Regulation respecting halocarbons

Environment Quality Act
(chapter Q-2, ss. 53.28, 53.30, 70.19, 95.1, 115.27, 115.34 and 124.1).

O.C. 1091-2004; I.N. 2019-12-01.

CHAPTER I
GENERAL

DIVISION I
SCOPE, PURPOSE AND INTERPRETATION

1. The provisions of this Regulation apply to any halocarbon, whether existing alone or in a mixture, and to its isomers.

The provisions of this Regulation do not apply to halocarbons used to spray a medication within the meaning of paragraph h of section 1 of the Pharmacy Act (chapter P-10) or a drug for which an identification number has been assigned under the Food and Drugs Act (R.S.C. 1985, c. F-27).

They also do not apply to halocarbons, other than CFCs, used to spray substances other than those referred to in the second paragraph or to methyl bromide (CH₃Br) when it is not used or intended to be used as a refrigerant.

Only the provisions of sections 6 to 9, the first and second paragraphs of section 10, sections 14, 15, 57 and 58 and the provisions of Chapters III and IV apply to halocarbons that are used, have been used or are intended to be used for the operation of a household refrigeration or air conditioning unit.

The provisions of this Regulation apply in a reserved area or an agricultural zone established under the Act respecting the preservation of agricultural land and agricultural activities (chapter P-41.1).

O.C. 1091-2004, s. 1.

2. The purpose of this Regulation is to ensure the protection of the stratospheric ozone layer against depletion caused by emissions into the atmosphere of halocarbons used in particular in refrigeration or air conditioning systems. Its purpose is also to minimize the increase in the greenhouse effect linked to emissions of certain halocarbon replacements that is one of the sources of man-induced climate change.

To that end, this Regulation prohibits the emission into the atmosphere of halocarbons, governs their use and provides for the progressive prohibition of certain halocarbons in
order to favour alternative technologies more respectful of the environment. It prescribes standards respecting the containers used to confine those substances and their recovery. It also prescribes environmental qualification requirements to apply to those in the labour force using those substances.

O.C. 1091-2004, s. 2.

3. In this Regulation,

“CFC” means a fully halogenated halocarbon each molecule of which contains 1, 2 or 3 carbon atoms and at least 1 atom of chlorine and 1 atom of fluorine (also referred to as “chlorofluorocarbon”); (CFC)

“fire extinguisher” means a device capable of extinguishing a fire, or a fire extinguishing system and, unless the context indicates otherwise, the cylinders, pipes, tubes, hoses, valves or other components necessary for their operation; (extincteur)

“halocarbon” means a chemical compound that contains at least one carbon atom and one halogen atom, that is stable enough to reach the stratosphere and that may react with stratospheric ozone or be the source of climate change; it includes in particular the substances set out in Schedule I, whether existing alone or in a mixture, and includes the isomers of any such substance; (halocarbure)

“halon” means a fully halogenated halocarbon each molecule of which contains 1, 2 or 3 carbon atoms and at least 1 atom of bromine and 1 atom of fluorine (also referred to as “bromofluorocarbon”);

“HCFC” means a halocarbon each molecule of which contains 1, 2 or 3 carbon atoms and at least 1 atom of hydrogen, 1 atom of chlorine and 1 atom of fluorine (also referred to as “hydrochlorofluorocarbon”) and whose molecular formula is CnHxFyCl(2n+2-x-y), where 0<n<4; (HCFC)

“HFC” means a halocarbon each molecule of which contains only carbon, hydrogen and fluorine atoms (also referred to as “hydrofluorocarbon”) and whose molecular formula is CnHxF(2n+2-x), where 0<n<6; (HFC)

“PFC” means a fully fluorinated halocarbon each molecule of which contains only carbon and fluorine atoms (also referred to as “perfluorocarbon”); (PFC)

“power rating” means the total power rating of all the motors connected to the compressors in the same cooling system of a refrigeration or air conditioning unit, calculated from the power of each motor as specified by its manufacturer and expressed in or converted into kilowatts. (puissance nominale)

“refrigeration or air conditioning unit” means a refrigeration or air conditioning system or facility, a freezing unit, a heat pump or a dehumidifier and, unless the context indicates otherwise, the compressor, pipes, tubes, hoses, valves or other components necessary for their operation; (appareil de réfrigération ou de climatisation)
For the purposes of the subparagraph 3 of the third paragraph of section 5 and the second paragraph of section 9, sulfur hexafluoride (SF₆) is considered to be a halocarbon.

O.C. 1091-2004, s. 3.

4. A halocarbon referred to in this Regulation is considered to be a hazardous material within the meaning of section 1 of the Environment Quality Act (chapter Q-2).

Subject to sections 11 and 13 of this Regulation, section 21 of the Environment Quality Act applies to a liquid or gaseous halocarbon.

Subject to sections 11 and 13 of this Regulation, sections 70.5.1 and 70.5.3 of the Environment Quality Act apply to a liquid halocarbon but do not apply to a gaseous halocarbon.

Despite the foregoing, sections 70.6 to 70.18.1 of the Environment Quality Act do not apply to a halocarbon referred to in this Regulation.

As well, only the following provisions of the Regulation respecting hazardous materials (chapter Q-2, r. 32) apply to such a halocarbon:

(1) sections 11 and 12, but only in the case of a halocarbon having a boiling point greater than 20°C at an absolute pressure of 101.325 kPa;

(2) Chapter IV, in the case provided for in subparagraph 1 of the fourth paragraph of section 54 of this Regulation.

4.1. Every notice, report, information or document that must be sent to the Minister under this Regulation must be sent electronically.

O.C. 1091-2004, s. 4; I.N. 2019-12-01.

DIVISION II
GENERAL STANDARDS RELATING TO THE SOURCES OF HALOCARBON EMISSIONS

5. No person may directly or indirectly emit a halocarbon or cause or allow a halocarbon to be emitted into the atmosphere.

The emission of a halocarbon inside an immovable that is not equipped with a system preventing, in a durable manner, the migration of that substance outside the immovable is considered to be an emission into the atmosphere.

The prohibition in the first paragraph does not apply to halocarbon emissions resulting from
(1) the operation of an air extraction system of a refrigeration or air conditioning unit whose emissions into the atmosphere do not exceed the limit set by the first paragraph of section 27;

(2) the use of a process to manufacture plastic foam or plastic foam products referred to in Division V of Chapter II;

(3) the use of a process to produce magnesium, subject to sulphur hexafluoride (SF6) emissions which are prohibited as of 16 April 2020;

(4) the use of a solvent;

(5) training, research and development activities;

(6) leak tests conducted in accordance with this Regulation; or

(7) the use of a fire extinguisher to prevent, extinguish or control a fire.

O.C. 1091-2004, s. 5.

6. No person may manufacture, sell or distribute a pressurized container of a capacity of 10 kg or less or an aerosol if it contains a CFC or an HCFC.

O.C. 1091-2004, s. 6.

7. No person may sell or distribute a halocarbon having a boiling point equal to or less than 20 °C at an absolute pressure of 101.325 kPa that is not confined within a refillable pressurized container.

O.C. 1091-2004, s. 7.

8. No person may fill or refill with a halocarbon a container that is defective or whose useful life has ended.

Subject to section 12, the same prohibition applies to the filling or refilling of any refrigeration or air conditioning unit intended to operate, in whole or in part, with a halocarbon and to the charging or recharging of any fire extinguisher intended to operate with a halocarbon.

