NEWFOUNDLAND AND LABORADOR
REGULATION 55/03

Ozone Depleting Substance Regulations, 2003
under the
Environmental Protection Act
(O.C. 2003-222)

(Filed May 23, 2003)

Under the authority of section 111 of the *Environmental Protection Act*, the Lieutenant-Governor in Council makes the following regulations.

Dated at St. John's, May 21, 2003.

Deborah E. Fry
Clerk of the Executive Council

REGULATIONS

Short title

1. These regulations may be cited as the *Ozone Depleting Substance Regulations, 2003*.

Definitions

2. In these regulations

(a) "air conditioning or refrigeration equipment" means an air conditioning, heat pump, refrigeration or freezer unit, equipment or system, whether household, commercial, stationary or mobile, including a motor vehicle air conditioner, which contains, normally contains or is designed to contain a regulated substance listed in Schedule A, B or C;

(b) "approved container" means a refillable pressurized container, other than as a part of another product, with a total capacity of greater than 10 kilograms designed specifically to contain regulated substances and which meets the requirements of the *Transportation of Dangerous Goods Regulations* under the *Transportation of Dangerous Goods Act* (Canada);

(c) "approved person" means a person who has successfully completed an environmental awareness course for ozone depleting substances accepted by Environment Canada and the minister, and who holds a certificate issued under section 11;

(d) "certificate" is the certificate awarded for completing an approved environmental awareness course under section 11;

(e) "code of practice" means the most recent published version of the "Code of Practice for the Reduction of Chlorofluorocarbon Emissions from Refrigeration and Air Conditioning Systems" being published by Environment Canada, EPS 1/RA/2 March 1996;

(f) "decommission" means to take equipment or a system out of service intending not to return it to its existing use;

(g) "disposal of equipment" means to sell or transfer in an operating condition or a non-operating condition as solid waste to a waste disposal site or as scrap;

(h) "extended non-operation" means a system or piece of equipment which has not been or will not be operated for a period of more than 8 months;

(i) "fire extinguishing equipment" means a fire extinguishing system or a portable fire extinguisher;

(j) "fire extinguishing system" means a fire extinguishing system that is not manually transportable, a fire suppression system or an explosion suppression system and includes related equipment other than a portable fire extinguisher;

(k) "halon" means a substance or mixture mixed in Schedule D;

(l) "minister" means the minister responsible for the *Environmental Protection Act*;

(m) "motor vehicle air conditioner" means an air conditioning unit or system of a motor powered vehicle, including cars, trucks, buses, tractors and other similar applications, other than an aircraft, whether or not it would be a vehicle under the *Highway Traffic Act*, if that unit or system is driven by an engine and is a mechanical vapour compression refrigeration system that provides cooling for the vehicle operator or passenger;

(n) "operator" means, with respect to equipment rated at 3 horsepower or greater, the representative of the owner or person designated by the owner to be responsible for the operation of the equipment;

(o) "ozone depleting substance" means a substance listed in Schedule A, B, D or E;

(p) "portable fire extinguisher" means a fire extinguisher that is manually transportable;

(q) "reclaim" means to take recovered material to a process plant or operation where the quality is improved to meet the Air Conditioning & Refrigeration Institute "1988 Standard for Specifications for Fluorocarbon Refrigerants - Standard 700";

(r) "recover" means to remove and contain a regulated substance in an approved container outside the system from which it was removed;

(s) "recycle" means to recover material from a system or piece of equipment and pass it through driers, filters, oil separators and other devices which are on the recycling equipment to improve the quality of refrigerant prior to reuse;

(t) "refrigerant" means a substance listed in Schedule A, B, C or F which is used in air conditioning or refrigeration equipment;

(u) "registration number" means the registration number issued by the minister to an approved person;

(v) "regulated substance" means a substance or mixture listed in Schedules A to F;

(w) "reuse" means to return a recovered regulated substance, without further cleaning, to the equipment from which it was recovered after completion of repairs or service;

(x) "sell" includes a transfer of ownership or possession, by mutual agreement; and

(y) "service" includes construction, installation, testing, maintenance, adjusting, repairing, charging, recharging, relocation, moving, decommissioning, dismantling, removal and disposal.

