardous waste refers to all hazardous waste except toxic or infectious wastes, compressed gases, PCBs, pesticides, or aerosols (guidance for these are found in Answers 3.2-3.8).

Containers that previously held common hazardous waste or materials (either solids, semi-solids, sludges or liquids) are considered “empty” if all hazardous wastes or hazardous materials have been removed, using removal practices commonly used for the specific materials. However, where necessary, other non-conventional removal means must be used to remove the waste to reduce the amount left in the container.

The following additional outcomes below provide more guidance regarding when a container is considered empty:

a. If the material is readily pourable, no hazardous residual should pour or drain from a container or inner liner when the container or inner liner is held in any orientation. Sufficient time for the container to drain must be allowed so that no continuous stream of pourable material is found and that any residual dripping is minimal. A few drops of liquid dripping over a reasonable amount of time are considered acceptable, based on the viscosity of the material and other affecting factors such as temperature and time.

b. If the material is not readily pourable, and after the removal of the hazardous residual, the top, bottom and sidewalls of the container must not contain adhered or crusted material resulting from the buildup of successive layers of material or a mass of solidified material. A thin uniform layer of dried material or powder is considered acceptable. Examples of not-readily-pourable material are thick sludges, highly viscous materials, etc.

c. If the container had an inner liner that prevented contact of the material with the inner surface of the container, the container is empty if the inner liner is removed and if the inner liner did not leak or there is no contamination of the container.

d. The inner liner is not considered empty even though it may meet all the requirements for empty noted above since, relative to its weight, inner liners are more likely to absorb larger amounts of hazardous residual material than containers. An inner liner with hazardous residual material must be characterized to determine if it is a hazardous waste.

Note for waste oil containers: these containers should be emptied according to guidance above, unless waste oil meets definition of PCB waste in which case refer to heading “PCB waste”.

The weight of a container cannot be used to calculate total oil content of the waste for waste classification purposes. The total oil content of the waste must only be based on the waste within the container.

B. COMPRESSED GASES

3.2 A container that has held compressed gas (TDGR Class 2) is empty when the pressure in the container equals atmospheric pressure. This

does not apply to containers that held toxic material, infectious material, pest control products, or gases containing dioxins or PCB (refer to headings below regarding how these wastes should be managed).

C. PESTICIDES

3.3 A container that has held a pest control product (as defined in section 1(1) of the HWR) is hazardous waste unless it is emptied in accordance with section 42 and rinsed in accordance with section 42(5) of the HWR. In addition, if the waste product container also contains infectious substance, dioxins or PCB, it must be managed as outlined under their respective headings below.

Where the rinsing methods described in section 42(5) of the HWR are not appropriate, the container that held a pest control product is a hazardous waste unless it is cleaned by another method that has been approved by a director as defined in the *Environmental Management Act*.

D. SPECIFIC HAZARDOUS WASTE OR MATERIAL

Containers that held material described below are considered “empty” when no more waste or contaminant is present in the container.

Unlike the wastes described above, the specific hazardous wastes described below require some form of treatment for the container to be considered empty since the hazards are generally greater for these wastes.

Toxic waste or material (TDGR Class 6.1)

3.4 A container or an inner liner removed from a container that has held toxic waste or material (TDGR Class 6.1) needs to be emptied by:

a. triple rinsing using a solvent capable of removing the waste or material and the container has been cleaned to effectively remove the contaminant

b. another method that has been approved (in an operational plan) by a Director as defined in the *Environmental Management Act*

Note for containers with inner liners: once the inner liner is removed, the container is empty if the container had no contact with the waste and was not contaminated.

Biomedical waste or infectious waste or product (TDGR Class 6.2)

3.5 A container or inner liner that held a biomedical waste or infectious waste or material (TDGR Class 6.2) is considered empty of biomedical waste or Class 6.2 wastes when contaminants have been destroyed by thermal treatment (incineration or autoclaving) or another treatment method approved (in an operational plan) by a Director as defined in the *Environmental Management Act*.

“Waste containing dioxins” or material containing dioxin

3.6 A container or an inner liner removed from a container that held “waste containing dioxins”, as defined in the HWR, or material containing dioxin, is considered empty when dioxin has been destroyed by thermal treatment (incineration) in an approved, authorized facility to effectively destroy the dioxin content.

PCB wastes

3.7 A container or an inner liner removed from a container that held chlorobiphenyl (PCB) material or waste is defined as hazardous waste within the HWR and therefore must be managed under the HWR until delisted under section 53 of the HWR. Emptying methods include:

a. thermal treatment (incineration) in an approved, authorized facility to effectively destroy the chlorobiphenyl content

b. cleaning to effectively remove the chlorobiphenyl content by a method that has been approved by a Director as defined in the *Environmental Management Act* (in an operational plan)

Notes:

- Containers that previously held material containing 2 mg/kg or more of chlorobiphenyl must also be managed as per the federal PCB Regulations.
- The required PCB destruction and removal efficiency under the HWR is 99.9999%.

