



Tonga

# **OZONE LAYER PROTECTION ACT 2010**

**Act No. 23 of 2010**





# OZONE LAYER PROTECTION ACT 2010

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# **OZONE LAYER PROTECTION ACT 2010**

**Act No. 23 of 2010**

**AN ACT TO REGULATE THE USE OF OZONE DEPLETING  
SUBSTANCES AND TO IMPLEMENT THE PROVISIONS OF THE  
CONVENTION FOR THE PROTECTION OF THE OZONE LAYER AND  
THE PROTOCOL ON SUBSTANCES THAT DEplete THE OZONE  
LAYER AND FOR RELATED PURPOSES**

I assent,  
GEORGE TUPOU V,  
27<sup>th</sup> August 2010.

**BE IT ENACTED** by the King and the Legislative Assembly of Tonga in the Legislature of the Kingdom as follows:

## **PART I - PRELIMINARY**

### **1 Short title**

- (1) This Act may be cited as the Ozone Layer Protection Act 2010.
- (2) This Act shall come into force on a day to be declared by His Majesty's Cabinet and notified in the Gazette.

### **2 Interpretation**

- (1) In this Act, unless the context otherwise requires –

“**aerosol spray**” means any substance packed under pressure in a container with a device for releasing it directly into the atmosphere as a foam or fine spray, or a liquid or solid stream;

“**bulk**” in relation to any controlled substance -

- (a) means any controlled substance that is acquired in a non-processed form, whether alone or in a mixture;
- (b) includes any controlled substance that is acquired in a non-processed form, whether alone or in a mixture, that has been recovered, cleaned (by filtering or drying) or reclaimed (by filtering, drying, distillation or chemical treatment); and
- (c) excludes any controlled substance that is in a manufactured product;

“**carbon tetrachloride**” means the substance specified in Part IV of the Schedule;

“**CFC**” means chlorofluorocarbons specified in Part I or Part III of the Schedule;

“**controlled substance**” means any substance specified in the Schedule;

“**Vienna Convention**” means the Convention for the Protection of the Ozone Layer adopted at Vienna in 1985 and includes any subsequent amendments;

“**Director**” means the Director for Environment and Climate Change;

“**environment officer**” means an environment officer appointed under the Environment Management Act 2010;

“**essential use**” means an essential use identified in relation to the substance by a decision adopted and in force under the Montreal Protocol;

“**halon**” means any substance specified in Part II of the Schedule;

“**HBFC**” means any hydrobromofluorocarbons specified in Part VI of the Schedule;

“**HCFC**” means any hydrochlorofluorocarbons specified in Part VII of the Schedule;

“**methyl bromide**” means the substance specified in Part VIII of the Schedule;

“**methyl chloroform**” means the substance specified in Part V of the Schedule;

“**Minister**” means the Minister for Environment and Climate Change;

“**Ministry**” means the Ministry of Environment and Climate Change;

“**Montreal Protocol**” means the Protocol on Substances that Deplete the Ozone Layer adopted at Montreal in 1987 and includes any subsequent amendments;

“**non-complying country**” means any country that is not a party to the Montreal Protocol;

“**other CFC**” means any fully halogenated CFC specified in Part III of the Schedule; and

“**solvent**” means any aqueous or organic product designed to clean a component or assembly by dissolving the contaminants present on its surface.

- (2) Unless a contrary intention appears, terms used in this Act shall have the same meaning as is given to them in the Vienna Convention or the Montreal Protocol.

### 3 Object and application of the precautionary approach

- (1) The objects of this Act are to -
- (a) help protect human health and the environment from adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer;
  - (b) phase out ozone depleting substances except for essential uses; and
  - (c) give effect to the Kingdom’s obligations under the Vienna Convention and the Montreal Protocol.
- (2) All persons and agencies having responsibilities under this Act, or whose functions and powers may relate to any matter or thing involving the use, manufacture, sale, handling, storage or movement of ozone depleting substances within the Kingdom, shall apply a precautionary approach when discharging their responsibilities and functions, or exercising their powers.
- (3) For the purposes of this section, a precautionary approach is applied if, in the event of a threat of damage to the environment or a risk to human health in the Kingdom, a lack of scientific certainty regarding the extent of adverse effects is not used to prevent or avoid a decision being made to minimise the potential adverse effects or risks from the importation, use, storage, handling or movement of ozone depleting substances within the Kingdom.