Application

3. (1) These regulations apply to

(a) refrigeration, air conditioning and fire extinguishing products, equipment or devices that make use of ozone depleting substances or other regulated substances; and

(b) containers and equipment designed for use with, or for the servicing of, these products, equipment or devices.

(2) If a conflict exists between these regulations and the code of practice, these regulations shall prevail.

(3) The requirements established by these regulations are in addition to the requirements established under other municipal, provincial or federal enactments.

(4) A permit or certificate issued by the province before the commencement of these regulations shall not be used as authority for a failure to comply with the terms of these regulations.

(5) The following attached schedules form part of these regulations:

Contents

E	HBFCs (Hydrobromofluorocarbons)
F	FCs (Perfluorocarbons)

Prohibition of release

4. (1) Unless expressly permitted by these regulations or by the code of practice, a person shall not directly or indirectly release a regulated substance or cause or allow a regulated substance to be released into the atmosphere from

(a) air conditioning, refrigeration or fire extinguishing equipment; and

(b) a container, device or equipment employed in the use, reuse, recycling, reclaiming, supply, transport or storage of a regulated substance.

(2) A person shall not store or destroy a regulated substance in a manner which may allow it to enter the environment.

Secure equipment

5. (1) An owner of air conditioning, refrigeration or fire extinguishing equipment or parts of these shall ensure that the equipment is secured from unauthorized access that could lead to the release of a regulated substance.

(2) Subsection (1) shall not apply to vehicle air conditioners, refrigerators, freezers, air conditioners, heat pumps, portable fire extinguishers and equipment used as a residential household appliance.

Reporting releases

6. A release of more than 10 kilograms of a substance or an azeotrope or mixture of substances listed in Schedule A or D shall be immediately reported to the department within one working day as to the circumstances of the release and as to the actions taken.

Disposal of equipment

7. Refrigeration, air conditioning or fire extinguishing equipment, including equipment which is a part of other equipment, a vehicle, vessel or building which is being decommissioned, dismantled or disposed of shall first have the regulated substances recovered and put into approved containers and shall be labelled "ODS Free".

Wholesalers

8. (1) A person or company engaged in the sale of regulated substances, except as part of a servicing activity, shall register with the department as a wholesaler of those regulated substances.

(2) Wholesalers shall keep records of the quantity and identity of all regulated substances sold, the date of sale and, where applicable, the certificate number of the approved person to whom it was sold for a period of 3 years and shall, upon request, make these records available to the department.

Seller take back

9. (1) Wholesalers shall accept returns of regulated substances, whether used or unused, if the regulated substance is

(a) not sold as part of, or contained in, equipment or a device;

(b) returned in a container designed to contain the substance;

(c) returned to the wholesaler from whom the substance was purchased;

(d) returned at the wholesaler's place of business during normal business hours; and

(e) returned with a proof of purchase, dated after the coming into force of these regulations, for a quantity up to and including an equivalent amount of the regulated substance purchased.

(2) Wholesalers shall store a returned regulated substance until that substance can be delivered to a person who manufactures, reclaims, recycles or destroys the regulated substance.

Containers

10. (1) Ninety days after these regulations come into force, a person shall not sell a refrigerant to another person unless the refrigerant is

(a) in an approved container for which a minimum $25 refundable deposit is collected;

(b) in air conditioning or refrigeration equipment or a part of them; or

(c) a part of the servicing of air conditioning or refrigeration equipment.

(2) Containers used to receive, contain or transport recovered or recycled refrigerants shall be approved containers and when being disposed in the province, refrigerant containers, whether refillable, recyclable or disposable, may only be disposed of

(a) at a container recycling facility that has been approved by the minister, where the container is evacuated to a minimum 20" of vacuum and the regulated substance is collected for reprocessing or destruction; and

(b) where metal from recycled containers is disposed of, to a scrap metal dealer licensed as a salvage dealer under the *Salvage Dealers Licensing Act* or at a waste disposal site established under the *Waste Material Disposal Act* or the *Environmental Protection Act.*

(3) A wholesaler shall keep records of the numbers of containers recycled and the quantity and identity of all regulated substances recovered for 3 years and this information shall be available to the department upon request.