Aerosol Cans

3.8 An aerosol container that held a hazardous waste or material (except toxic material, infectious substance, pest control product, dioxin or PCB) is empty when the contents and propellant are emptied to the maximum practical extent under normal use (i.e., the spray mechanism was not defective and successfully discharged the contents and propellant). Aerosol containers with material remaining, including those due to a clogged nozzle, damaged valve, or loss of propellant must be managed as hazardous waste.
Aerosol cans that are not empty and are collected for waste management, must be emptied at registered sites and specific emptying procedures needs to be outlined in the operational plan including: disposal methods for the can and container holding the propellant, the residual collected during the emptying process, and emissions related to the release of the propellant. In addition:

a. material removed from the aerosol can may be subject to the HWR if it falls into the definition of hazardous waste.
b. aerosol products often use flammable or explosive propellants and puncturing operations should only be conducted using proper

equipment with venting systems that meets air quality and Occupational Health and Safety Regulations.

Containers Made of Absorptive Material

3.9 A container made of wood, paper, cardboard, fabric, or any other similarly absorptive material must be tested and characterized if in direct contact with the hazardous waste or material it held. If determined to be a hazardous waste, the container must be managed under the requirements of the HWR as a hazardous waste.

4. What emptying methods are considered appropriate and for which types of wastes?

4.1 As described in Answer 3, the method used to empty containers will depend on the nature of the material in the container. Standard industry practices include pumping, pouring, aspirating, draining, scraping, chipping, scouring, rinsing, shaking, tapping and wiping.

4.2 If standard practices cannot remove the residual material, other non-conventional removal practices should be used to remove the waste from the container in order to meet the outcomes described in Answers 3.1-3.8.

4.3 Where rinsing is required, the industry practice is that the rinse or solvent volume to be used should be about 10% of the container capacity, per rinse cycle.

4.4 Releasing or venting unwanted gas from compressed gas cylinders or aerosol cans to the atmosphere is prohibited. Any emission to the atmosphere must meet approved emission standards as per sections 17(1) and 19(1) of the HWR; air emissions require director's approval. In addition, some releases are also restricted under other regulations such as the Ozone Depleting Substances and Other Halocarbons Regulation.

4.5 For containers or inner liners required to be cleaned by a method approved by a Director as defined in the *Environmental Management Act*, the authorization for the method follows Division 3, Division 4 and section 53 of the HWR.

5. How should inner liners be managed?

5.1 Inner liners must be characterized when they become a waste. If found to fall into a category of hazardous waste, they must be managed according to the requirements of the HWR in a hazardous waste management facility.

6. What are the regulatory requirements for the waste/product removed from the container?

6.1 Any hazardous wastes removed from containers must be managed according to the requirements of the HWR.

6.2 Hazardous waste must not be mixed or diluted with any solid or liquid, including waste, water, rain water, soil or solid media, or be divided to evade the HWR or similar regulations in another jurisdiction (see prohibition in section 36 of the HWR).

6.3 If quantities of hazardous waste exceed the quantity prescribed in Schedule 6 of the HWR for that particular hazardous waste type, the facility must register the hazardous waste(s) in accordance with section 43 of the HWR. For registered sites, emptying practices need to be documented in an approved operational plan.

6.4 Records of wastes/products removed from containers may be required under the HWR and should be kept for inspection (see Answer to Question 9).

6.5 Waste/product removed from a container is subject to HWR sections 17, 19 21 if there is treatment, discharge of liquid effluent or air emissions, or discharge of residue.

6.6 Any discharges to the environment require authorization under the *Environmental Management Act.* This includes the release of emissions resulting from treatment or emptying processes e.g. propellant released from an aerosol can or release of gas from compressed gas containers while emptying and recycling.

7. What are the regulatory requirements for rinse water or other by-product waste generated from the "emptying" process?

Note: By-products include condensate, wipes, rags, sandblasting-originated waste, hydro-blasting-originated waste or any other secondary or incidental wastes generated.

7.1 Rinse water/solvent, or other by-product wastes generated from emptying must:

a. be collected and a waste determination or characterization must be made (if hazardous waste, registration under section 43 of the HWR may be required).

b. not be mixed or diluted with any solid or liquid, including waste, water, rain water, soil or solid media, nor be divided to evade the HWR or similar regulations in another jurisdiction (see prohibition in HWR section 36).

c. be managed to comply with HWR sections 17,19 and 21 if there is treatment, discharge of liquid effluent or air emissions, or discharge of residue.

d. be discharged to the environment in compliance with an authorization under the *Environmental Management Act* and/or the HWR.

e. comply with municipal regulations or bylaws or federal regulations as applicable.

7.2 Records that document waste determination or characterization and quantities may be required (see Answers to Question 9).

8. What are the regulatory requirements for empty containers?

8.1 Containers that are emptied according to the guidance in this document do not need to be managed under the HWR, with the exception of sections 50(5) & 50(7) (which outlines prohibitions for using containers with residuals remaining to store incompatible waste or for food products, etc.).

