

## Regulations relating to substances that deplete the ozone layer

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## **Regulations relating to substances that deplete the ozone layer**

*Laid down by the Ministry of the Environment on 20 December 2002 pursuant to sections 114, 117 and 124 of the Act of 9 June 1903 No. 7 relating to State Control of the Seaworthiness of Ships etc., cf Royal Decree of 12 October 1979 No. 1, and to sections 3, 4, 8, 12 and 13 of the Act of 11 June 1976 No. 79 relating to the Control of Products and Consumer Services (the Product Control Act), cf. Crown Prince Regent's Decree of 7 September 1990 No. 730. Cf. the EEA Agreement, Annex XX, paragraph 21 aa (Regulation (EC) No. 2037/2000).*

### **Chapter 1. Introductory provisions**

#### **§ 1-1. Purpose**

The purpose of these regulations is to prevent emissions of substances that result in depletion of the stratospheric ozone layer.

#### **§ 1-2. What is governed by the regulations/Scope**

These regulations lay down provisions governing the production, import, export, placing on the market, use, recovery, recycling, reclamation and destruction of ozone-depleting substances, and on the production, import, export, placing on the market and use of products and equipment containing substances that may result in depletion of the stratospheric ozone layer.

For the purpose of these regulations, the term ozone-depleting substances means those substances that are listed in Appendix I to the regulations. The term new ozone-depleting substances means those substances that are listed in Appendix II.

These regulations apply within the realm, including Svalbard and Jan Mayen, on board Norwegian ships, on board Norwegian aircraft in areas that are not under the sovereignty of any state and on installations and facilities on the Norwegian continental shelf.

### **Chapter 2. Provisions relating to ozone-depleting substances and mixtures of substances**

#### **§ 2-1. Prohibition against production, import, export and use**

It is prohibited to produce, import, export or use ozone-depleting substances, whether alone or in a mixture, unless this is permitted pursuant to this section, chapter 3 or 4, or in accordance with a special permit issued pursuant to section 2-4.

The prohibition against the use of CFCs, tetrachloromethane and 1,1,1-trichloroethane alone or in a mixture does not apply to their use for laboratory purposes up to 31 December 2005. It is nevertheless prohibited to use ozone-depleting substances for oil-in-water analyses.

The prohibition against the use of ozone-depleting substances does not apply to their use as feedstock in the production of other chemicals, provided that such substances are completely converted during the process and their emissions are insignificant.

The prohibition against the production of ozone-depleting substances does not apply to ozone-depleting substances that are formed in insignificant quantities during the manufacture of other substances.

#### **§ 2-2. Prohibition against placing on the market**

It is prohibited to place the following ozone-depleting substances on the market whether alone or in a mixture without a special permit pursuant to section 2-4:

CFCs, halons, tetrachloromethane (carbon tetrachloride), 1,1,1-trichloroethane (methyl chloroform) and HBFCs.

The prohibition against placing of halons on the market does not apply to placing on the market for purposes that are permitted pursuant to Chapter 3.

#### **§ 2-3. New ozone-depleting substances**

It is prohibited to produce, import, export, place on the market or use the new ozone-depleting substances listed in Appendix II.

The Norwegian Pollution Control Authority or the instance prescribed by the Ministry of the Environment may by regulations add new substances to Appendix II if they are found by the Scientific Assessment Panel under the Montreal Protocol to have a significant ozone-depleting effect.

#### **§ 2-4. Permits**

The Norwegian Pollution Control Authority or the instance prescribed by the Ministry of the Environment may issue permits for the production, import, export, placing on the market and use of ozone-depleting substances and mixtures of substances.

Permits for the production and import of HCFCs and methyl bromide may only be issued in accordance with the phase-out schedule in Appendix III or with Norway's obligations under international law.

Ozone-depleting substances and mixtures of substances shall in any case not be produced, imported or placed on the market in disposable containers, except for essential uses.