O.C. 1091-2004, s. 8.

9. A person who fills or refills a container or a refrigeration or air conditioning unit with a halocarbon or charges or recharges a fire extinguisher is required, subject to section 12, to first leak test the equipment.

No person may use sulfur hexafluoride (SF6) to conduct the leak test referred to in the first paragraph.

O.C. 1091-2004, s. 9.
10. A person who services, repairs, converts or dismantles components of a refrigeration or air conditioning unit or fire extinguisher that contain halocarbons must first recover the halocarbons into a container designed for that purpose using the appropriate equipment.

The same requirement applies where the person repairs or dismantles a pressurized halocarbon container.

In addition, recovery of the halocarbons of a refrigeration or air conditioning unit, other than the unit in a vehicle or a unit designed for household use, must be carried out using the appropriate equipment meeting AHRI Standard 740-1998, Refrigerant Recovery/Recycling Equipment, published by the American Air-Conditioning, Heating and Refrigeration Institute.

The disconnecting of a fire extinguisher cylinder where the operation is performed without causing a halocarbon leak is excluded from the application of the first paragraph.

O.C. 1091-2004, s. 10.

11. The owner of a refrigeration or air conditioning unit having a power rating equal to or greater than 20 kW on which a halocarbon leak is detected must immediately

(1) stop the leak using any appropriate means;
(2) in the case of a liquid halocarbon, recover the halocarbon that has leaked and remove any material contaminated by the halocarbon that is not cleaned or treated on the premises.

The owner must also, within 48 hours of becoming aware of the defect, have the halocarbon in the part of the unit where the leak has been detected recovered and have the quantity of halocarbons released during the leak assessed by a person referred to in section 44.

In addition, a gaseous halocarbon must be recovered using the appropriate equipment meeting or exceeding AHRI Standard 740-1998 referred to in the third paragraph of section 10.

O.C. 1091-2004, s. 11.

12. If the operation of a refrigeration or air conditioning unit or one of its parts should be stopped as a means of stopping a halocarbon leak, but it is necessary to keep the unit in operation to prevent an immediate danger to human life or health, the owner of the unit must so inform the Minister without delay. The requirements in subparagraph 1 of the first paragraph of section 11 and in the second paragraph of that section do not apply in such a case for a period that may not exceed

(1) 14 days for a unit located in the administrative regions of Gaspésie–Îles-de-la-Madeleine, Abitibi-Témiscamingue, Côte-Nord and Nord-du-Québec; or
(2) 7 days for a unit located in any other administrative region.
At the expiry of either period provided for in the first paragraph, the owner must immediately have the halocarbon contained in the unit or in the part of the unit where the leak has been detected recovered and have the unit repaired. If the owner is unable to have the halocarbon recovered, the owner must stop the operation of the unit or of the part where the leak has been detected.

It is then incumbent on the owner of the unit to immediately provide the Minister with a report containing

(1) the owner’s name and address;

(2) the address where the unit is located and the type and make of the unit;

(3) for each type of halocarbon contained in the unit:
   (a) an assessment of the quantities released daily, in kilograms, which correspond,
       i. if the unit was filled before the repair, to the quantities recharged to make the unit operate, excluding any quantity of recovered halocarbon, divided by the number of days of operation of the unit; and
       ii. if the unit was not filled before the repair, to the quantity required to completely recharge the unit, excluding any quantity of recovered halocarbon, divided by the number of days of operation of the unit; and

   (b) where applicable, the quantities recovered from the unit at the expiry of the period provided for in the first paragraph, in kilograms; and

(4) the number of days of operation of the unit while defective and the circumstances that warranted not being able to stop the leak or not immediately stopping the operation of the unit.

For the purposes of this section, “administrative region” means a region established pursuant to the Décret concernant la révision des limites des régions administratives du Québec (chapter D-11, r. 1).

O.C. 1091-2004, s. 12.

13. Every person or municipality that accidentally releases more than 10 kg of liquid halocarbons into the environment must immediately inform the Minister.

The person or municipality must also, not later than 31 March of the year following the release year, provide the Minister with a report that states the name and address of the person or municipality and, for each release,

(1) the date and place of the release;
(2) the type of unit from which the release originated;

(3) the type of halocarbon released and in what state;

(4) an assessment of the quantity of halocarbon released, in kilograms;

(5) the name of the person assessing the quantity of halocarbon released; and

(6) the cause of the release and, if applicable, a brief description of the corrections made to the unit.

Every person or municipality that accidentally releases more than 10 kg of gaseous halocarbons into the environment must provide the Minister with a report containing the information required by the second paragraph, within the same timeframe.

O.C. 1091-2004, s. 13.

14. Every person or municipality that picks up a refrigeration or air conditioning unit in connection with a residual materials collection service must, as soon as possible, recover the halocarbons contained in the cooling system of the unit or have them recovered using the appropriate equipment. The halocarbons recovered must be confined within a recovery container designed for that purpose.

The person or municipality is also required to see that each unit so emptied bears a label indicating that it has been emptied of halocarbons, the name of the person who carried out the operation and the name of the enterprise for which the person works, the number of the person's environmental qualification attestation and the date of the operation.

In the case of a unit having a power rating equal to or greater than 4 kW or a unit designed for non-household use, the recovery of halocarbons must be carried out by means of appropriate equipment whose effectiveness is equal to or greater than AHRI Standard 740-1998 referred to in the third paragraph of section 10.


15. Every person who operates a refrigeration or air conditioning unit recovery enterprise for the purpose of the dismantling or sale of scrapped units or parts from units to be dismantled, destroyed or sold as soon as possible and before dismantling the components that contain halocarbons or disposing of them for destruction, recover or have the halocarbons recovered by means of the appropriate equipment. The halocarbons recovered must be confined within a recovery container designed for that purpose.

The person is also required to see that each unit or part so emptied bears a label indicating that it has been emptied of halocarbons, the name of the person who carried out the
operation and the name of the enterprise for which the person works, the number of the person's environmental qualification attestation and the date of the operation.

In the case of a unit having a power rating equal to or greater than 4 kW or a unit designed for non-household use, the halocarbons must be recovered by means of appropriate equipment whose effectiveness is equal to or greater than AHRI Standard 740-1998 referred to in the third paragraph of section 10.

O.C. 1091-2004, s. 15.

16. A person who employs a person who carries out work referred to in any of sections 10, 14, 15, 31, 32 and 36 must make available to that person the recovery or recycling equipment prescribed by the applicable provision.

O.C. 1091-2004, s. 16.

CHAPTER II
SPECIAL STANDARDS FOR CERTAIN SOURCES OF EMISSION

DIVISION I
GENERAL

17. In this Chapter,

“chiller” means a refrigeration or air conditioning unit that uses the refrigerant characteristics of a halocarbon to lower the temperature of a secondary cooling liquid circulating in the pipes; (refroidisseur)

“tool vehicle” means a tool vehicle within the meaning of section 4 of the Highway Safety Code (chapter C-24.2); (véhicule-outil)

“transport refrigeration unit” means a refrigeration unit installed or designed to be installed on a commercial vehicle within the meaning of section 4 of the Highway Safety Code or on a trailer or semi-trailer and used to control the temperature of spaces reserved exclusively for goods. (appareil de réfrigération de transport)

17.1. The owner of a refrigeration or air conditioning unit referred to in Division II of this Chapter must see that the unit bears a label, on a visible and readily accessible part, showing the following information:

(1) the type of halocarbon contained in the unit and its identification code according to the most recent version of standard ANSI/ASHRAE 34, Designation and Safety Classification of Refrigerants, published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers;

(2) the halocarbon charge in the unit, in kilograms if the charge is less than 1,000 kg or in metric tons if the charge is equal to or greater than 1,000 kg; and
(3) the date on which the information is up-to-date.

