

NB: Unofficial translation; legally binding texts are those in Finnish and Swedish

Ministry of the Environment, Finland

**Government Decree
on the maintenance of equipment containing ozone-depleting
substances and certain hydrofluorocarbons and
qualifications required of persons carrying out
maintenance and waste management**

1187/2001

December 5, 2001

**Section 1
Scope of application**

(1) This Decree applies to persons maintaining refrigeration and air conditioning equipment and fire-extinguishing and fire-protection equipment where the equipment in question contains ozone-depleting substances referred to in Appendix 1 of this Decree or hydrofluorocarbons referred to in Appendix 2. This Decree also applies to those engaged in handling and waste management of the substances referred to above.

**Section 2
Qualifications required of persons maintaining
refrigeration and air conditioning equipment**

(1) An undertaking installing and maintaining equipment containing at least 3 kg of refrigerants must have a supervisor who is primarily employed by the undertaking in question and who meets the qualification requirements laid down in Appendix 3(1a) of this Decree. The maintenance and installation personnel working under the supervisor must meet the qualification requirements laid down in Appendix 3(1b).

(2) An undertaking installing and maintaining equipment containing less than 3 kg of refrigerants must have a supervisor who is primarily employed by the undertaking in question and who meets the qualification requirements laid down in Appendix 3(2a) of this Decree. The maintenance and installation personnel working under the supervisor must meet the qualification requirements laid down in Appendix 3(2b).

**Section 3
Qualifications required of persons carrying out
maintenance of fire-extinguishing and fire-protection
equipment**

(1) An undertaking installing and maintaining fire-extinguishing and fire-protection equipment must have a supervisor who is primarily employed by the undertaking in question and who meets the qualification requirements listed in Appendix 3(3) of this Decree.

Section 4
Qualifications required of persons carrying out waste
management

(1) An undertaking carrying out waste management must have a must have a supervisor who is primarily employed by the undertaking in question and who meets the qualification requirements listed in Appendix 3(4).

Section 5
Duties of the supervisor

(1) A supervisor primarily employed by the undertaking must see to it that all environmental requirements are complied with and that the maintenance personnel meet all the qualification requirements. The supervisor must be in a position to carry out his/her duties in a proper manner.

Section 6
The duty of an undertaking to be aware of the
qualifications of its personnel

(1) An undertaking must be aware of the installation, maintenance and waste management personnel it is using and their qualifications. Details of the personnel members and their qualifications must be presented to the supervisory authority on request.

Section 7
Tools and equipment needed for installation and
maintenance work and waste management

(1) The undertaking must have at its disposal the appropriate tools and equipment listed in Appendix 4 of this Decree. The tools and equipment must be inspected and calibrated regularly or other reliable measures taken to ensure their effectiveness at regular intervals. The undertaking's installation, maintenance and waste management personnel must know how to use the tools and equipment.

Section 8
An undertaking's notification of its operations

(1) Before commencing operations, an undertaking must notify the Safety Technology Authority of the equipment installation or maintenance to be carried out, and of the waste management for substances referred to in this Decree. The undertaking must submit a new notification no later than three months after a new supervisor has been appointed or the nature of the operations has otherwise changed significantly.

(2) The notification must contain the following:

- 1) name and address of the undertaking;
- 2) information about the supervisor and his/her qualifications;
- 3) whether the operations cover installation and maintenance or waste management;
- 4) information about the equipment and tools needed for the operations that the undertaking has at its disposal.

(3) If operations referred to in this Decree were practised before the entry into force of the Decree, the notification referred to in subsection 1 may be supplemented until the end of 2003. In this connection the undertaking must demonstrate that the supervisor meets the qualification requirements listed in Appendix 3 of this Decree.

Section 9

Annual inspections of refrigeration and air conditioning equipment

(1) The possessor or owner of the equipment must have all fixed equipment containing at least 3 kg of refrigerants referred to in Appendix 1 inspected every year for leaks. The inspection can be carried out in connection with other maintenance work. The undertaking carrying out the inspection must meet the requirements laid down in sections 2 and 3.

(2) The possessor or owner of the equipment must keep maintenance and inspection records that give the date of the last maintenance performed, the measures carried out, the name of the undertaking carrying out the inspection and the signature of the person doing the maintenance. The records must be presented to the supervisory authority on request. A notice with the date on which the item of equipment was last inspected must accompany the equipment.