(4) Low pressure containers such as drums and pails are exempt from subsections (1) and (2) provided that section 4 is not violated.

Certification

11. (1) A person who services refrigeration and air conditioning equipment shall successfully complete an environmental awareness course on ozone depleting substances and their replacements which has been approved by Environment Canada and the minister.

(2) A person successfully completing the environmental awareness course referred to in subsection (1) shall be awarded a confirming certificate and wallet card signifying that the person is an approved person.

(3) A certificate issued under this section shall be numbered and the names of all approved persons and their certificate numbers shall be recorded in a database approved by the minister.

(4) A person shall not buy, borrow, lend or sell a certificate or use a certificate not issued to the bearer.

Service

12. (1) Air conditioning or refrigeration equipment shall be serviced in accordance with the code of practice and these regulations.

(2) Within 90 days of the coming into force of these regulations, a person who services air conditioning or refrigeration equipment, or does other work on air conditioning or refrigeration equipment that may result in the release of a regulated substance, shall

(a) have available at the job site operational equipment that can recover and contain a regulated substance; and

(b) recover and reuse, recycle, reclaim or arrange for the destruction of an ozone depleting substance that would otherwise be released during the servicing procedure.

(3) Devices purchased or constructed for the recovery and recycling of regulated substances on or after the date of the coming into force of these regulations shall meet minimum recovery standards specified by the minister, and be certified as meeting those standards by a testing agency designated by the minister.

(4) Recovered refrigerants shall not be mixed with another type of refrigerant.

(5) A hazardous waste product, toxic substance or other foreign material, except gases used in testing or other material normally present in the system, shall not be intentionally mixed with recovered material.

(6) A person shall not service air conditioning or refrigeration equipment unless that person is an approved person.

(7) A person who employs another person to install, service, charge, recharge or maintain air conditioning or refrigeration equipment containing a regulated substance shall ensure that the person is an approved person.

Leak testing

13. (1) The owner or the operator, or both, of air conditioning or refrigeration equipment shall ensure that an approved person conducts a leak test once a year of all components of the equipment that are in contact with a regulated refrigerant.

(2) Subsection (1) shall not apply to systems less than 3 horsepower, motor vehicle air conditioners and heat pumps owned by individuals and used for domestic purposes.

(3) A person who services air conditioning or refrigeration equipment shall test for leaks before adding a regulated substance to the equipment.

(4) A person shall not add a regulated substance to equipment, devices or containers which are leaking.

(5) Subsections (3) and (4) do not apply where there is no reasonable alternative to the refilling of refrigeration equipment and there is

(a) an immediate danger to human life or health at a health care facility; or

(b) an immediate danger to crops, plant or animal life or foodstuffs on a farm or at a food packing, processing or storage facility.

(6) Where, for a reason indicated in paragraph (5)(a) or (b), refrigerant has been added to equipment without first performing a leak test, the owner or operator shall

(a) have the refrigeration equipment tested for leaks immediately after filling;

(b) have leaks in the refrigeration equipment fixed immediately; and

(c) within 24 hours report to the department the circumstances and actions taken.

Notice

14. (1) A person completing a leak test on air conditioning or refrigeration equipment shall place a notice on the equipment indicating the

(a) date of the test;

(b) person's name;

(c) person's certificate number; and

(d) results of the test.

(2) Where a leak test is performed on a motor vehicle air conditioner, the required notice shall be affixed to the frame or edge of the door nearest to the driver's seat.

(3) Where a leak test reveals that refrigerant is leaking from equipment, the person conducting the test shall

(a) ensure that the equipment is immediately and effectively repaired so that further leaking cannot occur; or

(b) ensure that the regulated substance is immediately recovered from the equipment and handled in accordance with these regulations and the code of practice, and that the notice indicates that the equipment is not in working order and that it would be an offence to recharge it with refrigerant unless it is first repaired; or

(c) notify the department within one working day of the particulars of the leak test where that person does not comply with paragraph (a) or (b).