### 4 National Ozone Advisory Committee

- (1) The Minister shall establish a National Ozone Advisory Committee to carry out functions under this Act.
- (2) The National Ozone Advisory Committee shall consist of the -
- (a) Director who shall be the chairman;
  - (b) representative of the Ministry of Health;
  - (c) representative of the Ministry of Revenue;
  - (d) representative of the Ministry of Labour, Commerce and Industries;

- (e) representative of the Ministry of Agriculture and Forestry, Food and Fisheries;
- (f) representative of the Ministry of Transport;
- (g) representative of Approved Workshops;
- (h) representative of Approved Importers;
- (i) representative of the Ministry of Education;
- (j) representative of the National Energy Committee; and
- (k) any other persons or organisations using or representing those who use controlled substances.

## **PART II - PROHIBITIONS RELATING TO CONTROLLED SUBSTANCES**

### **5 Prohibitions on import**

- (1) Subject to section 7, the import of any other CFC specified in Part III of the Schedule or any HBFC is prohibited.
- (2) Subject to section 7, the import of any bulk of the following is prohibited –
  - (a) CFC, halons, carbon tetrachloride and methyl chloroform whether alone or in a mixture;
  - (b) methyl bromide whether alone or in a mixture; and
  - (c) HCFCs, whether alone or in a mixture.

### **6 Prohibition on import of certain goods**

- (1) Subject to section 7, the import of the following goods, whether new or second-hand shall be prohibited –
  - (a) aerosol spray that contains any controlled substance;
  - (b) dry-cleaning machine that contains or is designed to use any controlled substance as a solvent;
  - (c) fire extinguisher that contains any controlled substance;
  - (d) dehumidifiers, refrigerators, freezers, air-conditioners, supermarket display cases, heat pumps and water coolers that contain any CFCs; and
  - (e) air-conditioning or refrigeration units whether fitted to a vehicle or as mechanical components intended for use in or on a vehicle and which contain CFCs at the time they are imported into the Kingdom.
- (2) The import from a non-complying country of any of the following goods containing any controlled substance (other than any HCFCs or methyl bromide) shall be prohibited –



- (a) refrigerators and freezers;
- (b) dehumidifiers and domestic and commercial refrigeration, air conditioning and heat pump equipment;
- (c) air conditioning and heat pump units;
- (d) automobile and truck air conditioning units (whether incorporated in vehicles or not);
- (e) ice machines and water coolers;
- (f) aerosol products (other than medical aerosols);
- (g) portable fire extinguishers;
- (h) insulation boards, panels and pipe covers; and
- (i) pre-polymers (a reactive mixture of isocyanate and polyoll to which chlorofluorocarbons are added to make rigid plastic foams).

## **7 Exemption in relation to import**

- (1) The following exemptions may be given in relation to imports referred to in section 5(1), in accordance with a permit issued under Part III –
  - (a) quarantine and pre-shipment permit in relation to methyl bromide;
  - (b) medical permit in relation to medical products using a controlled substance;
  - (c) human health or safety permit; or
  - (d) base year permit.
- (2) Nothing in section 6 shall make it unlawful for any person to import any controlled substance, or any goods containing any controlled substance, that is used only as packaging, or part of the packaging, of any other imported goods.
- (3) Nothing in this Part shall prevent an exemption being granted in respect of the import or export of any substances or goods only for the purpose of being transhipped into another ship or aircraft for carriage to a destination that is outside the territorial limits of the Kingdom.

