



**COUNCIL OF  
THE EUROPEAN UNION**

**Brussels, 5 October 2004**

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from : General Secretariat of the Council

to : Coreper

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Subject : **PREPARATION OF THE MEETING OF THE COUNCIL  
(ENVIRONMENT) ON 14 OCTOBER 2004**

- Proposal for a Regulation of the European Parliament and of the Council on certain **fluorinated greenhouse gases**
  - Proposal for a Directive of the European Parliament and of the Council relating to **emissions from air conditioning systems in motor vehicles** and amending Council Directive 70/156/EEC
  - = Consideration of Presidency proposal for political agreement
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Delegations will find attached the text of the Articles and Annexes of both the draft Regulation (Annex A) and the draft Directive (Annex B) for discussion in Coreper on 6 October 2004.

**Proposal for a  
REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
on certain fluorinated greenhouse gases <sup>1</sup>**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular, Article 175(1) thereof and Article 95 thereof in relation to Articles 6a, 7 and 8, <sup>2</sup>,

Having regard to the proposal from the Commission <sup>\*</sup>,

Having regard to the opinion of the European Economic and Social Committee <sup>\*\*</sup>,

Acting in accordance with the procedure laid down in Article 251 of the Treaty <sup>\*\*\*</sup>,

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<sup>1</sup> **DELETED**: general scrutiny and linguistic reservation; **DK**: parliamentary scrutiny reservation;

**Cion** has a reservation on the form of the proposal as a whole.

<sup>2</sup> **DELETED** support Article 175(1), as a single legal base (see **DELETED** joint statement of 14 September).

**DELETED** would limit the application of Article 95 to Article 8 and its Annex only, and would want to see the environmental ambition of this Article increased.

**DELETED** can support the dual legal basis as long as no further additions are made to Articles 7 or 8 and Annex II.

**DELETED**: scrutiny reservation on legal base.

Suggested new recitals:

“(4a) The objective of the provisions on, containment, recovery, training and certification and reporting is the protection of the environment and the legal basis for those provisions is therefore Article 175(1) of the Treaty.”

New (5) “Member States are taking or planning differing measures to reduce emissions of fluorinated gases. Such differing measures by Member States could create obstacles or distort competition within the internal market. It is therefore appropriate to take measures at Community level on the basis of Article 95 of the Treaty to ensure that the internal market is protected through the harmonisation of requirements on labelling, marketing and use of fluorinated gases.”

“(x) In order to contribute to the fulfilment of the Community and its Member States' commitments under the UN Framework Convention on Climate Change, the Kyoto Protocol and Council Decision 2002/358/EC, Directive xxxx/2005 and this Regulation, which both contribute to prevention and minimisation of emissions of fluorinated greenhouse gases, should be adopted and enter into force simultaneously;”.

<sup>\*</sup> OJ C [...], [...], p. [...].

<sup>\*\*</sup> OJ C [...], [...], p. [...].

<sup>\*\*\*</sup> OJ C [...], [...], p. [...].

## *Article 1*

### **Scope**

The objective of this Regulation is to reduce emissions of the fluorinated greenhouse gases covered by the Kyoto Protocol, it shall apply to the fluorinated greenhouse gases listed in Annex A to that Protocol <sup>3</sup>. Annex I contains a list of the fluorinated greenhouse gases currently covered by this Regulation, together with their Global Warming Potentials. In the light of revisions provided for by Article 5(3) of the Kyoto Protocol and accepted by the Community and its Member States, Annex I may be reviewed and if appropriate may then be updated.

This Regulation addresses the containment, use, recovery and destruction of the fluorinated greenhouse gases listed in Annex I; the labelling and disposal of products and equipment containing those gases; the reporting of information on those gases; the uses referred to in Article 7 and the placing on the market of the products and equipment referred to in Article 8 <sup>4</sup>; and the training and certification of personnel involved in activities provided for by this Regulation.

This Regulation shall apply without prejudice to Council Directive 75/442/EEC, Council Directive 96/61/EC, to Directive 2000/53/EC of the European Parliament and of the Council and to Directive 2002/96/EC of the European Parliament and of the Council. <sup>5</sup>

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<sup>3</sup> **DELETED**: positive scrutiny reservation.

<sup>4</sup> **DELETED** suggests following addition: “The competent national authorities may grant exemptions from the requirements laid down in Articles 3, 4 and 5 for military use provided that the environmental requirements stated in these Articles are met to the extent technically feasible.”.

<sup>5</sup> **DELETED**, supported by **DELETED**, suggests an additional paragraph: “Member States may, in order to comply with their respective emission reduction targets as decided in Decision 2002/358/EC, maintain or introduce stricter national provisions reducing the use of substances that comply with the requirements of this Regulation.”; **DELETED**: against.

## *Article 2*

### **Definitions**

For the purposes of this Regulation the following definitions shall apply:

- (a) “Fluorinated greenhouse gases”, for the purposes of this Regulation, means hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>) as listed in Annex I and preparations containing those substances, but excludes substances controlled under Regulation (EC) No 2037/2000;
- (b) “Hydrofluorocarbon” means an organic compound consisting of carbon, hydrogen and fluorine, and where no more than six carbon atoms are contained in the molecule;
- (c) “Perfluorocarbon” means an organic compound consisting of carbon and fluorine only, and where no more than six carbon atoms are contained in the molecule;
- (d) “Global Warming Potential” expresses the climatic warming potential of a greenhouse gas relative to that of carbon dioxide. The standard Global Warming Potential (GWP) is calculated in terms of the 100 year warming potential of one kilogram of a gas relative to one kilogram of CO<sub>2</sub>. The GWP figures listed in Annex I are taken from the third assessment report (TAR) adopted by the Intergovernmental Panel on Climate Change (“2001 IPCC GWP values” \*);

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\* IPCC Third Assessment Climate Change 2001. A Report of the Intergovernmental Panel on Climate Change (<http://www.ipcc.ch/pub/reports.htm>).