### **Chapter 3. Provisions relating to products and equipment containing CFCs, halons, tetrachloromethane (carbon tetrachloride), 1,1,1-trichloroethane (methyl chloroform), methyl bromide and HBFCs**

#### **§ 3-1. Prohibition against production, import and export**

It is prohibited to produce, import or export products and equipment containing the following ozone-depleting substances:

CFCs, halons, tetrachloromethane (carbon tetrachloride), 1,1,1-trichloroethane (methyl chloroform), methyl bromide and HBFCs.

It is also prohibited to export products whose continuing function relies on supply of the substances listed in the first paragraph.

**§ 3-2. Prohibition against placing on the market**

It is prohibited to place on the market products and equipment containing the following ozone-depleting substances:

CFCs, halons, tetrachloromethane (carbon tetrachloride), 1,1,1-trichloroethane (methyl chloroform) and HBFCs.

**§ 3-3. Prohibition against the use of products containing tetrachloromethane and 1,1,1-trichloroethane**

It is prohibited to use products containing tetrachloromethane (carbon tetrachloride) or 1,1,1-trichloroethane (methyl chloroform).

**§ 3-4. Phasing out fixed fire protection systems and hand-held fire extinguishers**

Hand-held fire extinguishers containing halons shall be decommissioned by 31 December 2003.

It is prohibited to install or possess fixed fire protection systems containing halons.

Nevertheless, it is permitted to possess fixed fire protection systems containing halons on ships and mobile installations until 31 December 2003.

The prohibitions against fixed fire protection systems and hand-held fire extinguishers containing halons set out in the first and second paragraphs do not apply to critical uses as defined in Appendix IV.

The prohibition against the use of halons in section 2-1 does not apply to recharging with halons for critical uses as defined in Appendix IV.

**§ 3-5. Exceptions for the import and placing on the market of fire protection systems containing halons**

The prohibitions of sections 3-1 and 3-2 against the import and placing on the market of products and equipment do not apply to fire protection systems containing halons for critical uses as defined in Appendix IV.

**§ 3-6. Exceptions for the import, export and placing on the market of vehicles with air-conditioning systems containing CFCs**

The prohibition of section 3-2 against placing on the market does not apply to vehicles with air-conditioning systems containing CFCs if the vehicle was imported before 31 December 1993 or if the air-conditioning system was installed in the vehicle before 1 July 1991, or if import or installation took place at a later date in accordance with an exemption granted by the Norwegian Pollution Control Authority pursuant to the Regulations of 21 January 1991 No. 55 relating to the manufacture, import, export and use of chlorofluorocarbons (CFCs) and halons.

The prohibition of section 3-1 against import and export and the prohibition of 3-2 against placing on the market do not apply to vehicles manufactured before 1 October 2000 if the vehicle is imported or exported as household goods when the owner moves to or from Norway, or if the vehicle is of historical interest, see sections 1-8 and 1-9 of the Regulations of 4 October 1994 No. 918 relating to motor vehicles.

### **§ 3-7. Exceptions for the placing on the market of second-hand refrigeration equipment containing CFCs as the refrigerant**

The prohibition of section 3-2 against placing on the market does not apply to second-hand refrigeration equipment containing CFCs as the refrigerant if the refrigerant charge is less than 1 kg per unit and if the equipment was manufactured before 1 July 1991 or at a later date in accordance with an exemption granted by the Norwegian Pollution Control Authority pursuant to the Regulations of 21 January 1991 No. 55 relating to the manufacture, import, export and use of chlorofluorocarbons (CFCs) and halons.

### **§ 3-8. Exceptions for metered-dose inhalers**

These regulations do not preclude the import and placing on the market of medicinal products of the types known as metered-dose inhalers (MDI) that contain CFCs.

## **Chapter 4. Special provisions relating to HCFCs**

### **§ 4-1. Prohibition against the production, import, placing on the market and installation of equipment and products containing HCFCs**

It is prohibited to produce, import, place on the market or install equipment and products containing HCFCs. However, for equipment and products regulated by this chapter, the prohibition against production, import, placing on the market and installation does not apply until the date on which the restriction enters into force. Products and equipment that are produced before the restrictions on use enter into force may nevertheless be imported, placed on the market and installed.

