
Fire-Extinguishing Systems



Federal Halocarbon Regulations, 2003

Canadian Environmental Protection Act, 1999

Introduction

The *Federal Halocarbon Regulations, 2003* (FHR 2003) were promulgated under the *Canadian Environmental Protection Act, 1999* (CEPA 1999) on August 13, 2003.

The objective of the FHR 2003 is to reduce and prevent the release of halocarbons from air-conditioning, fire-extinguishing, refrigeration, solvent systems and associated equipment that are

- owned by the Government of Canada (department, agency, board or Crown corporation);
- part of a federal work or undertaking; or
- located on Aboriginal or federal land (all tenants on such lands are subject to these Regulations).

This document focuses on the provisions of the FHR 2003 that relate specifically to fire-extinguishing systems. It is not intended to replace the full legal text of the FHR 2003, which must be consulted to ensure complete regulatory compliance.

A similar document on refrigeration and air-conditioning systems is also available.

Definitions

fire-extinguishing system (FES): fire-extinguishing equipment, including portable or fixed equipment and any associated equipment, that contains or is designed to contain a halocarbon fire-extinguishing agent.

installation: does not include the reactivation of an FES by the same owner at the same site.

owner: person who holds a right in, has possession, control or custody of, is responsible for the maintenance, operation or management of, or has the power to dispose of, an FES.

portable fire-extinguisher: a cylinder or cartridge containing a halocarbon used for extinguishing fires, with a charging capacity of 25 kg or less and that can be carried or wheeled to the site of a fire.



Prohibitions

Prohibited Activities	Exceptions
Releasing a halocarbon from an FES or any associated container or device.	<ul style="list-style-type: none">• To fight a fire that is not set for training purposes.• During the recovery of halocarbons using recovery equipment operating at a transfer efficiency of at least 99% as referred to in <i>Halon and Halocarbon Clean Agent Recovery and Reconditioning Equipment</i> (ULC/ORD-C1058.5-2004).
Releasing a halocarbon from a container or equipment used in the re-use, recycling, reclamation or storage of that halocarbon.	No exceptions.

Fire-Extinguishing Systems

Prohibited Activities	Exceptions
Purchasing, transporting or storing a halocarbon in a container that is not designed and manufactured to be refilled and to contain that specific type of halocarbon.	Halocarbons used as laboratory reagents or analytical standards.
Installing an FES that operates with items 1-9 in Table 1.	If authorization is granted by a permit issued under the FHR 2003 AND the work is done in accordance with <i>The Servicing of Halon and Clean Agent Extinguishing Systems</i> (ULC/ORD-C1058.18-2004).
Performing work (install, service, leak test, charge or any other work that may result in the release of a halocarbon) on an FES.	Unless the work is done in accordance with <i>The Servicing of Halon and Clean Agent Extinguishing Systems</i> (ULC/ORD-C1058.18-2004).
Charging an FES for leak testing with items 1-9 in Table 1.	No exceptions.
Charging a portable fire extinguisher with items 1-9 in Table 1.	If the portable fire extinguisher <ul style="list-style-type: none"> • is located on a aircraft, military ship or military vehicle; or • if the owner holds a permit.
Charging an FES (other than a portable fire extinguisher) with items 1-9 in Table 1.	<ul style="list-style-type: none"> • FES on an aircraft, military ship or military vehicle. • If the owner holds a permit. • Until December 31, 2009, an owner may charge an FES with items 1-9 in Table 1, provided that <ol style="list-style-type: none"> 1. certain information is reported to Environment Canada 14 days after charging AND 2. one year after the date of the charge, the FES no longer contains that item.
Charging an FES without it first being leak tested. If a leak is detected, the service technician must notify the owner, and the owner must have the leak repaired.	If charging an FES is necessary to prevent an immediate danger to human life or health. Note: each case must be reported to Environment Canada. See "Leak Tests" below.
Servicing an FES without first notifying the owner and affixing a notice to the control panel of the system to indicate that the device is out of operation during the period of service.	Since portable FESs do not have control panels, affixing a notice is not required. However, the owner must still be notified of the intended service first.