The first paragraph applies as of 16 April 2021 to every person or municipality that, on 16 April 2020, was the owner of a refrigeration or air conditioning unit referred to in section 18.

This section does not apply to a transport refrigeration unit.

O.C. 1091-2004, s. 17.

DIVISION II
CERTAIN REFRIGERATION OR AIR CONDITIONING UNITS

18. For the purposes of this Division, the following classes of units are established:

(1) transport refrigeration units;

(2) refrigeration units having a power rating of less than 4 kW designed for commercial, industrial or institutional use, except refrigerated vending machines;

(3) air conditioning units having a power rating of less than 4 kW designed for commercial, industrial or institutional use, except refrigerated vending machines;

(4) refrigeration units having a power rating equal to or greater than 4 kW but less than 20 kW designed for commercial, industrial or institutional use;

(5) air conditioning units having a power rating equal to or greater than 4 kW but less than 20 kW designed for commercial, industrial or institutional use;

(6) refrigeration units having a power rating equal to or greater than 20 kW;

(7) air conditioning units having a power rating equal to or greater than 20 kW;

(8) refrigerated vending machines; and

(9) chillers.

O.C. 1091-2004, s. 18.

19. No person may manufacture, sell, distribute or install a unit referred to in section 18 designed to operate with a CFC or an HCFC.

Despite the foregoing, the prohibition in the first paragraph does not apply if the unit has been converted to operate with a halocarbon other than a CFC or an HCFC, or with a substance other than a halocarbon.

O.C. 1091-2004, s. 19.
20. No person may refill or, as of 16 October 2020, operate a refrigeration or air conditioning unit with a CFC.

No person may repair, transform or modify a unit designed to operate with a CFC, except to enable it to operate with a halocarbon other than a CFC or an HCFC or with a substance other than a halocarbon.

O.C. 1091-2004, s. 20; O.C. 676-2013, s. 1.

21. (revoked)

O.C. 1091-2004, s. 21.

21.1. As of 1 January 2021, no person may install in a commercial, industrial or institutional establishment a refrigeration unit having a power rating equal to or greater than 50 kW used to preserve food and designed to operate with a halocarbon having a global warming potential (GWP) of more than 150.

21.2. No person may sell, distribute or install any of the following units as of the dates indicated below:

(1) 1 January 2021, in the case of a unit referred to in paragraph 2, 4 or 6 of section 18 and designed to operate with a halocarbon having a global warming potential (GWP) of more than 1,500;

(2) 1 January 2025, in the case of a unit referred to in paragraph 1 of section 18 and designed to operate with a halocarbon having a global warming potential (GWP) of more than 2,200; or

(3) 1 January 2025, in the case of a unit referred to in paragraph 9 of section 18 and designed to operate with a halocarbon having a global warming potential (GWP) of more than 750.

The prohibition in the first paragraph does not apply if the unit, as applicable,

(1) is designed to maintain an internal temperature equal to or less than –50°C; or

(2) meets the conditions set out in section 66 of the Ozone-depleting Substances and Halocarbon Alternatives Regulations (SOR/2016-237).

22. The owner of a unit referred to in paragraph 6, 7 or 9 of section 18 must ensure that all components containing or intended to contain a halocarbon are leak tested once a year.

The leak test must be conducted using an electronic leak detector with a sensitivity of at least 5 g per year as to the type of halocarbon used.

The owner of a unit that has been repaired following the detection of a leak must conduct another leak test one month after the unit is reactivated.

O.C. 1091-2004, s. 22.
DIVISION III
CHILLER TYPE REFREGERATION OR AIR CONDITIONING UNITS

23. (revoked)
O.C. 1091-2004, s. 23.

24. (revoked)
O.C. 1091-2004, s. 24.

25. (revoked)
O.C. 1091-2004, s. 25.

26. (revoked)

27. No person may install or permit the installation on a unit referred to in paragraph 6 of section 18 of an air extraction system that releases into the atmosphere more than 0.1 kg of halocarbons per kilogram of expelled air.

No person may operate an air extraction system whose releases exceed the limit in the first paragraph or permit the operation of such a system.

O.C. 1091-2004, s. 27; O.C. 676-2013, s. 2.

28. (revoked)
O.C. 1091-2004, s. 28.

DIVISION III
AIR CONDITIONING UNITS IN CERTAIN VEHICLES

29. This Division applies to any air conditioning unit in a motor vehicle, tool vehicle or farm machinery, except a transport refrigeration unit.

O.C. 1091-2004, s. 29.

30. No person may manufacture, sell or distribute an air conditioning unit operating with a CFC and designed to equip a motor vehicle, tool vehicle or farm machinery, or install the unit in such a vehicle or refill the unit with a CFC.

No person may repair, transform or modify such a unit, except to enable it to operate with a halocarbon, other than a CFC, or a substance other than a halocarbon.

The prohibition in the first paragraph does not apply to a unit that equips a vehicle registered outside Québec.
31. Any person who, while an air conditioning unit referred to in this Division is being serviced, becomes aware of a defect that may cause a halocarbon leak, or any person who repairs, modifies, converts or dismantles components that contain a halocarbon, must recover the halocarbon present in the unit. Prior to the recovery, the nature of the halocarbon must be identified using a device designed for that purpose. The halocarbon must be recovered by means of equipment whose effectiveness is equal to or greater than the standard indicated below and in force at the time the equipment is purchased, in respect of each type of halocarbon:


2. for the recovery of CFC-12, in any case other than the case in paragraph 1: SAE Standard J2209 Refrigerant Recovery Equipment for Mobile Automotive Air-Conditioning Systems, published by the body referred to in paragraph 1;

3. for the recovery of HFC-134a, if the equipment simultaneously recycles the halocarbon: SAE Standard J2788 HFC-134a (R-134a) Recovery/Recycling Equipment and Recovery/Recycling/Recharging for Mobile Air-Conditioning Systems, published by the body referred to in paragraph 1;

4. for the recovery of HFC-134a, in any case other than the case in paragraph 3: SAE Standard J2810 HFC-134a (R-134a) Refrigerant Recovery Equipment for Mobile Automotive Air-Conditioning Systems, published by the body referred to in paragraph 1;

5. for the recovery of HFO-1234yf, if the equipment simultaneously recycles the halocarbon: SAE Standard J2843 R-1234yf [HFO-1234yf] Recovery/Recycling/Recharging Equipment for Flammable Refrigerants for Mobile Air-Conditioning Systems, published by the body referred to in paragraph 1; and


32. A person who operates an enterprise that dismantles or sells scrapped motor vehicles, tool vehicles or farm machinery, automobile hulks or parts from dismantled vehicles or vehicles intended to be dismantled, destroyed or sold for parts only must, without delay and before an air conditioning unit equipping such a vehicle or components of such a unit
containing halocarbons are dismantled or disposed of to be destroyed, recover the halocarbons contained in the unit or components. The halocarbon must be recovered by means of appropriate equipment whose effectiveness is equal to or greater than one of the standards referred to in section 31, according to the type of halocarbon and the type of operation. The halocarbons recovered must be confined within a recovery container designed for that purpose.