### **§ 4-2. HCFCs in air conditioning and heat pump systems**

The prohibition of section 2-1 against the use of HCFCs does not apply until:

- 1 January 2004 for equipment for reversible air-conditioning/heat pump systems produced after 31 December 2003.
- 31 December 2008 for military uses of motor vehicles, tractors, off-road vehicles and trailers.

The prohibition of section 2-1 against the use of HCFCs does not apply to the recharging or maintenance of refrigeration and air-conditioning equipment that was lawfully produced, imported, placed on the market or installed pursuant to earlier legislation. From 1 January 2010 it is nevertheless prohibited to use virgin HCFCs in the recharging and maintenance of such refrigeration and air-conditioning equipment. From 1 January 2015, recharging and maintenance with used or recovered HCFCs is also prohibited.

### **§ 4-3. HCFCs for the production of foams**

The prohibition of section 2-1 against the use of HCFCs does not apply to the production of rigid insulating foams until 1 January 2004.

It is nevertheless prohibited to use HCFCs in the production of :

- polyethylene insulating foams,
- polyurethane foams for appliances and machines,
- polyurethane flexible-faced laminate foams,
- polyurethane sandwich panel and
- extruded polystyrene foams.

The last three types of foams may nevertheless be produced for insulated transport until 1 January 2004.

#### **§ 4-4. HCFCs for other purposes**

The prohibition of section 2-1 against the use of HCFCs does not apply to their use

- a) for analytical purposes,
- b) as a carrier gas for sterilisation substances in closed systems, in equipment produced before 31 December 1997,
- c) as a processing agent (Appendix V),
- d) to replace existing halons for fire fighting purposes for critical uses (Appendix IV), on the following conditions:
  - halons contained in such fire protection systems shall be replaced completely
  - halons withdrawn shall be destroyed,
  - 70 per cent of the destruction costs shall be covered by the supplier of the HCFCs,
  - any person that is responsible for such a system/for removal of halons shall notify the Norwegian Pollution Control Authority or the instance so authorised by the Ministry of the Environment of the quantity of halons replaced.

### **Chapter 5. Control of emissions**

#### **§ 5-1. Recovery and destruction of used ozone-depleting substances**

In connection with service and maintenance or before the dismantling or disposal of equipment, any person that is responsible for the operation shall ensure that ozone-depleting substances in refrigeration, air-conditioning and heat pump equipment, equipment containing solvents, and fire protection systems and fire extinguishers is recovered for destruction, recycling or reclamation.

Ozone-depleting substances in other products, installations and equipment shall be recovered if practicable.

Substances shall be destroyed using approved destruction technologies.

The Regulations of 10 December 1996 No. 1310 relating to scrapped refrigeration equipment containing CFCs nevertheless apply to refrigeration equipment as defined in the said regulations.

#### **§ 5-2. Prevention of leakages**

All precautionary measures practicable shall be taken to prevent and minimise leakages of ozone-depleting substances.

Any person that is responsible for fixed equipment with a refrigerating fluid charge of more than 3 kg has a duty to ensure that the equipment is checked for leakages annually.

Any person that uses methyl bromide for soil fumigation shall ensure that the soil is covered with a virtually impermeable film for a sufficient time, or that another technique ensuring at least the same level of environmental protection is used.

## **Chapter 6. Appeals, penal measures, final provisions**

### **§ 6-1. Control**

The Norwegian Pollution Control Authority or the instance prescribed by the Ministry of the Environment will be responsible for ensuring compliance with these regulations. The Norwegian Maritime Directorate will be responsible for ensuring compliance with these regulations on board civilian Norwegian vessels.