Section 10

Supervisory authorities

(1) Compliance with the requirements of this Decree shall be monitored by the supervisory authorities referred to in the Environmental Protection Act (86/2000). Compliance with the requirements of section 9 of this Decree in so far as they concern air conditioning equipment shall also be monitored by the occupational safety and health authorities and health protection authorities, and in so far as they concern refrigeration equipment used for storing food, by the health protection authorities.

(2) The authorities referred to in subsection 1 above must notify the appropriate regional environment centre if it becomes evident during monitoring that the qualification requirements laid down in the Decree have not been adhered to. The regional environment centre must submit notification of the matter to the Finnish Environment Institute. If it becomes evident during monitoring that the obligation in section 9 has not been complied with, notification must be submitted to the appropriate regional environment centre or the municipal environmental protection committee.

(3) Provisions on administrative force used for rectifying failure to comply with the requirements of this Decree are laid down in Chapter 13 of the Environmental Protection Act.

Section 11

Entry into force

This Decree enters into force on January 1, 2002.

Appendices 1-4

Appendix 1

List of ozone-depleting substances to which this Decree applies

Chlorofluorocarbon (CFC) compounds:

CFCl_3	CFC-11 (R11)
CF_2Cl_2	CFC-12 (R12)
$\text{C}_2\text{F}_3\text{Cl}_3$	CFC-113 (R113)
$\text{C}_2\text{F}_4\text{Cl}_2$	CFC-114 (R114)
$\text{C}_2\text{F}_5\text{Cl}$	CFC-115 (R115)
CF_3Cl	CFC-13 (R13)
C_2FCl_5	CFC-111
$\text{C}_2\text{F}_2\text{Cl}_4$	CFC-112
C_3FCl_7	CFC-211
$\text{C}_3\text{F}_2\text{Cl}_6$	CFC-212
$\text{C}_3\text{F}_3\text{Cl}_5$	CFC-213
$\text{C}_3\text{F}_4\text{Cl}_4$	CFC-214
$\text{C}_3\text{F}_5\text{Cl}_3$	CFC-215
$\text{C}_3\text{F}_6\text{Cl}_2$	CFC-216
$\text{C}_3\text{F}_7\text{Cl}$	CFC-217

Halons:

CF_2BrCl	halon-1211
CF_3Br	halon-1301 (R13b1)
$\text{C}_2\text{F}_4\text{Br}_2$	halon-2402

Carbon tetrachloride:

CCl_4 (tetrachloromethane)	carbon tetrachloride
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1,1,1-trichloroethane:

$\text{C}_2\text{H}_3\text{Cl}_3$	1,1,1-trichloroethane
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Methylbromide:

CH_3Br	methylbromide
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Hydrobromofluorocarbon (HBFC) compounds:

CHFBr_2
CHF_2Br
CH_2FBr
C_2HFBr_4
$\text{C}_2\text{HF}_2\text{Br}_3$
$\text{C}_2\text{HF}_3\text{Br}_2$
$\text{C}_2\text{HF}_4\text{Br}$
$\text{C}_2\text{H}_2\text{FBr}_3$
$\text{C}_2\text{H}_2\text{F}_2\text{Br}_2$
$\text{C}_2\text{H}_2\text{F}_3\text{Br}$
$\text{C}_2\text{H}_3\text{FBr}_2$
$\text{C}_2\text{H}_3\text{F}_2\text{Br}$
$\text{C}_2\text{H}_4\text{FBr}$
C_3HFBr_6
$\text{C}_3\text{HF}_2\text{Br}_5$
$\text{C}_3\text{HF}_3\text{Br}_4$
$\text{C}_3\text{HF}_4\text{Br}_3$
$\text{C}_3\text{HF}_5\text{Br}_2$
$\text{C}_3\text{HF}_6\text{Br}$
$\text{C}_3\text{H}_2\text{FBr}_5$
$\text{C}_3\text{H}_2\text{F}_2\text{Br}_4$

$C_3H_2F_3Br_3$
 $C_3H_2F_4Br_2$
 $C_3H_2F_5Br$
 $C_3H_3FBr_4$
 $C_3H_3F_2Br_3$
 $C_3H_3F_3Br_2$
 $C_3H_3F_4Br$
 $C_3H_4FBr_3$
 $C_3H_4F_2Br_2$
 $C_3H_4F_3Br$
 $C_3H_5FBr_2$
 $C_3H_5F_2Br$
 C_3H_6FBr