The person is also required to see that each such unit or part so emptied bears a label stating that the unit or part does not contain halocarbons.

O.C. 1091-2004, s. 32.

**DIVISION IV**

**FIRE EXTINGUISHERS**

33. No person may manufacture, sell, distribute or install a fire extinguisher operating with halon.

As of 16 June 2020, no person may install a fire extinguisher operating with HFC 23 or a PFC.

O.C. 1091-2004, s. 33.

34. No person may charge or recharge a portable fire extinguisher with halon.

O.C. 1091-2004, s. 34; O.C. 676-2013, s. 3.

35. *(Revoked).*

O.C. 1091-2004, s. 35; O.C. 676-2013, s. 4.

36. A person who services, repairs, modifies, converts or dismantles fire extinguishers or components containing halon must recover the halon using the appropriate equipment meeting or exceeding the standards in ULC/ORD-C1058.5-1993 Halon Recovery and Reconditioning Equipment.

The disconnecting of a fire extinguisher cylinder where the operation is performed without causing a halocarbon leak is excluded from the application of this section.

O.C. 1091-2004, s. 36.

37. The person responsible for dismantling or conversion work on a fire extinguisher, other than a portable extinguisher, to enable the fire extinguisher to operate with a substance other than halon must file a report containing the following information with the Minister not later than 31 March of each year:

1. the name and address of the contractor;
2. the name and address of the owner of the fire extinguisher and the address where the work was carried out;
3. the type and quantity of halon recovered;
(4) if the substance used as a replacement for halon is a halocarbon, the type of halocarbon and the quantity in kilograms;
(5) the serial number indicated on the nameplate affixed to the fire extinguisher cylinder;
(6) the date of completion of the work; and
(7) the name and address of the enterprise to which the recovered halon was sent.

O.C. 1091-2004, s. 37.

DIVISION V
PLASTIC FOAMS AND PLASTIC FOAM PRODUCTS

38. In this Division, “plastic foam” means a plastic or other polymer product whose weight per unit of volume is reduced by the formation, during manufacturing, of gaseous cells by means of a halocarbon acting as a blowing agent.

O.C. 1091-2004, s. 38.

39. No person may manufacture, sell or distribute plastic foam or a product containing plastic foam if the foam contains or requires an HCFC or a CFC for its manufacturing.

As of 1 January 2021, no person may manufacture plastic foam or a product containing plastic foam if the foam contains or requires for its manufacturing a halocarbon having a global warming potential (GWP) of more than 150.

As of 1 July 2021, no person may sell or distribute such plastic foam or a product containing it.

The second and third paragraphs do not apply if the plastic foam or product containing plastic foam, as applicable,

(1) is used for military, space or aeronautical purposes; or
(2) meets the conditions set out in section 66 of the Ozone-depleting Substances and Halocarbon Alternatives Regulations (SOR/2016-237).

O.C. 1091-2004, s. 39; O.C. 1347-2009, s. 1.

DIVISION VI
STERILIZATION AND SOLVENTS

40. No person may use a gas containing a CFC or an HCFC for sterilization purposes.

O.C. 1091-2004, s. 40.

41. No person may use a solvent that contains a CFC or HCFC or use a product that contains such a solvent.

The first paragraph does not apply to the use of a solvent
(1) where it is used in a laboratory as a reagent;
(2) where it is used for chemical compound synthesis; or
(3) where it is used in a manufacturing process at the end of which the CFC or HCFC is chemically transformed into another substance.

O.C. 1091-2004, s. 41; O.C. 676-2013, s. 5.

42. No person may use carbon tetrachloride or methyl chloroform or a product that contains either of those substances.

The first paragraph does not apply to the use of such a substance
(1) where it is used in a laboratory as a reagent;
(2) where it is used for chemical compound synthesis; or
(3) where it is used in a manufacturing process at the end of which it is chemically transformed into another substance.

O.C. 1091-2004, s. 42.

CHAPTER III
ENVIRONMENTAL QUALIFICATION OF THE LABOUR FORCE

43. Only persons having the knowledge and attestation required by section 44 may install, service, repair, modify, dismantle or recondition a refrigeration or air conditioning unit designed or converted to operate with a halocarbon or treat, charge, transfer or purge the halocarbon charge of such a unit.

Similarly, only persons having the qualifications required under section 44 may purchase or otherwise obtain halocarbons for the commissioning or servicing of a unit or equipment referred to in the first paragraph.

The first paragraph does not apply to work carried out by a trainee or a student under the immediate supervision of a person having the qualifications required under section 44 or to the dismantling of a unit or equipment or any of its components that does not contain halocarbons and that is not directly linked to another component or another unit or equipment that contains halocarbons.

The second paragraph does not apply to a person or enterprise employing a person having the qualifications required under section 44 for whom the halocarbon is intended.

O.C. 1091-2004, s. 43.

44. Persons who have taken and successfully completed an awareness training course approved by the Minister on the environmental impact of the operations referred to in section 43 have the qualifications required to carry out those operations and are issued a labour force environmental qualification attestation by the Minister of Employment and Social Solidarity or the Commission de la construction du Québec.

The training referred to in the first paragraph must enable the persons who receive it to
(1) have an understanding of Québec and Canadian laws and regulations respecting halocarbons;

(2) be aware of the environmental issues associated with emissions of halocarbons into the atmosphere; and

(3) learn the appropriate practices to apply to prevent halocarbon emissions, including the use of the appropriate halocarbon recovery and treatment equipment.

O.C. 1091-2004, s. 44.

45. (revoked)

O.C. 1091-2004, s. 45.

46. Every person who carries out work referred to in section 43 must carry on his or her person the duly signed labour force environmental qualification attestation referred to in the first paragraph of section 44 and show it on request.

O.C. 1091-2004, s. 46.

47. (revoked)

O.C. 1091-2004, s. 47.

48. Every labour force environmental qualification attestation issued under the first paragraph of section 44 must bear the following information to be valid for the purposes of this Regulation:

(1) the name of the holder;
(2) the date of issue;
(3) the attestation number;
(4) the trade of the holder, if applicable;
(5) the name of the authority that issued the attestation;
(6) the holder’s signature; and
(7) the following indication or an equivalent indication:

“The holder of this attestation has the labour force environmental qualification required under the Regulation respecting halocarbons (chapter Q-2, r. 29)”.

O.C. 1091-2004, s. 48.

49. Every authority referred to in the first paragraph of section 44 that issues labour force environmental qualification attestations in accordance with that section must maintain a register in which the authority enters, with respect to each attestation, the following information:

(1) the name and address of the holder;
(2) the attestation number;
(3) the date of issue; and
50. A person who employs a person who carries out the work referred to in section 43 must ensure that the person holds a labour force environmental qualification attestation issued in accordance with this Chapter.

O.C. 1091-2004, s. 50.

51. A person who sells or supplies halocarbons must ensure that the person or enterprise wishing to purchase or otherwise obtain halocarbons holds a labour force environmental qualification attestation issued in accordance with this Chapter or employs a person who is the holder of such an attestation.

The first paragraph does not apply to the sale of halocarbons between halocarbon manufacturers or distributors and retailers.