### **§ 6-2. Exemptions**

The Norwegian Pollution Control Authority or the instance prescribed by the Ministry of the Environment may in special cases grant exemptions from these regulations. Exemptions may only be granted provided that they are in accordance with Norway's obligations under international law.

### **§ 6-3. Appeals**

Individual decisions made by the Norwegian Pollution Control Authority or the Norwegian Maritime Directorate pursuant to these regulations may be appealed to the Ministry of the Environment.

### **§ 6-4. Coercive fines**

In order to ensure compliance with these regulations or decisions made pursuant thereto, the instance responsible for control may impose coercive fines in accordance with the provisions of section 13 of the Product Control Act or section 124 of the Act relating to State Control of the Seaworthiness of Ships.

### **§ 6-5. Penal measures**

Any contravention of these regulations or of decisions made pursuant thereto is liable to a penalty in accordance with section 12 of the Product Control Act or section 427 of the Penal Code.

### **§ 6-6. Entry into force**

These regulations enter into force on 1 January 2003. From the same date, the following regulations are repealed:

- Regulations of 21 January 1991 No. 55 relating to the manufacture, import, export and use of chlorofluorocarbons (CFCs) and halons
- Temporary regulations of 26 August 1994 No. 857 relating to exemptions from the regulations relating to the manufacture, import, export and use of chlorofluorocarbons (CFCs) and halons from refrigerating and freezing equipment, air-conditioning equipment in vehicles, duty to deliver CFCs removed from such equipment, and halons for fire-extinguishing
- Regulations of 28 March 1995 No. 277 relating to prohibition of the manufacture, import, export and use of 1,1,1-trichloroethane (methyl chloroform)
- Regulations of 28 March 1995 No. 278 relating to the manufacture, import, export and use of tetrachloromethane (carbon tetrachloride)
- Regulations of 25 September 1996 No. 996 relating to the manufacture, import, export and use of hydrobromofluorocarbons (HBFCs)
- Regulations of 14 July 1997 No. 789 relating to the manufacture, import, export and use of methyl bromide
- Regulations of 14 July 1997 No. 790 relating to the manufacture, import, export and use of hydrochlorofluorocarbons (HCFCs), etc.

## Appendix I. Substances that result in depletion of the ozone layer (ozone-depleting substances)

### *Chlorofluorocarbons (CFCs)*

<i>Chemical formula</i>	<i>Trade name</i>	<i>ODP factor*</i>
CFCl <sub>3</sub>	(CFC 11)	1.0
CF <sub>2</sub> Cl <sub>2</sub>	(CFC 12)	1.0
C <sub>2</sub> F <sub>3</sub> Cl <sub>2</sub>	(CFC 113)	0.8
C <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	(CFC 114)	1.0
C <sub>2</sub> F <sub>5</sub> Cl	(CFC 115)	0.6
CF <sub>3</sub> Cl	(CFC 13)	1.0
C <sub>2</sub> FCl <sub>5</sub>	(CFC 111)	1.0
C <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	(CFC 112)	1.0
C <sub>3</sub> FCl <sub>7</sub>	(CFC 211)	1.0
C <sub>3</sub> F <sub>2</sub> Cl <sub>6</sub>	(CFC 212)	1.0
C <sub>3</sub> F <sub>3</sub> Cl <sub>5</sub>	(CFC 213)	1.0
C <sub>3</sub> F <sub>4</sub> Cl <sub>4</sub>	(CFC 214)	1.0
C <sub>3</sub> F <sub>4</sub> Cl <sub>3</sub>	(CFC 215)	1.0
C <sub>3</sub> F <sub>6</sub> Cl <sub>2</sub>	(CFC 216)	1.0
C <sub>3</sub> F <sub>7</sub> Cl	(CFC 217)	1.0

\* ODP (ozone-depleting potential) indicates the relative capacity of each substance for depleting the ozone layer.

### *Halons*

<i>Chemical formula</i>	<i>Trade name</i>	<i>ODP factor*</i>
CF <sub>2</sub> BrCl	(halon 1211)	3.0
CF <sub>3</sub> Br	(halon 1301)	10.0
C <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>	(halon 2402)	6.0

\* ODP (ozone-depleting potential) indicates the relative capacity of each substance for depleting the ozone layer.