Table 1. Halocarbons (from Schedule 1 of the FHR 2003.)

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| 1. Tetrachloromethane
(Carbon Tetrachloride) | 5. Bromotrifluoromethane
(Halon 1301) | 9. Hydrobromofluorocarbons
(HBFCs) |
| 2. 1,1,1-Trichloroethane
(Methyl Chloroform) | 6. Dibromotetrafluoroethane
(Halon 2402) | 10. Hydrochlorofluorocarbons
(HCFCs) |
| 3. Chlorofluorocarbons
(CFCs) | 7. Bromofluorocarbons other than
those set out in items 4-6 | 11. Hydrofluorocarbons
(HFCs) |
| 4. Bromochlorodifluoromethane
(Halon 1211) | 8. Bromochloromethane
(Halon 1011) | 12. Perfluorocarbons
(PFCs) |

Fire-Extinguishing Systems

Servicing, Decommissioning and Leak Testing

Servicing

Any work (installation, leak testing, charging, servicing or other work that could result in the release of a halocarbon) on an FES must be carried out in accordance with *The Servicing of Halon and Clean Agent Extinguishing Systems* (ULC/ORD-C1058.18-2004).

If the work could result in a release, the halocarbon must first be recovered into a container designed and manufactured to be refilled and to contain that specific type of halocarbon.

An FES must not be serviced until the owner is notified and a notice is affixed to the control panel indicating that the FES is out of operation.

An entry in a service log is required whenever any work is done that could cause the release of a halocarbon.

The service log must contain the following information:

- name and address of owner
- name of operator
- specific location of FES
- description of FES
- name of service technician
- certificate number (if applicable)
- name of employer of service technician (if applicable)
- dated list of leak tests performed and leaks detected and repaired
- type and quantity of halocarbon recovered and date recovered
- charging capacity of FES

Decommissioning

The FHR 2003 require that, prior to disposing of, decommissioning or destroying an FES, all halocarbons be recovered into a container designed and manufactured to be refilled and to contain that specific type of halocarbon.

A disposal, decommissioning or destruction notice must first be affixed to the FES, and that notice shall not be removed except to replace it.

The notice must contain the following information:

- name and address of owner
- name of operator
- specific location of FES before disposal, decommissioning or destruction
- description of FES
- name of service technician who recovered the halocarbons
- certificate number (if applicable)
- name of employer of service technician (if applicable)
- type and quantity of halocarbon recovered and date recovered
- type of system (e.g., fire-extinguishing or solvent system) and charging capacity



Fire-Extinguishing Systems

- final destination of FES

The owner must keep a record of the information contained in the notice for a period of at least five years.

Leak Tests

A leak test is required before charging any FES.

If a leak is detected, the service technician must notify the owner, and the owner must repair the leak. As soon as possible after a leak is detected, or within seven days after the leak is detected, the owner of the FES must

- repair the leak;
- isolate the leaking portion of the FES and recover the halocarbon; or
- recover the halocarbon from the entire FES.

If charging the FES is necessary to prevent an immediate danger to human life or health, it must be done in accordance with the FHR 2003.

Leak tests of all FES components that come in contact with a halocarbon are required at least once every 12 months. Exceptions to this requirement are (a) portable FESs and (b) FESs whose cylinder or cartridge has a charging capacity of 10 kg or less and are located in a military vehicle, military ship or military aircraft.

Leak testing must be carried out in accordance with the requirements of *The Servicing of Halon and Clean Agent Extinguishing Systems* (ULC/ORD-C1058.18-2004).

Owners must keep all logs, notices, records and reports required by the FHR 2003 for a period of at least five years after the date that they are prepared or submitted.