O.C. 1091-2004, s. 51.

CHAPTER IV
TAKE-BACK, TREATMENT AND ELIMINATION OF USED HALOCARBONS AND MARKETING CONTAINERS

51.1. For the purposes of this Chapter,
“eliminate” a halocarbon or a halocarbon container means destroying the used halocarbon using an incineration or chemical process so that the nature of the halocarbon is permanently altered;

“treat” a halocarbon or a halocarbon container means one of the following actions:

(1) “recycling”, namely the rough cleaning of impurities in the used halocarbon without taking it back to its original specifications as a virgin product;

(2) “regeneration”, namely the treatment of the used halocarbon so as to take it back to its original specifications as a virgin product; or

(3) “reclamation”, namely the use of the used halocarbon for a use other than the original use for which it was manufactured, which may require a certain prior treatment.

52. This Chapter applies to halocarbons that are used, have been used or are intended to be used for the operation of a refrigeration or air conditioning unit or fire extinguishing equipment, and to their containers.
53. A person who has in his or her possession a container that has been used to market a halocarbon other than methyl bromide must return it, after use, to the supplier or to any other halocarbon wholesaler that sells or distributes halocarbons of the same type.

The supplier or wholesaler is required to take the container back.

However, where the returned container still contains halocarbons, the supplier or wholesaler is required to take it back only if a label has been affixed to the container identifying the type of halocarbon or if the colour of the container makes it possible to identify the halocarbon it contains. The supplier or wholesaler must then treat or eliminate the halocarbon or deliver it to a person referred to in subparagraph 1 or 2 of the first paragraph of section 54 for treatment or elimination.

Where a container does not comply with the provisions of this section, it is the responsibility of the holder of the container or the supplier or wholesaler who has taken the container back to treat or eliminate it or to deliver it to a person referred to in subparagraph 1 or 2 of the first paragraph of section 54 for treatment or elimination.

54. A person who has recovered a halocarbon from a unit and is unable to treat or eliminate it must, not later than 45 days following the date on which the container used for the recovery of the used halocarbon is filled to its maximum capacity, take it

(1) to the supplier or any other halocarbon wholesaler; or

(2) to any other person in Québec or elsewhere who is able to treat or eliminate it.

The supplier or wholesaler referred to in subparagraph 1 of the first paragraph is required to take back the used halocarbons that are returned if they are of the same type as the halocarbons the supplier or wholesaler sells or distributes, provided that

(1) the halocarbons are confined within a recovery container designed for that purpose;

(2) a label is affixed to the recovery container identifying the type of halocarbon it contains; and

(3) the recovery container contains not more than one type of halocarbon and no substance other than a halocarbon, except water or oil from normal use or other residues generated by normal halocarbon degradation.

The supplier or wholesaler referred to in subparagraph 1 of the first paragraph is also required to issue a duly dated and signed receipt to every person or municipality that
returns a used halocarbon stating the name of the supplier or wholesaler and specifying the name of the person or municipality that returned the halocarbon and, in the case of a natural person, the name and address of the enterprise employing the person and the type and estimated quantity of halocarbon returned.

A supplier or wholesaler referred to in subparagraph 1 of the first paragraph that is unable to treat or eliminate the used halocarbon returned must

(1) store it indoors and, if applicable, in accordance with Chapter IV of the Regulation respecting hazardous materials (chapter Q-2, r. 32) and the Regulation respecting occupational health and safety (chapter S-2.1, r. 13); and

(2) take it, within 90 days, to one of the persons referred to in subparagraph 1 or 2 of the first paragraph.

O.C. 1091-2004, s. 54.

55. Where a used halocarbon recovered does not meet the requirements of the second paragraph of section 54, it is the responsibility of the person who recovered the halocarbon or, as the case may be, the supplier or wholesaler that took it back despite the halocarbon not being compliant, to deliver the halocarbon to another person able to treat or eliminate it.

55.1. Where the owner of a unit from which a used halocarbon was recovered retains ownership of the halocarbon, the person who recovered it is exempt from the requirements of the first paragraph of section 54 and section 55. Those requirements then become the responsibility of the owner of the unit.

Despite the foregoing, the person who recovered the used halocarbon is required to inform the owner of the unit of the requirements to be complied with by giving the owner a copy of the provisions of this Chapter, and to enter in the log maintained pursuant to section 59 the name and address of the owner keeping the used halocarbon recovered.

O.C. 1091-2004, s. 55.

56. A person who recovers or receives a used halocarbon with a view to treating or eliminating it must, within 12 months following the recovery or receipt of the used halocarbon, personally treat or eliminate it or deliver it to another person able to treat or eliminate it.

The person must also comply with the storage conditions set out in subparagraph 1 of the fourth paragraph of section 54.

In addition, the person is bound by those requirements with respect to recovered non-refillable pressurized containers marketed before 23 January 2005.
CHAPTER V
REPORTS AND LOG

DIVISION I
SALES OR DISTRIBUTION REPORTS

57. A person who sells or distributes for wholesale purposes a halocarbon under a trademark of which the person is the owner or exclusive agent, or of which the person is the original supplier in Québec must, not later than 31 March of each year, file with the Minister a sales or distribution report for the preceding calendar year on the form provided by the Minister.

The report must contain
(1) the person’s name and address;
(2) for each type of halocarbon,
   (a) the name and address of each supplier and the quantity of halocarbons bought or received during the year from each supplier; and
   (b) the name and address of each client and the quantity of halocarbons sold or distributed during the year to each client; and
(3) a statement by the person producing the report that the information it contains is accurate.

57.1. All persons who purchase a halocarbon for personal use in the course of their commercial, industrial or institutional activities and who are the first importer of the halocarbon into Québec must, not later than 31 March of each year, provide the Minister with a report on their purchases for the preceding calendar year. The report must contain the information required by subparagraph 1, subparagraph a of subparagraph 2 and subparagraph 3 of the second paragraph of section 57.

58. Where the person or enterprise referred to in the first paragraph of section 57 has no domicile, head office or establishment in Québec, the requirement to report to the Minister under that section becomes the responsibility of the original supplier of the halocarbons in Québec, whether that supplier is the importer or not.
(2) the address where the unit or equipment on which the work was performed is located and its serial number or, for a vehicle, the make, model, model year, serial number and its registration number;
(3) the type of halocarbon added or recovered and the quantity in kilograms;
(4) the results of the leak tests conducted, if any;
(5) the name of the person who performed the work, the number of the person's labour force environmental qualification attestation and the name and address of the person's employer; and
(6) the name and address of the owners referred to in section 55.1, where applicable.

The person must also give the owner of the unit, other than a vehicle's air conditioning unit, a copy of the information entered pursuant to the first paragraph.

O.C. 1091-2004, s. 59.

60. A person who maintains a log pursuant to section 59 must retain the log for at least 5 years after the date of the last entry.

The owner of the unit is also required to retain the copy of the information given to the owner pursuant to the second paragraph of section 59 for at least 5 years after the date of the work.

The persons referred to in the first and second paragraphs are required to provide the Minister, on request, with the log or the information kept.

O.C. 1091-2004, s. 60.