There may be requirements for containers under the Recycling Regulation for obligated products including: paint, oil, and antifreeze. For more information, please see – Product Care Association, BC Used Oil Management Association, and the ministry's Extended Producer Responsibility website. For products not managed by producers under the Recycling Regulation, where possible and legal, generators are encouraged to reuse, recycle or return empty containers to a product supplier or manufacturer, and minimize disposal to landfill.

8.2 Containers that are empty according to this guidance can be:

a. disposed of in an authorized landfill or recycled, provided the empty container is not a hazard to human health or the environment, or

b. reused to store the same hazardous waste or material

c. reused to store non-hazardous waste or material, if all hazardous waste residuals have been removed and the container thoroughly cleaned [1]

8.3 A "waste product container" (i.e., a pesticide container) that has been emptied according to section 42 of the HWR must be managed or disposed of in a landfill or buried according to section 42(6) of the HWR.

8.4 These emptied and rinsed containers may also be returned to a pest control product dealer but must be shipped as a hazardous waste unless

[1] For example, if a vacuum truck is used to transport hazardous waste from the oil & gas industry, all residual must be removed by cleaning the tank such that no residual hazardous waste is present before the vacuum truck is used to transport non-hazardous waste (e.g., domestic sludge).

they meet the requirements of section 42(4) of the HWR. If reused or recycled, the empty container must meet all applicable federal, provincial and municipal regulations.

8.5 If other material (such as rain water) gets into an empty container with residual waste/material (such as used oil), the entire contents may become hazardous waste.

8.6 Empty containers must be managed in an environmentally sound manner. If residue is released into the environment or causes pollution, the responsible party may be in contravention of the *Environmental Management Act*.

8.7 An empty container with residues of hazardous waste must not be used to hold, store or transport food, animal feed or a product which may directly become part of the human food chain. See prohibition in HWR section 50(7).

9. What considerations must I take regarding sampling, analysis, and record keeping?

9.1 If the classification of any wastes generated during emptying are unknown, the following should be in place:

a. Appropriate sampling and analysis frequency must be in place

   Note: samples must be representative, and the number of samples must be sufficient to characterize the amount of material, given the variability of the results.

b. A quality assurance/quality control component, which includes appropriate analysis of duplicate samples, must be used and incorporated into the sampling and analysis program; and

c. Appropriate analytical methods and tests based on the known or suspect contaminants of concern in the waste as prescribed in section 49 of the HWR.

9.2 The owner of the waste should keep records of:

a. Proof that the containers, residual hazardous material and waste generated were managed according to regulatory requirements

b. Waste characterization of wastes collected, generated or stored, including effluent discharges and air emissions and their waste management (emptying process, disposal or management).

c. Sampling information and analytical data results for any samples collected.

d. Quantity of hazardous waste collected, generated or stored (container, residual material and waste generated, including effluent and air emissions).

e. Dates of accumulation of containers, residual hazardous material and waste generated.

9.3 The owner of the container must maintain records for a minimum of two years after the container has been emptied or removed from the facility.

9.4 Records must be made available for inspection when required by an officer designated under EMA.

10. How should operational plans for registered sites address empty containers?

10.1 Operational plans for registered sites should describe all procedures for emptying and/or further processing of hazardous waste containers.

11. Are containers exempt from other regulations or transportation requirements if they meet all the conditions and are considered "empty"?

11.1 An empty container that meets all the conditions set above would be exempt from the requirements of the BC HWR, with the exception of Sections 50(5) and 50(7). This would include exemption from having a licence to transport hazardous waste or using a manifest for empty containers.

11.2 An empty container must still be transported in accordance with the federal Transportation of Dangerous Goods Act and Regulations (TDGR), which may include packaging, documentation, labelling and placards requirements. Refer to Transport Canada if you have any questions regarding requirements in the TDGR.

11.3 For carriers that transport containers with residual hazardous waste/product to be emptied (cleaned, recycled or disposed): if the quantity of residue in the containers exceed the quantity prescribed in section 46 of the HWR, the carrier may need to have a valid licence to transport hazardous waste, issued by the Ministry of Environment and Climate Change Strategy. A manifest issued by the government of BC may also need to be used. See the hazardous waste transportation webpage for more information.
Note: in some cases, the prescribed quantity may include the container as well (e.g., PCB transformers, pest control product containers).

11.4 For operators that receive containers with hazardous waste/product to be emptied (cleaned, recycled or disposed): if the quantity of residue in the containers in storage at any time exceed the quantity prescribed in Schedule 6 of the HWR, the operator must register and meet all the applicable requirements of a hazardous waste management facility.

11.5 Effluent discharges, air emissions, residue disposal must meet the requirements under the *Environmental Management Act*, the HWR and any applicable federal and municipal regulations.

11.6 Federal, provincial and municipal agencies may impose other requirements. Please check with the applicable jurisdiction(s).

What if I have more questions?

Contact the Ministry at: hazwaste@victoria1.gov.bc.ca

Check the Hazardous Waste website and the Waste Discharge Authorization website