## **8 Prohibition on export**

- (1) The export from the Kingdom of any bulk CFC, halons, carbon tetrachloride, methyl chloroform, HCFCs or HBFCs to a non-complying country shall be prohibited.
- (2) Any person who exports any bulk CFC, halons, carbon tetrachloride, methyl chloroform, HCFCs or HBFCs to a complying country shall notify the Minister in writing 14 days before exportation and give particulars of –
  - (a) the substance exported;
  - (b) the date and amount of the export; and

- (c) its destination.

## **9 Prohibition of manufacture**

The manufacture within the Kingdom of the following substances or goods shall be prohibited –

- (a) controlled substances;
- (b) aerosol sprays that contain any controlled substance other than methyl bromide;
- (c) dry-cleaning machines that contain or is designed to use any controlled substance as a solvent;
- (d) dehumidifiers, refrigerators, freezers, air-conditioners, supermarket display cases, heat pumps and water coolers that contain any CFCs or halons; and
- (e) fire extinguishers that contains any controlled substance.

## **10 Prohibition on sale**

- (1) Subject to section 11, six months after the date of entry into force of this Act, the sale in the Kingdom of the following goods shall be prohibited –
  - (a) any controlled substance, excluding HCFCs;
  - (b) any goods specified in section 9(b) to (d); and
  - (c) any fire extinguisher that contains any CFC, halons, carbon tetrachloride, methyl chloroform, HCFCs or HBFCs.
- (2) From the date of entry into force of this Act, no person shall sell any bulk controlled substance to any person or organisation that is not an Approved Workshop or an Approved Importer.

## **11 Exemption in relation to sale**

Nothing in section 10 shall make it unlawful for any person to sell –

- (a) any second hand goods; or
- (b) any goods in respect of which an exemption granted under Part III of this Act applies.

## PART III - PERMITS

### 12 General principle to be applied in relation to permit

When considering the grant of a permit under this Part, the Minister shall have regard to the following –

- (a) the obligations of the Kingdom under the Vienna Convention and the Montreal Protocol;
- (b) the need to phase out ozone depleting substances, except for essential uses;
- (c) whether any alternative products are available to be used instead of the ozone depleting substance;
- (d) any requirement that may be imposed in relation to the use of any ozone depleting substance so as to minimise its effect on the ozone layer; and
- (e) any written advice provided pursuant to section 17 (2) of this Act.

### 13 Quarantine and pre-shipment permits

- (1) For the purposes of this section –
  - (a) “**quarantine applications**” mean any treatments to prevent the introduction, establishment or spread of quarantine pests (including diseases), or to ensure their official control; and
  - (b) “**pre-shipment applications**” mean any treatments applied directly preceding and in relation to export, to meet the phytosanitary or sanitary requirements of the importing country, or the existing phytosanitary or sanitary requirements of the exporting country.
- (2) The Minister may grant a permit under this section in relation to the import of methyl bromide if he is satisfied, after consulting the Minister for Agriculture and Forestry, Food and Fisheries, that it is to be used for legitimate quarantine or pre-shipment applications.

### 14 Medical permits

The Minister may grant a permit under this section in relation to the import of any product containing a controlled substance, if he is satisfied, after consulting the Minister for Health, that it has a medical application relating to the protection of life or health.

### 15 Human health or safety permits

The Minister may grant a permit under this section for any product containing any CFC, halon, methyl chloroform, or carbon tetrachloride if he is satisfied, after

consulting with the National Ozone Advisory Committee, that the product is necessary for human health or safety.

## 16 Base-year permits

- (1) Any permit granted under this section may -
  - (a) be issued only for importation in a specified calendar year;
  - (b) be issued only to a person or company that has been registered with the Ministry as an Approved Workshop or an Approved Importer and on the condition that the substance only be sold to an Approved Workshop;
  - (c) where the permit is to relate to CFC, halons, carbon tetrachloride or methyl chloroform, be issued only to a person who, used in the Kingdom, the relevant controlled substance in its respective base year;
  - (d) where the permit is to relate to any HCFC or methyl bromide, be issued to any person whose activities will not contravene the Montreal Protocol or any provision of this Act; or
  - (e) require the reduction of the consumption of the relevant controlled substance in accordance with the timetable applying to that controlled substance under the Montreal Protocol, taking into account the application of Article 5 relating to developing countries.
- (2) Subject to sub-section (1), the Minister may grant a permit under this Act permitting the import and use of a controlled substance, if he is satisfied after consulting the Director that the Kingdom will not be thereby in breach of its obligations under the Vienna Convention or the Montreal Protocol.