DIVISION III
REPORT ON THE TAKE-BACK AND TREATMENT OF USED HALOCARBONS

61. Not later than 31 March of each year, a supplier or enterprise that takes back used halocarbons, or any other person who recovers such halocarbons to be treated or eliminated by it or by another person, must provide the Minister with a report showing, for the preceding calendar year and in respect of each type of halocarbon taken back by the supplier or enterprise or, as applicable, recovered by the person,

(1) the quantities of used halocarbons, expressed in kilograms;

(2) the quantities of recovery containers taken back, for each size; and

(3) the name and address of each enterprise, supplier or any other person to whom the used halocarbons were delivered for treatment or elimination, specifying the quantity for each and, as applicable, the type of treatment planned or applied.

The requirement under the first paragraph does not apply to a person who has recovered used halocarbons and returns them to the unit from which they were recovered or places them in another unit belonging to the enterprise.

O.C. 1091-2004, s. 61.
CHAPTER V.1
MONETARY ADMINISTRATIVE PENALTIES

O.C. 676-2013, s. 6.

61.1. A monetary administrative penalty of $250 in the case of a natural person or $1,000 in other cases may be imposed on any person who fails
(0.1) to send any notice, document or information in accordance with the conditions set out in this Regulation or any report other than the report referred to in the third paragraph of section 12;
(1) to see that a label is affixed to a container, unit or part in accordance with the conditions set out in the second paragraph of section 14, 15 or 32;
(2) to carry on his or her person or produce on request a labour force environmental qualification attestation in accordance with section 46;
(2.1) to take back a halocarbon, in accordance with the second paragraph of section 54 or to issue a receipt, in accordance with the third paragraph of section 54;
(2.2) to inform the owner of a unit referred to in the first paragraph of section 55.1 of the requirements to be complied with by the owner, in accordance with the conditions set out in the second paragraph of that section, or to enter the required information in the log, in accordance with the second paragraph of that section;
(3) to maintain a log containing the information prescribed by section 59 or give a copy of the information to the owner in accordance with the second paragraph of that section;
(4) to retain the log provided for in section 59 or the copy of the information entered in the log or to provide the information to the Minister on request in accordance with section 60.

O.C. 676-2013, s. 6.

61.2. A monetary administrative penalty of $350 in the case of a natural person or $1,500 in other cases may be imposed on any person who fails

(1) to provide the Minister with a report containing the information required by the third paragraph of section 12, in accordance with the conditions set out in that paragraph; and
(2) to ensure that a label complying with the conditions set out in section 17.1 is affixed to a unit referred to therein.

O.C. 676-2013, s. 6.

61.3. A monetary administrative penalty of $500 in the case of a natural person or $2,500 in other cases may be imposed on any person who fails

(1) to conduct a leak test, in the cases and on the conditions set out in the first paragraph of section 9 or the first, second or third paragraph of section 22;
(1.1) to have the quantity of halocarbons released during a leak assessed, in accordance with the second paragraph of section 11;
(2) to ensure, in the cases provided for in section 50 or the first paragraph of section 51, that a person or enterprise, or, where applicable, a person in that person’s employ holds
an environmental qualification attestation that complies with the requirements of those sections.

The penalty provided for in the first paragraph may also be imposed on any person who
(1) sells or distributes a halocarbon referred to in section 7 without complying with the conditions provided for in that section;
(1.1) uses sulphur hexafluoride (SF6) to conduct a leak test, in contravention of the second paragraph of section 9;
(2) carries out the work referred to in section 43 without having the qualifications required by section 44.

O.C. 676-2013, s. 6.

61.4. A monetary administrative penalty of $750 in the case of a natural person or $3,500 in other cases may be imposed on any person who fails
(1) to use the appropriate equipment to recover a halocarbon or halon or, where applicable, to confine a halocarbon or halon within a recovery container designed for that purpose, in accordance with the first or third paragraph of section 10, the third paragraph of section 11, the first or third paragraph of section 14 or 15, section 31 or the first paragraph of section 32 or 36, in the cases provided for therein;
(2) to make the recovery or recycling equipment prescribed by any of sections 10, 14, 15, 31, 32 or 36 available to a person in his or her employ who carries out work referred to in section 16;
(3) to identify the nature of a halocarbon using a device designed for that purpose in the case provided for in section 31;
(4) to comply with any of the conditions set out in section 53, the first or fourth paragraph of section 54, section 55, the first paragraph of section 55.1 or section 56.

The penalty provided for in the first paragraph may also be imposed on any person who installs or permits the installation on a chiller of an air extraction system whose emissions into the atmosphere exceed the standards prescribed by the first paragraph of section 27.

O.C. 676-2013, s. 6.

61.5. A monetary administrative penalty of $1,000 in the case of a natural person or $5,000 in other cases may be imposed on any person who
(1) fails to notify the Minister in case of accidental release of a halocarbon into the atmosphere in accordance with the first paragraph of section 13;
(2) installs a unit referred to in section 21.1, in contravention of that section.

O.C. 676-2013, s. 6.

61.6. A monetary administrative penalty of $1,500 in the case of a natural person or $7,500 in other cases may be imposed on any person who
(1) manufactures, sells or distributes a pressurized container or an aerosol referred to in section 6, in contravention of section 6;
(2) fills or refills, charges or recharges with a halocarbon, a container, a unit or a fire extinguisher referred to in section 8, in contravention of section 8;
(3) manufactures, sells, distributes or installs a unit referred to in section 18, in contravention of section 19 or 21.2, or a unit referred to in section 30, in contravention of that section;
(4) refills or operates a unit referred to in the first paragraph of section 20 with a CFC, in contravention of that section;
(4.1) repairs, transforms or modifies a unit designed to operate with a CFC, in contravention of the second paragraph of section 20 or the second paragraph of section 30;
(5) (omitted)
(6) (omitted)
(7) refills an air conditioning unit with a CFC, in contravention of the first paragraph of section 30;
(8) manufactures, sells, distributes or installs a fire extinguisher operating with halon, in contravention of the first paragraph of section 33, or installs a fire extinguisher operating with HFC-23 or a PFC, in contravention of the second paragraph of that section;
(9) charges or recharges a portable fire extinguisher with halon, in contravention of section 34;
(10) manufactures, sells or distributes plastic foam or a product containing plastic foam referred to in section 39, in contravention of section 39.

The penalty referred to in the first paragraph may also be imposed on any person who uses
(1) a gas containing a CFC or HCFC for sterilization purposes in contravention of section 40;
(2) a solvent or a product referred to in the first paragraph of section 41 in conditions other than one of the conditions set out in the second paragraph of that section;
(3) carbon tetrachloride or methyl chloroform or a product that contains either of those substances in conditions other than one of the conditions provided for in the second paragraph of section 42 in contravention of that section.

O.C. 676-2013, s. 6.

61.7. A monetary administrative penalty of $2,000 in the case of a natural person or $10,000 in other cases may be imposed on any person who
(1) directly or indirectly emits a halocarbon or causes or allows a halocarbon to be emitted into the atmosphere in contravention of section 5;
(2) fails to recover or have recovered a halocarbon in the cases provided for in section 10, the second paragraph of section 11, the first paragraph of section 14, or sections 15, 31, 32 or 36;
(3) fails, in the case of a halocarbon leak, to take the measures referred to in the first paragraph of section 11 or the second paragraph of section 12;
(4) operates or permits the operation of an air extraction system whose emissions into the atmosphere exceed the standards prescribed by the second paragraph of section 27.
CHAPTER VI
PENAL SANCTIONS

O.C. 1091-2004, c. VI; O.C. 676-2013, s. 7.