(4) A person performing a leak test on air conditioning or refrigeration equipment shall inform the owner or operator of the equipment of the results of the test.

(5) A copy of a notice issued under subsection (1) shall be kept for 3 years and shall be available to the department upon request.

(6) This section does not apply to servicing or testing which takes place in the course of the manufacture of a product which is or which contains air conditioning or refrigeration equipment.

Leak testing

15. (1) A person shall not add a refrigerant listed in Schedule A or B to a device, container or equipment for the purpose of leak testing in a manner that may cause discharge of that refrigerant into the environment.

(2) Subsection (1) shall not apply to the servicing of a motor vehicle air conditioner where

(a) the refrigerant pressure in the system is too low to permit leak detection;

(b) the refrigerant added to the system is the same as the residual refrigerant; and

(c) testing is carried out in accordance with the code of practice.

Motor vehicles

16. (1) A person shall not install in a motor vehicle an air conditioning unit that operates or is intended to operate using a refrigerant listed in Schedule A.

(2) The refrigerant in a motor vehicle air conditioner shall not be replaced by a flammable or ignitable substance or mixture.

Compressor purge

17. (1) A sub-atmospheric centrifugal chiller purchased or installed after the coming into force of these regulations shall have a chiller system purge unit designed and operated in accordance with the code of practice and which expels not more than 0.1 kilograms refrigerant for every kilogram of air that is purged.

(2) Existing sub-atmospheric centrifugal chiller systems shall be upgraded by January 1, 2000, to have zero refrigerant emissions.

Extended non-operation

18. (1) All extended non-operational systems or equipment shall have the refrigerant removed and placed in an approved container.

(2) Prior to startup for reuse, the systems referred to in subsection (1) shall be leak tested in accordance with these regulations.

(3) Subsection (1) shall not apply to non-operational systems or equipment of less than 3 horsepower and heat pumps owned by individuals and used for domestic purposes.

Sale and purchase of refrigerants

19. (1) Only a person who holds a certificate and is an approved person may purchase, accept or transfer ownership of refrigerant that is not contained in air conditioning or refrigeration equipment or a part of them or added to that equipment as part of a servicing activity.

(2) Notwithstanding subsection (1), registered wholesalers shall be permitted to purchase refrigerants from suppliers for resale to approved persons holding a valid certificate.

(3) A person shall not sell, loan, lease or transfer ownership of refrigerant to a person other than a certificate holder and approved person, unless it is contained in air conditioning or refrigeration equipment or installed into air conditioning or refrigeration equipment as part of a servicing activity.

(4) All refrigerant ordered, picked up or received shall bear on the shipping documents or bill of sale the name and certificate number of the approved person receiving that refrigerant.

Labelling and record keeping

20. (1) A person shall not manufacture, bring into the province, sell, offer for sale or install new air conditioning or refrigeration equipment that does not have, in a location clearly visible to a person servicing the equipment, a securely affixed and permanent label or tag stating

(a) the equipment manufacturer;

(b) the quantity and type of refrigerant;

(c) the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Refrigerant Number;

(d) the ASHRAE Safety Designation;

(e) the quantity and type of refrigerant oil;

(f) the Ozone Depleting Potential (ODP); and

(g) the Global Warming Potential (GWP).

(2) A person who charges or recharges air conditioning or refrigeration equipment with a regulated substance shall record on a securely affixed and permanent label, and in a service log

(a) the type and amount of the regulated substance added to the equipment;

(b) the date the regulated substance was added;

(c) the name of the person that performed the charging or recharging;

(d) that person's certificate number; and

(e) if that person performed the charging or recharging as an employee or agent of a business, the name of that business.

(3) Contractors and service technicians shall keep records of all refrigerants received and all refrigerant used, the locations where it was used and amount used at each location for a period of at least 3 years and shall, upon request, make these records available to officials of the department.