### *Tetrachloromethane (carbon tetrachloride)*

<i>Chemical formula</i>	<i>Trade name</i>	<i>ODP factor*</i>
CCl <sub>4</sub>		1.1

\* ODP (ozone-depleting potential) indicates the relative capacity of each substance for depleting the ozone layer.

### *1,1,1-trichloroethane (methyl chloroform)*

<i>Chemical formula</i>	<i>Trade name</i>	<i>ODP factor*</i>
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C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>		0.1
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\* ODP (ozone-depleting potential) indicates the relative capacity of each substance for depleting the ozone layer.

*Methyl bromide*

<i>Chemical formula</i>	<i>Trade name</i>	<i>ODP factor*</i>
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CH <sub>3</sub> Br		0.6
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\* ODP (ozone-depleting potential) indicates the relative capacity of each substance for depleting the ozone layer.

*Hydrobromofluorocarbons (HBFCs)*

<i>Chemical formula</i>	<i>Trade name</i>	<i>ODP factor*</i>
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CH <sub>2</sub> Br <sub>2</sub>		1.00
CHF <sub>2</sub> Br	(HBFC-22B1)	0.74
CH <sub>2</sub> FBr		0.73
C <sub>2</sub> HFBr <sub>4</sub>		0.8
C <sub>2</sub> HF <sub>2</sub> Br <sub>3</sub>		1.8
C <sub>2</sub> HF <sub>3</sub> Br <sub>2</sub>		1.6
C <sub>2</sub> HF <sub>4</sub> Br		1.2
C <sub>2</sub> H <sub>2</sub> FBr <sub>3</sub>		1.1
C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>2</sub>		1.5
C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Br		1.6
C <sub>2</sub> H <sub>3</sub> FBr <sub>2</sub>		1.7
C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Br		1.1
C <sub>2</sub> H <sub>4</sub> FBr		0.1
C <sub>3</sub> HFBr <sub>6</sub>		1.5
C <sub>3</sub> HF <sub>2</sub> Br <sub>5</sub>		1.9
C <sub>3</sub> HF <sub>3</sub> Br <sub>4</sub>		1.8
C <sub>3</sub> HF <sub>4</sub> Br <sub>3</sub>		2.2
C <sub>3</sub> HF <sub>5</sub> Br <sub>2</sub>		2.0
C <sub>3</sub> HF <sub>6</sub> Br		3.3
C <sub>3</sub> H <sub>2</sub> FBr <sub>5</sub>		1.9
C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>4</sub>		2.1

C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Br <sub>3</sub>		5.6
C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>		7.5
C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Br		1.4
C <sub>3</sub> H <sub>3</sub> FBr <sub>4</sub>		1.9
C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Br <sub>3</sub>		3.1
C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Br <sub>2</sub>		2.5
C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Br		4.4
C <sub>3</sub> H <sub>4</sub> FBr <sub>3</sub>		0.3
C <sub>3</sub> H <sub>4</sub> F <sub>2</sub> Br <sub>2</sub>		1.0
C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Br		0.8
C <sub>3</sub> H <sub>5</sub> FBr <sub>2</sub>		0.4
C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Br		0.8
C <sub>3</sub> H <sub>6</sub> FBr		0.7

\* ODP (ozone-depleting potential) indicates the relative capacity of each substance for depleting the ozone layer.