62. Every person who contravenes section 4.1, the second paragraph of section 14, 15 or 32, section 46, the second or third paragraph of section 54, the second paragraph of section 55.1 or section 59 or 60 commits an offence and is liable, in the case of a natural person, to a fine of $1,000 to $100,000 or, in other cases, to a fine of $3,000 to $600,000.

O.C. 1091-2004, s. 62; O.C. 676-2013, s. 8.

63. Every person who contravenes the third paragraph of section 12, the second paragraph of section 13, section 17.1, 37, 57, 57.1 or 61 commits an offence and is liable, in the case of a natural person, to a fine of $2,000 to $100,000 or, in other cases, to a fine of $6,000 to $600,000.

O.C. 1091-2004, s. 63; O.C. 676-2013, s. 8.

64. Every person who

(1) contravenes section 7, the first or second paragraph of section 9, section 22, 43, 50 or 51,

(2) fails to have an assessment made of the quantity of halocarbon released during a leak, in accordance with the second paragraph of section 11,

commits an offence and is liable, in the case of a natural person, to a fine of $2,500 to $250,000 or, in other cases, to a fine of $7,500 to $1,500,000.

O.C. 1091-2004, s. 64; O.C. 676-2013, s. 8.

65. Every person who

(1) fails to use the appropriate equipment to recover a halocarbon or halon or, where applicable, to confine a halocarbon or halon within a recovery container designed for that purpose, in accordance with the first or third paragraph of section 10, the third paragraph of section 11, the first or third paragraph of section 14 or 15, or the first paragraph of section 32 or 36, in the cases provided for therein, or

(2) contravenes section 16, the first paragraph of section 27, section 31 or 53, the first or fourth paragraph of section 54, section 55, the first paragraph of section 55.1 or section 56,

commits an offence and is liable, in the case of a natural person, to a fine of $4,000 to $250,000 or, in other cases, to a fine of $12,000 to $1,500,000.

O.C. 1091-2004, s. 65; O.C. 676-2013, s. 8.
66. Every person who
(1) contravenes the first paragraph of section 13 or section 21.1,
(2) pursuant to this Regulation, makes a declaration, communicates information or files a
document that is false or misleading,
commits an offence and is liable, in the case of a natural person, to a fine of $5,000 to
$500,000 or, despite article 231 of the Code of Penal Procedure (chapter C-25.1), to a
maximum term of imprisonment of 18 months, or to both the fine and imprisonment, or, in
other cases, to a fine of $15,000 to $3,000,000.
O.C. 1091-2004, s. 66; O.C. 676-2013, s. 8.

67. Every person who contravenes section 6, 8, 19, 20, 21.2, 30, 33 or 34 or any of
sections 39 to 42 commits an offence and is liable, in the case of a natural person, to a
fine of $8,000 to $500,000 or, despite article 231 of the Code of Penal Procedure (chapter
C-25.1), to a maximum term of imprisonment of 18 months, or to both the fine and imprisonment, or, in
other cases, to a fine of $24,000 to $3,000,000.
O.C. 1091-2004, s. 67; O.C. 676-2013, s. 8.

67.1. Every person who
(1) fails to recover the halocarbons in the situations referred to in the first or second
paragraph of section 11, the first paragraph of section 14 or 15, section 31, the first
paragraph of section 32 or section 36,
(2) contravenes the first or second paragraph of section 12 or the second paragraph of
section 27,
commits an offence and is liable, in the case of a natural person, to a fine of $10,000 to
$1,000,000 or, despite article 231 of the Code of Penal Procedure (chapter C-25.1), to a
maximum term of imprisonment of 3 years, or to both the fine and imprisonment, or, in
other cases, to a fine of $30,000 to $6,000,000.
O.C. 676-2013, s. 8.

67.2. Every person who contravenes section 5 commits an offence and is liable, in the
case of a natural person, to a fine of $12,500 to $1,000,000 or, despite article 231 of the
Code of Penal Procedure (chapter C-25.1), to a maximum term of imprisonment of 3 years,
or to both the fine and imprisonment, or, in other cases, to a fine of $37,500 to $6,000,000.
O.C. 676-2013, s. 8.

67.3. Every person who contravenes any other requirement imposed by this Regulation
also commits an offence and is liable, where no other penalty is provided for by this
Chapter or the Environment Quality Act (chapter Q-2), to a fine of $1,000 to $100,000 in
the case of a natural person or, in other cases, to a fine of $3,000 to $600,000.
O.C. 676-2013, s. 8.
68. (Revoked).
O.C. 1091-2004, s. 68; O.C. 676-2013, s. 9.

CHAPTER VII
MISCELLANEOUS AND FINAL

69. (Amendment integrated into section 4 of the Regulation respecting hazardous materials, c. Q-2, r. 32).
O.C. 1091-2004, s. 69.

70. Amendment integrated into section 7.1 of the Regulation respecting hazardous materials, c. Q-2, r. 32).
O.C. 1091-2004, s. 70.

71. Amendment integrated into section 9 of the Regulation respecting hazardous materials, c. Q-2, r. 32).
O.C. 1091-2004, s. 71.

O.C. 1091-2004, s. 72.

73. This Regulation replaces the Regulation respecting ozone-depleting substances (O.C 812-93, 93-06-09).
O.C. 1091-2004, s. 73.

74. (Omitted).
O.C. 1091-2004, s. 74; O.C. 384-2007, s. 1.

SCHEDULE I

(s. 3)

Part A – Certain halocarbons with an ozone depleting potential (ODP) and a global warming potential (GWP)

Category 1 – Chlorofluorocarbons (CFC)

<table>
<thead>
<tr>
<th>Type</th>
<th>Chemical name</th>
<th>Crude chemical formula</th>
<th>CAS No.¹</th>
<th>ODP²</th>
<th>GWP³</th>
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¹ CAS No.: Chemical Abstract Service number
² ODP: Ozone depleting potential
³ GWP: Global warming potential
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<tr>
<th>Type</th>
<th>Chemical name</th>
<th>Crude chemical formula</th>
<th>CAS No.</th>
<th>ODP</th>
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<td>Halon 2402</td>
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Category III – Bromocarbons

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<th>GWP</th>
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<tbody>
<tr>
<td>n-Propyl bromide</td>
<td>1-bromopropane</td>
<td>CH₂BrCH₂CH₃</td>
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<th>CAS No.¹</th>
<th>ODP²</th>
<th>GWP³</th>
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<td>Methylchloroform</td>
<td>1, 1,1-trichloroethane</td>
<td>CH₃CCl₃</td>
<td>71-55-6</td>
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<td>Carbon tetrachloride</td>
<td>tetrachloromethane</td>
<td>CCl₄</td>
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### Category V – Hydrochlorofluorocarbons (HCFC)

#### Subcategory A – Saturated hydrochlorofluorocarbons (HCFC)

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<th>Type</th>
<th>Chemical name</th>
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<th>ODP²</th>
<th>GWP³</th>
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<td>HCFC-21</td>
<td>dichlorofluoromethane</td>
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<td>chlorodifluoromethane</td>
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#### Subcategory B – Unsaturated hydrochlorofluorocarbons (HCFO)

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<th>Type</th>
<th>Chemical name</th>
<th>Crude chemical formula</th>
<th>CAS No.¹</th>
<th>ODP⁵</th>
<th>GWP⁶</th>
</tr>
</thead>
</table>