## 17 General provisions in relation to permits

- (1) An application for a permit under this Act shall be -
  - (a) made to the Minister on a form to be prescribed by regulations;
  - (b) provide any information required by the Minister; and
  - (c) accompanied by any fees prescribed by regulations.

Provided that no fee shall be imposed where an application is made by a Government ministry or department.
- (2) Upon receipt of an application for a permit under this Act, the Minister may request -
  - (a) an inspection to be carried out by an environment officer of the primary premises from which the activity the subject of the application is proposed to be conducted; and
  - (b) the provision of written advice by the environment officer regarding the inspection.

- (3) No permit issued under this Act shall be transferable.
- (4) The permit holder shall submit a report to the Minister by the 30<sup>th</sup> January of each year specifying the amount of any controlled substance imported or consumed in the previous year, the uses to which the controlled substance was put, and any other matter that the Minister may require to be included in the report.
- (5) Any permit shall be subject to such conditions as may be imposed by the Minister, including any condition requiring compliance with any approval, permission, licence or accreditation available in another country relating to any controlled substance, any equipment used in relation to a controlled substance, or the manner in which a controlled substance may be used.
- (6) The Minister may revoke any permit if he is satisfied that the permit holder –
  - (a) has been convicted of any offence against this Act or any other offence involving ozone depleting substances; or
  - (b) provided any false or misleading information in relation to the application for the permit.
- (7) Subject to section 16(1), a permit issued under this Act shall be valid for one calendar year and may be renewed for periods not exceeding 12 months.

## **18 Approved Workshop and Approved Importer**

- (1) Any person who wishes to import or purchase any controlled substance shall apply to the Minister to be registered as an Approved Workshop or Approved Importer.
- (2) The Minister may approve any person or organisation to be an Approved Workshop or Approved Importer if he is satisfied, following consultation with the National Ozone Advisory Committee, that the person or organisation has -
  - (a) not been convicted of any offence against this Act or any other offence involving ozone depleting substances;
  - (b) not provided any false or misleading information in relation to the application to be registered; or
  - (c) necessary skills and equipment to minimise emissions of the controlled substance.
- (3) The Minister may register a person or organisation as an Approved Workshop or Approved Importer for a period of up to three years, provided that the person or organisation does not commit any offences under this Act.
- (4) The Minister shall keep a register of Approved Workshops and Approved Importers, and make it available at the premises of the Ministry or through any other way he considers appropriate.

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## PART IV - ENFORCEMENT AND OFFENCES

### 19 Power of environment officers

For the purpose of enforcing this Act, environment officers shall have the powers specified in the Environment Management Act 2010.

### 20 Seizure of substances and goods

- (1) Any environment officer, in the course of exercising a power under this Act may seize any –
  - (a) controlled substance;
  - (b) goods containing any controlled substance; or
  - (c) equipment using or use in connection with any controlled substance,which he reasonably suspects is the subject of a breach of any prohibition under this Act.
- (2) Any controlled substance, goods or equipment seized under this Act –
  - (a) shall be stored at a place, and in a manner, in accordance with a direction given by the Director made in consultation with the Commissioner of Revenue; and
  - (b) may be retained until such time as the Director, in consultation with the Commissioner of Revenue, has been satisfied by its owner, or the person from whom it has been seized, that it is not or has not been the subject of any breach of a prohibition under this Act.

### 21 Call up of substances and goods

The Minister may, after consultation with the National Ozone Advisory Committee, issue a public notice requiring that, at the expense of the owner, any controlled substance, any goods containing any controlled substance or any equipment using or used in connection with any controlled substance be –

- (a) stored or handled in accordance with any direction that he gives;
- (b) delivered at a designated time to a designated place for storage or disposal; or
- (c) otherwise disposed of or destroyed in accordance with any direction that he gives.