*Hydrochlorofluorocarbons (HCFCs)*

<i>Chemical formula</i>	<i>Trade name</i>	<i>ODP factor*</i>
CHFCl <sub>2</sub>	(HCFC-21)	0.040
CHF <sub>2</sub> Cl	(HCFC-22)	0.055
CH <sub>2</sub> FCl	(HCFC-31)	0.020
C <sub>2</sub> HFCl <sub>4</sub>	(HCFC-121)	0.040
C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub>	(HCFC-122)	0.080
C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub>	(HCFC-123)	0.020
C <sub>2</sub> HF <sub>4</sub> Cl	(HCFC-124)	0.022
C <sub>2</sub> H <sub>2</sub> FCl <sub>3</sub>	(HCFC-131)	0.050
C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub>	(HCFC-132)	0.050
C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl	(HCFC-133)	0.060
C <sub>2</sub> H <sub>3</sub> FCl <sub>2</sub>	(HCFC-141)	0.070
CH <sub>3</sub> CFCl <sub>2</sub>	(HCFC-141b)	0.110
C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl	(HCFC-142)	0.070
CH <sub>3</sub> CF <sub>2</sub> Cl	(HCFC-142b)	0.065
C <sub>2</sub> H <sub>4</sub> FCl	(HCFC-151)	0.005
C <sub>3</sub> HFCl <sub>6</sub>	(HCFC-221)	0.070
C <sub>3</sub> HF <sub>2</sub> Cl <sub>5</sub>	(HCFC-222)	0.090
C <sub>3</sub> HF <sub>3</sub> Cl <sub>4</sub>	(HCFC-223)	0.080
C <sub>3</sub> HF <sub>4</sub> Cl <sub>3</sub>	(HCFC-224)	0.090

C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	(HCFC-225)	0.070
CF <sub>3</sub> CF <sub>2</sub> CHCl <sub>2</sub>	(HCFC-225ca)	0.025
CF <sub>2</sub> ClCF <sub>2</sub> CHClF	(HCFC-225cb)	0.033
C <sub>3</sub> HF <sub>6</sub> Cl	(HCFC-226)	0.100
C <sub>3</sub> H <sub>2</sub> FC <sub>5</sub>	(HCFC-231)	0.090
C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	(HCFC-232)	0.100
C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	(HCFC-233)	0.230
C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	(HCFC-234)	0.280
C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Cl	(HCFC-235)	0.520
C <sub>3</sub> H <sub>3</sub> FC <sub>4</sub>	(HCFC-241)	0.090
C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Cl <sub>3</sub>	(HCFC-242)	0.130
C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Cl <sub>2</sub>	(HCFC-243)	0.120
C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Cl	(HCFC-244)	0.140
C <sub>3</sub> H <sub>4</sub> FC <sub>3</sub>	(HCFC-251)	0.010
C <sub>3</sub> H <sub>4</sub> F <sub>2</sub> Cl <sub>2</sub>	(HCFC-252)	0.040
C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Cl	(HCFC-253)	0.030
C <sub>3</sub> H <sub>5</sub> FC <sub>2</sub>	(HCFC-261)	0.020
C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Cl	(HCFC-262)	0.020
C <sub>3</sub> H <sub>6</sub> FCl	(HCFC-271)	0.030

\* ODP (ozone-depleting potential) indicates the relative capacity of each substance for depleting the ozone layer.

## Appendix II. New substances that result in depletion of the ozone layer

Bromochloromethane  
N-propyl bromide

## Appendix III. Phase-out schedule

*Hydrochlorofluorocarbons (HCFCs)*

- 15 per cent reduction from 1 January 2002
- 55 per cent reduction from 1 January 2003
- 70 per cent reduction from 1 January 2004
- 75 per cent reduction from 1 January 2008
- 100 per cent reduction from 1 January 2010

The reductions are to be calculated in relation to a base level corresponding to the consumption of HCFCs in 1989 plus 2.0 per cent of the consumption of CFCs in 1989, weighted by ODP factors (ODP tonnes).

*Methyl bromide*

- 60 per cent reduction from 1 January 2001
- 75 per cent reduction from 1 January 2003
- 100 per cent reduction from 1 January 2005

The reductions are to be calculated on the basis of methyl bromide consumption in 1991.