### ADMINISTRATIVE VERSION INCLUDING THE AMENDMENTS TO THE REGULATION RESPECTING HALOCARBONS - THIS VERSION HAS NO LEGAL VALUE
HCFO-1233zd(E) | trans-1-chloro-3,3,3-trifluoroprop-1-ene | C₃H₂ClF₃ | 102687-65-0 | ≤0.0004 | 1

**Part B – Certain halocarbons with a global warming potential exclusively**

**Category I – Hydrofluorocarbons (HFC)**

**Subcategory A – Saturated hydrofluorocarbons (HFC)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Chemical name</th>
<th>Crude chemical formula</th>
<th>CAS No.¹</th>
<th>GWP³</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFC-23</td>
<td>trifluoromethane</td>
<td>CHF₃</td>
<td>75-46-7</td>
<td>14,800</td>
</tr>
<tr>
<td>HFC-32</td>
<td>difluoromethane</td>
<td>CH₂F₂</td>
<td>75-10-5</td>
<td>675</td>
</tr>
<tr>
<td>HFC-41</td>
<td>fluoromethane</td>
<td>CH₃F</td>
<td>593-53-3</td>
<td>92</td>
</tr>
<tr>
<td>HFC-125</td>
<td>pentfluoroethane</td>
<td>CHF₂CF₃</td>
<td>354-33-6</td>
<td>3,500</td>
</tr>
<tr>
<td>HFC-134</td>
<td>1, 1, 2, 2-tetrafluoroethane</td>
<td>CHF₂CHF₂</td>
<td>359-35-3</td>
<td>1,100</td>
</tr>
<tr>
<td>HFC-134a</td>
<td>1, 1, 1, 2-tetrafluoroethane</td>
<td>CH₂FCF₃</td>
<td>811-97-2</td>
<td>1,430</td>
</tr>
<tr>
<td>HFC-143</td>
<td>1, 1, 1-trifluoroethane</td>
<td>CH₃CF₃</td>
<td>420-46-2</td>
<td>4,470</td>
</tr>
<tr>
<td>HFC-143a</td>
<td>1, 1, 1-trifluoroethane</td>
<td>CH₃CF₃</td>
<td>420-46-2</td>
<td>4,470</td>
</tr>
<tr>
<td>HFC-152</td>
<td>1,2-difluoroethane</td>
<td>CH₂FCH₂F</td>
<td>624-72-6</td>
<td>53</td>
</tr>
<tr>
<td>HFC-152a</td>
<td>1,1-difluoroethane</td>
<td>CH₃CHF₂</td>
<td>75-37-6</td>
<td>124</td>
</tr>
<tr>
<td>HFC-161</td>
<td>fluoroethane</td>
<td>CH₂CH₂F</td>
<td>353-36-6</td>
<td>12</td>
</tr>
<tr>
<td>HFC-227ea</td>
<td>1, 1, 1, 2, 3, 3-heptafluoropropane</td>
<td>CF₃CHF₃CF₃</td>
<td>431-89-0</td>
<td>3,220</td>
</tr>
<tr>
<td>HFC-236cb</td>
<td>1, 1, 1, 2, 2, 3-hexafluoropropane</td>
<td>CH₂FCF₂CF₃</td>
<td>677-56-5</td>
<td>1,340</td>
</tr>
<tr>
<td>HFC-236ea</td>
<td>1, 1, 1, 2, 3, 3-hexafluoropropane</td>
<td>CHF₂CHF₃CF₃</td>
<td>431-63-0</td>
<td>1,370</td>
</tr>
<tr>
<td>HFC-236fa</td>
<td>1, 1, 1, 3, 3, 3-hexafluoropropane</td>
<td>CF₃CH₂CF₃</td>
<td>690-39-1</td>
<td>9,810</td>
</tr>
<tr>
<td>HFC-245ca</td>
<td>1, 1, 1, 2, 2, 3-pentafluoropropane</td>
<td>CH₂FCF₂CHF₂</td>
<td>679-86-7</td>
<td>693</td>
</tr>
<tr>
<td>HFC-245fa</td>
<td>1, 1, 1, 3, 3-pentafluoropropane</td>
<td>CHF₂CH₂CF₃</td>
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<td>1,030</td>
</tr>
<tr>
<td>HFC-365mfc</td>
<td>1, 1, 1, 3-pentafluorobutane</td>
<td>CH₃CF₂CH₂CF₃</td>
<td>406-58-6</td>
<td>794</td>
</tr>
<tr>
<td>Type</td>
<td>Chemical name</td>
<td>Crude chemical formula</td>
<td>CAS No.</td>
<td>GWP</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------</td>
<td>------------------------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>HFC-43-10mee</td>
<td>1, 1, 1, 2, 2, 3, 4, 5, 5,5-decafluoropentane</td>
<td>CF₃CHFCHF₆CF₃</td>
<td>138495-42-8</td>
<td>1,640</td>
</tr>
</tbody>
</table>

Subcategory B – Unsaturated hydrofluorocarbons (HFO)

<table>
<thead>
<tr>
<th>Type</th>
<th>Chemical name</th>
<th>Crude chemical formula</th>
<th>CAS No.</th>
<th>GWP</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFO-1234yf</td>
<td>2, 3, 3,3-tetrafluoropropene</td>
<td>CF₃CF=CH₂</td>
<td>754-12-1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>HFO-1234ze</td>
<td>trans-1, 3, 3,3-tetrafluoropropene</td>
<td>CHF=CHCF₃</td>
<td>29118-24-9</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

Category II – Perfluorocarbons (PFC)

<table>
<thead>
<tr>
<th>Type</th>
<th>Chemical name</th>
<th>Crude chemical formula</th>
<th>CAS No.</th>
<th>GWP</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFC-14</td>
<td>tetrafluoromethane</td>
<td>CF₄</td>
<td>75-73-0</td>
<td>7,390</td>
</tr>
<tr>
<td>PFC-116</td>
<td>hexafluoroethane</td>
<td>C₂F₆</td>
<td>76-16-4</td>
<td>12,200</td>
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<tr>
<td>PFC-218</td>
<td>octafluoropropene</td>
<td>C₃F₈</td>
<td>76-19-7</td>
<td>8,830</td>
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<tr>
<td>PFC-318</td>
<td>octafluorocyclobutane</td>
<td>C₄F₈</td>
<td>115-25-3</td>
<td>10,300</td>
</tr>
<tr>
<td>PFC-31-10</td>
<td>decafluorobutane</td>
<td>C₄F₁₀</td>
<td>355-25-9</td>
<td>8,860</td>
</tr>
<tr>
<td>PFC-41-12</td>
<td>dodecafluoropentane</td>
<td>C₅F₁₂</td>
<td>678-26-2</td>
<td>9,160</td>
</tr>
<tr>
<td>PFC-51-14</td>
<td>tetradecafluoroethane</td>
<td>C₆F₁₄</td>
<td>355-42-0</td>
<td>9,300</td>
</tr>
</tbody>
</table>

1 The numbers entered in respect of the substances listed in this Schedule correspond to the identification code assigned by the Chemical Abstract Services division of the American Chemical Society.
3 Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change in 2007.
6 Fifth Assessment Report adopted by the Intergovernmental Panel on Climate Change in 2013.”.

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