### 22 Offences and penalties

- (1) Any person who -
  - (a) does any act in contravention of any prohibition under this Act;

- (b) aids or abets any person in contravening any prohibition under this Act; or
- (c) conspires with any person to do any act in contravention of any prohibition under this Act,

commits an offence, and shall be liable upon conviction to a fine not exceeding \$100,000, or to imprisonment for a term not exceeding 10 years, or both.

- (2) Any person who fails to comply with –

- (a) any condition of a permit issued under Part III; or
- (b) a notice given by the Minister under section 21,

commits an offence, and shall be liable upon conviction to a fine not exceeding \$100,000, or to imprisonment for a term not exceeding 10 years, or both.

- (3) Any person who, in the course of installing, operating, servicing dismantling or otherwise handling any equipment used in relation to any controlled substance, wilfully or negligently permits any controlled substance to be discharged into the atmosphere, commits an offence and shall be liable upon conviction to a fine not exceeding \$100,000, or to imprisonment for a term not exceeding 10 years, or both.

- (4) Any person who –

- (a) hinders or obstructs an environment officer in the performance of his duties under this Act, or the exercise of a power under this Act;
- (b) induces or incites any other person to hinder or obstruct an environment officer acting in accordance with this Act;
- (c) by words or conduct falsely represents that he or she is an environment officer, or who otherwise impersonates an environment officer;
- (d) fails to comply with a requirement made by an environment officer; or
- (e) provides false or misleading information to an environment officer,

commits an offence, and shall be liable upon conviction to a fine not exceeding \$10,000, or to imprisonment for a term not exceeding 3 years, or both.

- (5) In addition to any other penalty imposed under this section, a court may order that any person convicted of an offence–

- (a) do any act to reinstate the environment as far as practicable including the re-export or destruction at a facility approved by the Minister of any controlled substance or any product containing any controlled substance;
- (b) pay to the Government any sum representing the cost of re-export or destruction at a facility approved by the Minister of any controlled substance or any product containing any controlled substance; or

- (c) pay any compensation to the Government, or to any other person affected by the offence, in respect of the damage caused to the environment.
- (6) Where a company, Approved Workshop or Approved Importer is guilty of an offence under this Act or regulations made under this Act, any officer, director or agent of the company who authorised, assented to or participated in, or by his neglect or omission contributed to the commission of the offence, is a party to and may be found guilty of the offence, and is liable to the penalty provided for the offence.

### **23 Forfeiture of seized substances and goods**

Where any person is convicted of an offence against this Act, the court may order that any controlled substance, goods or equipment in relation to which the offence was committed, shall be forfeited to the Crown, to be disposed of in a manner determined by the Director, in consultation with the Commissioner of Revenue and at the expense of the person convicted.

### **24 Regulations**

The Minister may, with the consent of Cabinet, make Regulations for the purposes of implementing the provisions of this Act.

Passed by the Legislative Assembly this 9<sup>th</sup> day of August 2010.



**SCHEDULE****CONTROLLED SUBSTANCES****PART I CFCs (CHLOROFLUOROCARBONS)**

<i>Chemical Formula</i>	<i>Chemical Name</i>	<i>Substance</i>	<i>Ozone Depleting Potential*</i>
CFCl <sub>3</sub>	Trichlorofluoromethane	CFC-11	1.0
CF <sub>2</sub> Cl <sub>2</sub>	Dichlorofluoromethane	CFC-12	1.0
C <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	Trichlorotrifluoroethane	CFC-113	0.8
C <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	Dichlorotetrafluoroethane	CFC-114	1.0
C <sub>2</sub> F <sub>5</sub> Cl	Chloropentafluoroethane	CFC-115	0.6