#### **Appendix IV. Critical uses of halons**

Use of halon 1301:

- in aircraft for the protection of crew and passengers, engine nacelles, cargo bays and dry bays,
- in military land vehicles and naval vessels for the protection of spaces occupied by personnel and engine compartments,
- for the making inert of occupied spaces where flammable liquid and/or gas release could occur
  - in mobile installations in the oil, gas and petrochemical sector,
  - in existing cargo ships.

Use of halon 1211:

- in hand-held fire extinguishers and fixed extinguisher equipment for engines for use on board aircraft,
- in aircraft for the protection of crew and passengers, engine nacelles, cargo bays and dry bays.

#### **Appendix V. Processing agents**

- Use of carbon tetrachloride for the elimination of nitrogen trichloride in the production of chlorine and caustic soda,
- Use of carbon tetrachloride in the recovery of chlorine in tail gas from production of chlorine,
- Use of carbon tetrachloride in the manufacture of chlorinated rubber,
- Use of carbon tetrachloride in the manufacture of isobutyl acetophenone (ibuprofen analgesic),
- Use of carbon tetrachloride in the manufacture of polyphenylene terephthalamide,
- Use of CFC-11 in manufacture of fine synthetic polyolefin fibre sheet,
- Use of CFC-113 in the manufacture of vinorelbine (pharmaceutical product),
- Use of CFC-12 in the photochemical synthesis of perfluoropolyetherpolyperoxide precursors of Z-perfluoropolyethers and difunctional derivatives,
- Use of CFC-113 in the reduction of perfluoropolyetherpolyperoxide intermediate for production of perfluoropolyether diesters,
- Use of CFC-113 in the preparation of perfluoropolyether diols with high functionality,
- Use of carbon tetrachloride in the production of tralomethrine (insecticide).

Also the use of HCFCs in the above processes when used to replace CFC or carbon tetrachloride.

## Comments on the regulations

### *Re § 1-1 Purpose*

Norway has international obligations to phase out ozone-depleting substances under the 1987 Montreal Protocol with subsequent amendments and adjustments. Norway is also required to comply with the provisions of the EEA Agreement, Annex XX, paragraph 21aa (Regulation (EC) No. 2037/2000) on substances that deplete the ozone layer. The purpose of these regulations is to ensure that Norway fulfils its obligations under the Montreal Protocol and the EEA Agreement.

### *Re § 1-2 Scope*

The term Norwegian vessels means vessels that come within the scope of section 1 of the Maritime Act of 24 June 1994 No. 39 or section 1 of the Act of 12 June 1987 No. 48 relating to the Norwegian International Ship Register.

### *Re Chap. 2*

Chapter 2 of the regulations regulates the production, import, export, placing on the market and use of the ozone-depleting substances listed in Appendix I, irrespective of whether they are present alone or in a mixture. Isomers of the substances listed are also included. Similarly, the chapter regulates the production, import, export, placing on the market and use of the new ozone-depleting substances listed in Appendix II.

A mixture means a mixture of different types of ozone-depleting substances, for example HCFCs and CFCs, or a mixture of ozone-depleting substances and other substances, for example a mixture of HCFCs and HFCs.

Substances that are present alone or in a mixture do not include substances contained in processed articles, with the exception of containers for the transport and storage of an ozone-depleting substance.

### *Re § 2-1*

The use of ozone-depleting substances includes their use in production and for degreasing, cleaning, and maintenance and recharging of products and equipment.

Thus, the prohibition against the use of ozone-depleting substances means that it is prohibited to use virgin or used CFCs to recharge refrigeration and air-conditioning equipment.

### *Re § 2-4*

Norway's international obligations with respect to ozone-depleting substances are laid down by the Montreal Protocol and Annex XX, paragraph 21aa, of the EEA Agreement (Regulation (EC) No. 2037/2000) on substances that deplete the ozone layer.