Hydrochlorofluorocarbon (HCFC) compounds:

$CHFCl_2$	HCFC-21
CHF_2Cl	HCFC-22 (R22)
CH_2FCl	HCFC-31
C_2HFCl_4	HCFC-121
$C_2HF_2Cl_3$	HCFC-122
$C_2HF_3Cl_2$	HCFC-123 (R123)
C_2HF_4Cl	HCFC-124 (R124)
$C_2H_2FCl_3$	HCFC-131
$C_2H_2F_2Cl_2$	HCFC-132
$C_2H_2F_3Cl$	HCFC-133
$C_2H_3FCl_2$	HCFC-141
CH_3CFCl_2	HCFC-141b (R141b)
$C_2H_3F_2Cl$	HCFC-142
CH_2CF_2Cl	HCFC-142b (R142b)
C_2H_4FCl	HCFC-151
C_3HFCl_6	HCFC-221
$C_3HF_2Cl_5$	HCFC-222
$C_3HF_3Cl_4$	HCFC-223
$C_3HF_4Cl_3$	HCFC-224
$C_3HF_5Cl_2$	HCFC-225
$CF_3CF_2CHCl_2$	HCFC-225ca
CF_2ClCF_2CHClF	HCFC-225cb
C_3HF_6Cl	HCFC-226
$C_3H_2FCl_5$	HCFC-231
$C_3H_2F_2Cl_4$	HCFC-232
$C_3H_2F_3Cl_3$	HCFC-233
$C_3H_2F_4Cl_2$	HCFC-234
$C_3H_2F_5Cl$	HCFC-235
$C_3H_3FCl_4$	HCFC-241
$C_3H_3F_2Cl_3$	HCFC-242
$C_3H_3F_3Cl_2$	HCFC-243
$C_3H_3F_4Cl$	HCFC-244
$C_3H_4FCl_3$	HCFC-251
$C_3H_4F_2Cl_2$	HCFC-252
$C_3H_4F_3Cl$	HCFC-253
$C_3H_5FCl_2$	HCFC-261
$C_3H_5F_2Cl$	HCFC-262
C_3H_6FCl	HCFC-271

Bromochloromethane:

CH_2BrCl bromochloromethane

(A trade name with an R prefix refers to a compound used as a refrigerant).

Appendix 2

List of hydrofluorocarbons to which this Decree applies

Hydrofluorocarbon (HFC) compounds:

CHF_3	HFC-23 (R23)
CH_2F_2	HFC-32 (R32)
CH_3F	HFC-41
$\text{CF}_3\text{CHFCHFCF}_2\text{CF}_3$	HFC-43-10mee
CHF_2CF_3	HFC-125 (R125)
CHF_2CHF_2	HFC-134
CH_2FCF_3	HFC-134a (R134a)
$\text{CHF}_2\text{CH}_2\text{F}$	HFC-143
CH_3CF_3	HFC-143a (R143a)
$\text{CH}_2\text{FCH}_2\text{F}$	HFC-152
CH_3CHF_2	HFC-152a (R152a)
$\text{CH}_3\text{CH}_2\text{F}$	HFC-161
$\text{CHF}_2\text{CF}_2\text{CF}_3$	HFC-227ca
$\text{CF}_3\text{CHFCF}_3$	HFC-227ea
$\text{CH}_2\text{FCF}_2\text{CF}_3$	HFC-236cb
$\text{CHF}_2\text{CHFCF}_3$	HFC-236ea
$\text{CF}_3\text{CH}_2\text{CF}_3$	HFC-236fa
$\text{CH}_2\text{FCF}_2\text{CHF}_2$	HFC-245ca
$\text{CH}_3\text{CF}_2\text{CF}_3$	HFC-245cb
$\text{CH}_3\text{CF}_2\text{CH}_3$	HFC-272ca
$\text{CF}_3\text{CH}_2\text{CF}_2\text{CH}_3$	HFC-365mfc

Perfluorocarbon (PFC) compounds:

CF_4
 C_2F_6
 $\text{c-C}_3\text{F}_6$
 C_3F_8
 C_4F_{10}
 $\text{c-C}_4\text{F}_8$
 C_5F_{12}
 C_6F_{14}

(A trade name with an R prefix refers to a compound used as a refrigerant).