**PART II HALONS**

<i>Chemical Formula</i>	<i>Chemical Name</i>	<i>Substance</i>	<i>Ozone Depleting Potential*</i>
CF <sub>2</sub> BrCl	Bromochlorodifluoromethane	Halon 1211	3.0
CF <sub>3</sub> Br	Bromotrifluoromethane	Halon 1301	10.0
C <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>	Dibromotetrafluoroethane	Halon 2402	6.0

**PART III OTHER CFCS (CHLOROFLUOROCARBONS)**

<i>Chemical Formula</i>	<i>Chemical Name</i>	<i>Substance</i>	<i>Ozone Depleting Potential*</i>
CF <sub>3</sub> Cl	Chlorotrifluoromethane	CFC-13	1.0
C <sub>2</sub> FCl <sub>5</sub>	Pentachlorofluoroethane	CFC-111	1.0
C <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	Tetrachlorodifluoroethane	CFC-112	1.0
C <sub>3</sub> FCl <sub>7</sub>	Heptachlorofluoropropane	CFC-211	1.0
C <sub>3</sub> F <sub>2</sub> Cl <sub>6</sub>	Hexachlorodifluoropropane	CFC-212	1.0
C <sub>3</sub> F <sub>3</sub> Cl <sub>5</sub>	Pentachlorotrifluoropropane	CFC-213	1.0
C <sub>3</sub> F <sub>4</sub> Cl <sub>4</sub>	Tetrachlorotetrafluoropropane	CFC-214	1.0
C <sub>3</sub> F <sub>5</sub> Cl <sub>3</sub>	Trichloropentafluoropropane	CFC-215	1.0
C <sub>3</sub> F <sub>6</sub> Cl <sub>2</sub>	Dichlorohexafluoropropane	CFC-216	1.0
C <sub>3</sub> F <sub>7</sub> Cl	Chloroheptafluoropropane	CFC-217	1.0

**PART IV CARBON TETRACHLORIDE**

<i>Chemical Formula</i>	<i>Chemical Name</i>	<i>Substance</i>	<i>Ozone Depleting Potential*</i>
CCl <sub>4</sub>	Tetrachloromethane	Carbon tetrachloride	1.1

**PART V METHYL CHLOROFORM**

<i>Chemical Formula</i>	<i>Chemical Name</i>	<i>Substance</i>	<i>Ozone Depleting Potential*</i>
C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>	1,1,1-Trichloroethane (methylchloroform)	1,1,1-trichloroethane	0.1

This formula does not refer to 1, 1, 2-trichloroethane.