Fire extinguishing

21. (1) A person shall not discharge a regulated substance into the environment from fire extinguishing equipment except for the purpose of extinguishing a fire.

(2) Halons shall not be used to extinguish fires set for fire fighting training purposes.

(3) New fire extinguishing equipment containing halons are not permitted commencing on the date of coming into force of these regulations.

(4) Existing fire extinguishing equipment containing halons may be recharged using recovered, recycled or reconditioned halon.

(5) Fire extinguishing systems containing regulated substances shall be tested for leakage according to National Fire Protection Association procedures at intervals of no greater than 6 months if another interval is not specified in those procedures.

(6) Records of testing for leakage shall be maintained by the system owner and shall, upon request, be made available to officials of the department.

(7) An owner of fire extinguishing equipment containing more than 40 kilograms of halon, or of more than 10 portable fire extinguishers, shall submit to the department a detailed strategic plan for the phase-out and replacement of halons and the plan shall follow a format designated as acceptable by the minister.

(8) The strategic plan referred to in subsection (7) shall be submitted within 6 months of the coming into force of these regulation.

(9) Owners of fire extinguishing systems shall have a written procedures manual for regular operation of the equipment.

(10) Owners of fire extinguishing equipment referred to in subsection (7) shall ensure that this equipment is properly serviced and maintained by trained personnel in accordance with these regulations.

Prohibition

22. A person shall not service a fire extinguishing system without first

(a) advising the person or persons responsible for the area in which the equipment is located and receiving permission to proceed;

(b) placing the system on manual operation and manually closing the appropriate valves to isolate the halon supply containers; and

(c) tagging the control panel of the system to indicate that it is out of operation during the period of service.

Servicing

23. (1) During servicing of fire extinguishing equipment, regulated substances shall not be vented to the atmosphere.

(2) Servicing and inspection of fire extinguishing equipment containing regulated substances shall be carried out in accordance with the manufacturer's instructions, the Underwriters' Laboratories of Canada publication CAN/ULC-S532-M90, "Standard for the Regulation of the Servicing of Portable Fire Extinguishers", or the ULC/ORD-C1058.18-1993, "The Servicing of Halon Extinguishing Systems".

(3) All discharges of ozone depleting substances from fire extinguishing equipment shall be logged and reported to the department once a year with the date, time, reason for discharge and amount.

Repeal

24. The *Ozone Depleting Substance Regulations*, Newfoundland and Labrador Regulation 120/97 are repealed.

Schedule A

Chlorofluorocarbons (CFCs)

(a) CFC-11 (chlorofluorocarbon-11), also known as fluorotrichloromethane

(b) CFC-12 (chlorofluorocarbon-12), also known as dichlorodifluoromethane

(c) CFC-113 (chlorofluorocarbon-113), also known as 1,1,2-trichloro 1,2,2,-trifluoroethane

(d) CFC-114 (chlorofluorocarbon-114), also known as 1,2-dichloro 1,1,2,2-tetrafluoroethane

(e) CFC-115 (chlorofluorocarbon-115), also known as 1-chloro-1,1,2,2,2-pentafluoroethane

(f) CFC-13 (chlorofluorocarbon-13), also known as chlorotrifluoromethane

(g) CFC-111 (chlorofluorocarbon-111), also known as pentachlorofluoroethane

(h) CFC-112 (chlorofluorocarbon-112), also known as tetrachlorofluoroethane

(i) CFC-211 (chlorofluorocarbon-211), also known as heptachlorofluoropropane

(j) CFC-212 (chlorofluorocarbon-212), also known as hexachlorodifluoropropane

(k) CFC-213 (chlorofluorocarbon-213), also known as pentachlorotrifluoropropane

(l) CFC-214 (chlorofluorocarbon-214), also known as tetrachlorotetrafluoropropane