Since the mid-1990s, import licences for CFCs, tetrachloromethane and 1.1.1-trichloroethane have only been granted for essential purposes. Essential purposes means the use of ozone-

depleting substances for purposes approved as essential under the Montreal Protocol. Laboratory analyses, with the exception of oil-in-water analyses, are approved as essential purposes for CFCs, tetrachloromethane and 1.1.1-trichloroethane up to and including 2005, with the restrictions adopted by the parties.

HBFCs are not used in Norway, and no import licences have been granted for these substances.

*Re Chap. 3*

Chapter 3 of the regulations regulates the production, import, export, placing on the market and use of products and equipment containing ozone-depleting substances, with the exception of HCFCs.

Pursuant to the regulations, the use of refrigerating equipment including refrigerators and freezers containing CFCs in the refrigeration circuit or insulation is still permitted.

*Re § 3-4*

Hand-held fire extinguishers means all types of fire extinguishers intended for manual fire-fighting. Hand-held fire extinguishers are normally installed so that they can be removed for local use directly at the site of a fire.

The exceptions for critical uses of halon mean that it is permitted to possess, install, use and recharge halon-containing fire protection systems for the uses defined in Appendix IV.

*Re § 3-7*

For the purpose of these regulations, a refrigerant means a medium that absorbs or gives off heat by evaporation, condensation or a temperature change for the purpose of heating or cooling.

*Re § 3-8*

For the exception to apply, the product must be approved as a medicinal product pursuant to the Act of 4 December 1992 Nr. 132 relating to medicinal products, etc. The exception will typically apply to nasal sprays for asthma sufferers.

*Re Chap. 4 HCFCs*

*Re § 4-2*

This section specifies when the prohibition against HCFCs enters into force for different areas of use.

The term reversible air-conditioning/heat pump system means a combination of interconnected refrigerant-containing parts constituting one closed refrigeration circuit, in which the refrigerant is circulated for the purpose of extracting and rejecting heat (i.e. cooling, heating). The evaporators and condensers must be designed to be interchangeable in their functions.

*Re Chap. 5*

*Re § 5-1*

Recovery means the removal, collection and storage of ozone-depleting substances.

Recycling means the re-use of a recovered ozone-depleting substance following a basic cleaning process such as filtering and drying. For refrigerants, recycling will often involve recharge back into equipment on site.

Reclamation means the reprocessing and upgrading of a recovered substance through such processes as filtering, drying, distillation and chemical treatment in order to restore the substance to a specified standard of performance. This often involves processing off site at a central facility.

The person responsible for the operation and required to ensure that ozone-depleting substances are recovered, destroyed, recycled or reclaimed may for example be the owner, tenant, or the person that is commissioned by the owner or tenant to carry out specific operations that may result in pollution.

Any person that installs, maintains or dismantles refrigeration and air-conditioning equipment should seek to maintain standards of good practice as described for example in the Norwegian Refrigeration code of good practice (*Norsk Kuldenorm*).

Approved destruction technologies for ozone-depleting substances are technologies that have been approved by the parties under the Montreal Protocol.

The prohibition against use set out in section 2-1 means for example that it is prohibited to recharge refrigeration and air-conditioning equipment with used CFCs. Ozone-depleting substances that have been recovered and are not to be recycled shall be delivered to a lawful facility in accordance with the Regulations relating to hazardous waste.

On 1 October 2000, all Norwegian importers of HCFCs entered into an agreement on fees and a deposit and return scheme for refrigerants to cover the costs of the treatment of waste HCFCs in the future. This means that used refrigerants can be delivered to importers either free of charge or on the payment of a fee.

The Regulations of 10 December 1996 No. 1310 relating to scrapped refrigeration equipment containing CFCs lay down provisions on the reception and further treatment of refrigeration equipment containing CFCs. The regulations require municipal authorities to ensure that there are adequate facilities for the reception of scrapped refrigeration equipment containing CFCs in each municipality. Distributors of refrigeration equipment have a duty to accept scrapped refrigeration equipment containing CFCs free of charge when they sell new refrigeration equipment. The regulations also lay down requirements for the removal or incineration of CFCs from the refrigeration circuit and insulation.