**PART VI HBFCs (HYDROBROMOFLUOROCARBONS)**

<i>Chemical Formula</i>	<i>Chemical Name</i>	<i>Substance</i>	<i>Number of isomers</i>	<i>Ozone-Depleting Potential*</i>
CHBr <sub>2</sub>	Dibromofluoromethane	-	1	1.00
CHF <sub>2</sub> Br	Bromodifluoromethane	(HBFC-22B1)	1	0.74
CH <sub>2</sub> FBr	Bromofluoromethane	-	1	0.73
C <sub>2</sub> HFBr <sub>4</sub>	Tetrabromofluoroethane	-	2	0.3-0.8
C <sub>2</sub> HF <sub>2</sub> Br <sub>3</sub>	Tribromofluoroethane	-	3	0.5-1.8
C <sub>2</sub> HF <sub>3</sub> Br <sub>2</sub>	Dibromotrifluoroethane	-	3	0.4-1.6
C <sub>2</sub> HF <sub>4</sub> Br	Bromotetrafluoroethane	-	2	0.7-1.2
C <sub>2</sub> H <sub>2</sub> FBr <sub>3</sub>	Tribromofluoroethane	-	3	0.1-1.1
C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>2</sub>	Dibromodifluoroethane	-	4	0.2-1.5
C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Br	Bromotrifluoroethane	-	3	0.7-1.6
C <sub>2</sub> H <sub>3</sub> FBr <sub>2</sub>	Dibromofluoroethane	-	3	0.1-1.7
C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Br	Bromodifluoroethane	-	3	0.2-1.1
C <sub>2</sub> H <sub>4</sub> FBr	Bromofluoroethane	-	2	0.07-0.1
C <sub>3</sub> HFBr <sub>6</sub>	Hexabromofluoropropane	-	5	0.3-1.5
C <sub>3</sub> HF <sub>2</sub> Br <sub>5</sub>	Pentabromodifluoropropane	-	9	0.2-1.9
C <sub>3</sub> HF <sub>3</sub> Br <sub>4</sub>	Tetrabromotrifluoropropane	-	12	0.3-1.8
C <sub>3</sub> HF <sub>4</sub> Br <sub>3</sub>	Tribromotetrafluoropropane	-	12	0.5-2.2
C <sub>3</sub> HF <sub>5</sub> Br <sub>2</sub>	Dibromopentafluoropropane	-	9	0.9-2.0
C <sub>3</sub> HF <sub>6</sub> Br	Bromohexafluoropropane	-	5	0.7-3.3
C <sub>3</sub> H <sub>2</sub> FBr <sub>5</sub>	Pentabromofluoropropane	-	9	0.1-1.9
C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>4</sub>	Tetrabromodifluoropropane	-	16	0.2-2.1
C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Br <sub>3</sub>	Tribromotrifluoropropane	-	18	0.2-5.6
C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>	Dibromotetrafluoropropane	-	16	0.3-7.5
C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Br	Bromopentafluoropropane	-	8	0.9-1.4
C <sub>3</sub> H <sub>3</sub> FBr <sub>4</sub>	Tetrabromofluoropropane	-	12	0.08-1.9
C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Br <sub>3</sub>	Tribromodifluoropropane	-	18	0.1-3.1
C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Br <sub>2</sub>	Dibromotrifluoropropane	-	18	0.1-2.5
C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Br	Bromotetrafluoropropane	-	12	0.3-4.4
C <sub>3</sub> H <sub>4</sub> FBr <sub>3</sub>	Tribromofluoropropane	-	12	0.03-0.3
C <sub>3</sub> H <sub>4</sub> F <sub>2</sub> Br <sub>2</sub>	Dibromodifluoropropane	-	16	0.1-1.0
C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Br	Bromotrifluoropropane	-	12	0.07-0.8

C <sub>3</sub> H <sub>5</sub> FBr <sub>2</sub>	Dibromofluoropropane	-	9	0.04-0.4
C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Br	Bromodifluoropropane	-	9	0.07-0.8
C <sub>3</sub> H <sub>6</sub> FBr	Bromofluoropropane	-	5	0.02-0.7