(m) CFC-215 (chlorofluorocarbon-215), also known as trichloropentafluoropropane

(n) CFC-216 (chlorofluorocarbon-216), also known as dichlorohexafluoropropane

(o) CFC-217 (chlorofluorocarbon-217), also known as chloroheptafluoropropane

Isomers

(p) Isomers of all substances listed in paragraphs (a) to (o)

Azeotropes

CFC Containing Azeotropes

(q) CFC-500 (CFC-12/HFC-152a, 73.8/26.2 wt. %)

(r) CFC-501 (CFC-12/HCFC-22, 25.0/75.0 wt. %)

(s) CFC-502 (HCFC-22/CFC-115, 48.8/51.2 wt. %)

(t) CFC-503 (CFC-13/HCFC-23, 59.9/40.1 wt. %)

(u) CFC-504 (HFC-32/CFC-115, 48.2/51.8 wt. %)

(v) CFC-505 (CFC-12/HCFC-31 78/22 wt. %)

(w) CFC-506 (HCFC-31/CFC-114 55.1/44.9 wt. %)

Mixtures

All mixtures containing any of the above substances.

Schedule B

Hydrochlorofluorocarbons (HCFCs)

(a) HCFC-21 (hydrochlorofluorocarbon-21), also known as dichlorofluoromethane

(b) HCFC-22 (hydrochlorofluorocarbon-22), also known as chlorodifluoromethane

(c) HCFC-31 (hydrochlorofluorocarbon-31), also known as chlorofluoromethane

(d) HCFC-121 (hydrochlorofluorocarbon-121), also known as tetrachlorofluoroethane

(e) HCFC-122 (hydrochlorofluorocarbon-122), also known as trichlorodifluoroethane

(f) HCFC-123 (hydrochlorofluorocarbon-123), also known as dichlorotrifluoroethane

(g) HCFC-124 (hydrochlorofluorocarbon-124), also known as chlorotetrafluoroethane

(h) HCFC-131 (hydrochlorofluorocarbon-131), also known as trichlorofluoroethane

(i) HCFC-132 (hydrochlorofluorocarbon-132), also known as dichlorodifluoroethane

(j) HCFC-133 (hydrochlorofluorocarbon-133), also known as chlorotrifluoroethane

(k) HCFC-141 (hydrochlorofluorocarbon-141), also known as dichlorofluoroethane

(l) HCFC-142 (hydrochlorofluorocarbon-142), also known as chlorodifluoroethane

(m) HCFC-221 (hydrochlorofluorocarbon-221), also known as hexachlorofluoropropane

(n) HCFC-222 (hydrochlorofluorocarbon-222), also known as pentachlorodifluoropropane

(o) HCFC-223 (hydrochlorofluorocarbon-223), also known as tetrachlorotrifluoropropane

(p) HCFC-224 (hydrochlorofluorocarbon-224), also known as trichlorotetrafluoropropane

(q) HCFC-225 (hydrochlorofluorocarbon-225), also known as dichloropentafluoropropane

(r) HCFC-226 (hydrochlorofluorocarbon-226), also known as chlorohexafluoropropane

(s) HCFC-231 (hydrochlorofluorocarbon-231), also known as pentachlorofluoropropane

(t) HCFC-232 (hydrochlorofluorocarbon-232), also known as tetrachlorodifluoropropane

(u) HCFC-233 (hydrochlorofluorocarbon-233), also known as trichlorotrifluoropropane

(v) HCFC-234 (hydrochlorofluorocarbon-234), also known as dichlorotetrafluoropropane

(w) HCFC-235 (hydrochlorofluorocarbon-235), also known as chloropentafluoropropane

(x) HCFC-241 (hydrochlorofluorocarbon-241), also known as tetrachlorofluoropropane

(y) HCFC-242 (hydrochlorofluorocarbon-242), also known as trichlorodifluoropropane

(z) HCFC-243 (hydrochlorofluorocarbon-243), also known as dichlorotrifluoropropane

(aa) HCFC-244 (hydrochlorofluorocarbon-244), also known as chlorotetrafluoropropane

(bb) HCFC-251 (hydrochlorofluorocarbon-251), also known as trichlorofluoropropane

(cc) HCFC-252 (hydrochlorofluorocarbon-252), also known as dichlorodifluoropropane

(dd) HCFC-253 (hydrochlorofluorocarbon-253), also known as chlorotrifluoropropane

(ee) HCFC-261 (hydrochlorofluorocarbon-261), also known as dichlorofluoropropane

(ff) HCFC-262 (hydrochlorofluorocarbon-262), also known as chlorodifluoropropane

(gg) HCFC-271 (hydrochlorofluorocarbon-271), also known as chlorofluoropropane

All isomers of the above.