Appendix 3

1. Qualification requirements for the refrigeration and air conditioning industry: equipment containing at least 3 kg of refrigerants

a) Qualification requirements for supervisors

Basic training (one of the following): i) a technician's qualification or higher, suitable for the refrigeration and air conditioning industry; ii) special vocational qualification for the refrigeration and air conditioning industry; or iii) vocational qualification for the refrigeration and air conditioning industry. At least two years' working experience in the refrigeration and air conditioning industry is required.

Required areas of competence: i) knowledge of the legislation covering occupational safety, health and environmental aspects of the refrigeration and air conditioning industry; ii) knowledge of refrigeration and air conditioning industry standards; iii) knowledge and skills needed for handling refrigerants (handling of coolants, personal protective equipment, prevention of leaks); iv) knowledge of refrigeration technology (process, liquids, components and equipment, electrical and monitoring functions, maintenance, repairs, operational diagrams, refrigeration systems, temperature and pressure calculations, analysis of information supplied by refrigeration systems); and v) knowledge of energy efficiency and energy saving.

Those with a technician's qualification or higher suitable for the refrigeration and air conditioning industry are only required to possess knowledge of the legislation elements referred to above.

b) Qualification requirements for installation and maintenance personnel

Basic training (one of the following): i) special vocational qualification for the refrigeration and air conditioning industry; ii) vocational qualification; or iii) basic qualification suitable for the refrigeration and air conditioning industry, or similar qualification or part or parts of the above qualifications covering the occupational safety, refrigerant handling, refrigerating technology and energy efficiency requirements in section 1a. At least one year's working experience in the refrigeration and air conditioning industry is required. In the absence of the above-mentioned basic training, the qualification requirements can be satisfied with at least three years' working experience in the refrigeration and air conditioning industry and sufficient basic knowledge of the field, including the areas referred to in paragraph iii above.

2. Qualification requirements for the refrigeration and air conditioning industry: equipment containing less than 3 kg of refrigerants

a) Qualification requirements for supervisors

Basic training (one of the following): i) special vocational qualification of a household-appliance fitter;

ii) vocational qualification; iii) basic qualification suitable for the household appliance sector or similar qualification. In the absence of the above-mentioned basic training, the qualification requirements can be satisfied with at least three years' working experience in the household-appliance sector.

Required areas of competence: i) knowledge and skills needed for handling refrigerants; ii) knowledge of the occupational safety and environmental legislation covering household refrigeration technology; and iii) knowledge of the equipment and correct working methods required in the work.

b) Qualification requirements for installation and maintenance personnel

Basic training (one of the following): special vocational qualification of a household-appliance fitter; or ii) basic qualification suitable for the household appliance repair business, or part or parts of the above-mentioned qualifications providing the holder with knowledge of the operation and repair of household refrigeration equipment. In the absence of the above-mentioned basic training, the qualification requirements can be satisfied with at least one year's working experience in the household-appliance repair business.

3. Qualification requirements for installation and maintenance of fire-extinguishing and fire-protection equipment

The competence requirement for installation and maintenance of fire-extinguishers laid down in the Act on technical specifications of equipment and fire-safety of products in rescue services (562/1999) also applies here.

4. Qualification requirements in waste management and recovery

The qualifications required of a supervisor are technical training or basic training as a waste reception centre superior, or both. He/she must also possess at least two years' work experience in the installation and maintenance of technical equipment or waste management.

Required competence: i) knowledge of the type of equipment handled; ii) knowledge of the equipment needed in the work and correct working practices; and iii) knowledge of the health, safety and environmental protection regulations.

5. Addition to paragraphs 1-4

If operations referred to in this Decree were practised before the entry into force of the Decree, the supervisor named by the undertaking and the installation and maintenance personnel employed by the undertaking in similar duties and the waste management supervisor are deemed to meet the competence requirements laid down in this Appendix until December 31, 2003.

Appendix 4

Tools and equipment needed for the installation and maintenance of equipment containing refrigerants

The undertaking must have at least the following equipment at its disposal:

- i) basic tools
- ii) tools and equipment needed for installing piping
- iii) special tools needed
- iv) equipment for handling refrigerants
- v) equipment needed for ascertaining that the piping does not leak, and
- vi) measuring and testing equipment

Equipment needed in waste management

The undertaking must have at least the following equipment at its disposal:

- i) basic tools
- ii) equipment for handling refrigerants