### PART VII HCFCs (HYDROCHLOROFLUOROCARBONS)

<i>Chemical Formula</i>	<i>Chemical Name</i>	<i>Substance</i>	<i>Number of isomers</i>	<i>Ozone-Depleting Potential*</i>
CHFC <sub>2</sub>	Dichlorofluoromethane	(HCFC-21)	1	0.04
CHF <sub>2</sub> Cl	Chlorodifluoromethane	(HCFC-22)	1	0.055
CH <sub>2</sub> FCl	Chlorofluoromethane	(HCFC-31)	1	0.02
C <sub>2</sub> HFCl <sub>4</sub>	Tetrachlorofluoroethane	(HCFC-121)	2	0.01-0.04
C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub>	Trichlorodifluoroethane	(HCFC-122)	3	0.02-0.08
C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub>	Dichlorotrifluoroethane	(HCFC-123)	3	0.02-0.06
CHCl <sub>2</sub> CF <sub>3</sub>	Dichlorotrifluoroethane	(HCFC-123)	-	0.02
C <sub>2</sub> HF <sub>4</sub> Cl	Chlorotetrafluoroethane	(HCFC-124)	2	0.02-0.04
CHFCICF <sub>3</sub>	Trichlorofluoroethane	(HCFC-124)	-	0.022
C <sub>2</sub> H <sub>2</sub> FCl <sub>3</sub>	Trichlorofluoroethane	(HCFC-131)	3	0.007-0.05
C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub>	Dichlorodifluoroethane	(HCFC-132)	4	0.008-0.05
C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl	Chlorotrifluoroethane	(HCFC-133)	3	0.02-0.06
C <sub>2</sub> H <sub>3</sub> FCl <sub>2</sub>	Dichlorofluoroethane	(HCFC-141)	3	0.005-0.07
CH <sub>3</sub> CFCl <sub>2</sub>	Dichlorofluoroethane	(HCFC-141b)	-	0.11
C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl	Chlorodifluoroethane	(HCFC-142)	3	0.008-0.07
CH <sub>3</sub> CF <sub>2</sub> Cl	Chlorodifluoroethane	(HCFC-142b)	-	0.065
C <sub>2</sub> H <sub>4</sub> FCl	Chlorofluoroethane	(HCFC-151)	2	0.003-0.005
C <sub>3</sub> HFCl <sub>6</sub>	Hexachlorofluoropropane	(HCFC-221)	5	0.015-0.07
C <sub>3</sub> HF <sub>2</sub> Cl <sub>5</sub>	Pentachlorodifluoropropane	(HCFC-222)	9	0.01-0.09
C <sub>3</sub> HF <sub>3</sub> Cl <sub>4</sub>	Tetrachlorotrifluoropropane	(HCFC-223)	12	0.01-0.08
C <sub>3</sub> HF <sub>4</sub> Cl <sub>3</sub>	Trichlorotetrafluoropropane	(HCFC-224)	12	0.01-0.09
C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	Dichloropentafluoropropane	(HCFC-225)	9	0.02-0.07
CF <sub>3</sub> CF <sub>2</sub> CHCl <sub>2</sub>	Dichloropentafluoropropane	(HCFC-225ca)	-	0.025
CF <sub>2</sub> ClCF <sub>2</sub> CHCl <sub>2</sub>	Dichloropentafluoropropane	(HCFC-225cb)	-	0.033
C <sub>3</sub> HF <sub>6</sub> Cl	Chlorohexafluoropropane	(HCFC-226)	5	0.02-0.10
C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub>	Pentachlorofluoropropane	(HCFC-231)	9	0.05-0.09
C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	Tetrachlorodifluoropropane	(HCFC-232)	16	0.008-0.10
C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	Trichlorotrifluoropropane	(HCFC-233)	18	0.007-0.23
C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	Dichlorotetrafluoropropane	(HCFC-234)	16	0.01-0.28
C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Cl	Chloropentafluoropropane	(HCFC-235)	9	0.03-0.52
C <sub>3</sub> H <sub>3</sub> FCl <sub>4</sub>	Tetrachlorofluoropropane	(HCFC-241)	12	0.004-0.09
C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Cl <sub>3</sub>	Trichlorodifluoropropane	(HCFC-242)	18	0.005-0.13

$C_3H_3F_3Cl_2$	Dichlorotrifluoropropane	(HCFC-243)	18	0.007-0.12
$C_3H_3F_4Cl$	Chlorotetrafluoropropane	(HCFC-244)	12	0.009-0.14
$C_3H_4FCl_3$	Trichlorofluoropropane	(HCFC-251)	12	0.001-0.01
$C_3H_4F_2Cl_2$	Dichlorodifluoropropane	(HCFC-252)	16	0.005-0.04
$C_3H_4F_3Cl$	Chlorotrifluoropropane	(HCFC-253)	12	0.003-0.03
$C_3H_5FCl_2$	Dichlorofluoropropane	(HCFC-261)	9	0.002-0.02
$C_3H_5F_2Cl$	Chlorodifluoropropane	(HCFC-262)	9	0.002-0.02
$C_3H_6FCl$	Chlorofluoropropane	(HCFC-271)	5	0.001-0.03

**PART VIII METHYL BROMIDE**

<i>Chemical Formula</i>	<i>Chemical Name</i>	<i>Substance</i>	<i>Ozone-Depleting Potential</i>
$CH_3Br$	Methyl bromide	(Mono) bromomethane	0.6