All mixtures and azeotropes of the above.

Schedule C

Hydrofluorocarbons (HFCs)

(a) HFC 23 - trifluoromethane

(b) HFC 32 - difluoromethane

(c) HFC 125 - pentafluoroethane

(d) HFC 134 - tetrafluoroethane

(e) HFC 143 - trifluoroethane

(f) HFC 152 - difluoroethane

(g) HFC 161 - monofluoroethane

(h) HFC 281 - fluoropropane

(i) HFC 272 - difluoropropane

(j) HFC 263 - trifluoropropane

(k) HFC 254 - tetrafluoropropane

(l) HFC 245 - pentafluoropropane

(m) HFC 236 - hexafluoropropane

(n) HFC 227 - heptafluoropropane

(o) HFC 218 - octafluoropropane

All isomers of the above.

All mixtures and azeotropes of the above.

Mixtures or azeotropes of the above with HCFCs are part of Schedule B.

Mixtures of azeotropes of the above containing CFCs are part of Schedule A.

Schedule D

Halons

(a) Halon-1211, also known as bromochlorodifluoro-methane

(b) Halon-1301, also known as bromotrifluoromethane

(c) Halon-2402, also known as dibromotetrafluoroethane

Mixtures

A mixture containing one of the above.

Any azeotropes of the above.

Schedule E

Hydrobromofluorocarbons (HBFCs)

(a) dibromofluoromethane

(b) bromodifluoromethane, also known as HBFC-22B1

(c) bromofluoromethane

(d) tetrabromofluoroethane

(e) tribromodifluoroethane

(f) dibromotrifluoroethane

(g) bromotetrafluoroethane

(h) tribromofluoroethane

(i) dibromodifluoroethane

(j) bromotrifluoroethane

(k) dibromofluoroethane

(l) bromodifluoroethane

(m) bromofluoroethane

(n) hexabromofluoropropane

(o) pentabromodifluoropropane

(p) tetrabromotrifluoropropane

(q) tribromotetrafluoropropane

(r) dibromopentafluoropropane

(s) bromohexafluoropropane

(t) pentabromofluoropropane

(u) tetrabromodifluoropropane

(v) tribromotrifluoropropane

(w) dibromotetrafluoropropane

(x) bromopentafluoropropane

(y) tetrabromofluoropropane

(z) tribromodifluoropropane

(aa) dibromotrifluoropropane

(bb) bromotetrafluoropropane

(cc) tribromofluoropropane

(dd) dibromodifluoropropane

(ee) bromotrifluoropropane

(ff) dibromofluoropropane

(gg) bromodifluoropropane

(hh) bromofluoropropane

HBFC-124B1, also known as 1-bromo 1,2,2,2-tetrafluoroethane etc. (other substances listed in Montreal Protocol).

Mixtures

A mixture containing one of the above.

Any azeotropes of the above.

Schedule F

Perfluorocarbons (FCs)

(a) FC-14, also known as tetrafluoromethane

(b) FC-116, also known as hexafluoroethane

(c) FC-218, also known as octafluoropropane

(d) FC-3-1-10, also known as decafluorobutane

(e) FC-4-1-12, also known as dodecafluoropentane

(f) FC-5-1-14, also known as tetradecafluorohexane

Mixtures

A mixture containing one of the above.

Any azeotropes of the above.

Mixtures or azeotropes of the above with HCFCs are part of Schedule B.

Mixtures or azeotropes of the above containing CFCs are part of Schedule A.