Charging

The person charging an FES with items 1-9 in Table 1 must affix a notice of charging that contains the following information:

- name and address of owner
- name of operator
- specific location of FES
- description of FES
- type and quantity of halocarbon charged
- date of charge
- charging capacity of FES

Halocarbon Recovery

Halocarbons must be recovered into containers designed and manufactured to be refilled and to contain that specific type of halocarbon, using recovery equipment with a transfer efficiency of at least 99%, in accordance with the *Halon and Halocarbon Clean Agent Recovery and Reconditioning Equipment* (ULC/ORD-C1058.5-2004).

Record Keeping

Fire-Extinguishing Systems

The owner shall keep a copy of all logs, notices, records and reports required by the FHR 2003 with respect to that FES, in Canada at the premises or site where the FES is located, for a period of at least five years after the date that they are prepared or submitted.

In the case of an FES at an unoccupied site or installed on a means of transportation, the owner shall keep a copy of all logs, notices, records and reports required by the FHR 2003 with respect to that FES at a single location occupied by the owner.

Release Reports

In the event of a release of 100 kg or more of a halocarbon from an FES or from a container or equipment used in the reuse, recycling, reclamation or storage of a halocarbon, the owner must submit a verbal or written report within 24 hours after the release is detected. This report must contain the following information:

- name of owner
- type of halocarbon
- type of FES, container or equipment from which the halocarbon was released

Within 14 days after the release of 100 kg or more of a halocarbon is detected, a written report must be submitted that more fully details the circumstances leading to the release, as well as the corrective and preventive action(s) taken. This report must contain the following information:

- name and address of owner
- type and quantity of halocarbon released
- date of release
- type of FES and description
- circumstances leading to the release, as well as the corrective and preventive action(s) taken.

In the event of a release of more than 10 kg but less than 100 kg of a halocarbon from an FES or from a container or equipment used in the reuse, recycling, reclamation or storage of a halocarbon, the owner must submit, no later than 30 days after January 1 or July 1, a written report containing the following information for each calendar half-year:

- name and address of owner
- type and quantity of halocarbon released
- date of release
- type of FES and description
- circumstances leading to the release, as well as the corrective and preventive action(s) taken.

The owner must report halocarbon releases of more than 10 kg to Environment Canada. Written reports must be mailed or faxed to the appropriate Environment Canada regional representative. See the list of Environment Canada contacts.

Permits

Permits may be issued for installing or charging an FES operating with items 1-9 in Table 1 as an extinguishing agent. The issuance of a permit is subject to the absence of technically and financially feasible alternatives that could have a less harmful impact on the environment and on health than the FES requiring a permit.

Permits are valid for one year beginning on the date of issuance. The Minister of the Environment may cancel a permit if it has been determined that false or misleading information was provided in support of the permit application.

Fire-Extinguishing Systems

Requests for a permit to install or charge an FES with items 1-9, 11 or 12 in Table 1 must contain the following information:

- name and address of applicant
- type and quantity of halocarbon
- charging capacity of FES
- request for confidentiality under subsection 313(1) of the CEPA 1999
- declaration referred to in subsection 34(2) and supporting information

Permit applications are available on Environment Canada's website (<http://www.ec.gc.ca/ozone/en/index.cfm>).

For More Information

Visit Environment Canada's Stratospheric Ozone website at <http://www.ec.gc.ca/ozone/en/index.cfm>, for more information, including

- the Ozone Layer Protection Program
- the FHR 2003
- the Code of Practice on Halons

For more information, please contact your Environment Canada regional representative. See the list of Environment Canada contacts.

Disclaimer

This document explains some of the requirements of the *Federal Halocarbon Regulations, 2003* (FHR 2003) and has no legal sanction. In the event of inconsistencies between this document and the *Canadian Environmental Protection Act, 1999* (CEPA 1999), the FHR 2003 and their amendments, the CEPA 1999 and the FHR 2003 shall prevail.