- (e) “preparation” means for the purposes of the obligations in this Regulation, excluding destruction, a mixture composed of two or more substances at least one of which is a fluorinated greenhouse gas, except where the total global warming potential of the preparation is less than 150 <sup>6</sup>. The total global warming potential <sup>\*</sup> of the preparation shall be determined in accordance with Part 2 of Annex I to this Regulation;
- (f) “operator” means the natural or legal person exercising actual power over the technical functioning of the equipment and systems covered by this Regulation, a Member State may, in defined, specific situations designate the owner as being responsible for the operator's role;
- (g) “placing on the market” means the supplying of or making available to third persons, against payment or free of charge, products and equipment containing or whose functioning relies upon fluorinated greenhouse gases <sup>7</sup> by a producer or an importer for the first time in the European Union;
- (ga) “use” means the utilisation of fluorinated greenhouse gases in the production, refilling, servicing or maintenance of products and equipment covered by this Regulation;

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<sup>6</sup> **DELETED** suggests GWP of 50; **DELETED** would like to see a lower GWP than 150; **DELETED**: concerned that this is inconsistent with Annex I as there are several gases, contained in the Annex, with a GWP less than 150; **DELETED**: scrutiny reservation.

<sup>\*</sup> For the calculation of the GWP of non-fluorinated greenhouse gases in preparations, the values published in the First IPCC Assessment shall apply, see: Climate Change, The IPCC Scientific Assessment, J.T. Houghton, G.J. Jenkins, J.J. Ephraums (ed.), Cambridge University Press, Cambridge (UK) 1990.

<sup>7</sup> **DELETED**: delete the rest of this definition.

- (h) “heat pump” means a device or installation that extracts heat at low temperature from air, water or earth and supplies heat;
- (ha) “leakage detection system” means a calibrated mechanical, electrical or electronic device for detecting leakage of fluorinated greenhouse gases which, on detection, shall alert the operator;
- (hb) “hermetically sealed system” means a system in which all refrigerant containing parts are made tight by welding, brazing or a similar permanent connection;
- (i) “container” means a product which is designed primarily for transporting or storing fluorinated greenhouse gases;
- (ia) “a non-refillable container” means a container that is designed not to be refilled and is used in: the service, maintenance or filling of refrigeration, air-conditioning or heat pump equipment, fire protection systems or high-voltage switchgear; or to store or transport fluorinated greenhouse gas based solvents;
- (j) “recovery” means the collection and storage of fluorinated greenhouse gases from, for example, machinery, equipment and containers;
- (k) “recycling” means the reuse of a recovered fluorinated greenhouse gas following a basic cleaning process;
- (l) “reclamation” means the reprocessing of a recovered fluorinated greenhouse gas in order to meet a specified standard of performance;

- (m) “destruction” means the process by which all or most of a fluorinated greenhouse gas is permanently transformed or decomposed into one or more stable substances which are not fluorinated greenhouse gases;
- (n) “novelty aerosol” means those aerosol generators marketed and intended for sale to the general public for entertainment and decorative purposes as listed in the Annex to Directive 94/48/EC.

### *Article 3*

#### **Containment**

1. Operators of the following stationary applications: refrigeration, air conditioning and heat pump equipment and fire protection systems, which contain gases listed in Annex I, shall, using all measures which are technically feasible and do not entail disproportionate cost:
  - prevent leakage of these fluorinated greenhouse gases; and
  - as soon as possible repair any detected leakage.
2. Operators of the applications referred to in paragraph 1, shall ensure that they are inspected for leakage by certified personnel who comply with the requirements of Article 5, according to the following schedule:

- (a) applications containing 3 kg or more of fluorinated greenhouse gases shall be inspected at least once every twelve months, this shall not apply to equipment with hermetically sealed systems, which are labelled as such and contain less than 6 kg of fluorinated greenhouse gases;
- (b) applications containing 30 kg or more of fluorinated greenhouse gases shall be inspected at least once every six months;
- (c) applications containing 300 kg or more of fluorinated greenhouse gases shall be inspected at least once every three <sup>8</sup> months.

The applications must be inspected for leakage within one month after a leak has been repaired to ensure that the repair has been effective. <sup>9</sup>

For the purposes of this paragraph, “inspected for leakage” means that the equipment or system is examined primarily for leakage using direct or indirect measuring methods, focusing on those parts of the equipment or system most likely to leak.

- 3. Operators of the applications referred to in paragraph 1, containing 300 kg or more of fluorinated greenhouse gases, shall install leakage detection systems. These leakage detection systems shall be inspected at least once every twelve months to ensure their proper functioning.
- 4. Where a properly functioning appropriate <sup>10</sup> leakage detection system is in place, the frequency of the inspections required under paragraph 2 (b) and (c) shall be halved.
- 5. In the case of fire protection systems where there is an existing inspection regime in place to meet ISO 14520 standard, these inspections may also fulfil the obligations of this Regulation as long as those inspections are at least as frequent.

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<sup>8</sup> **DELETED** suggests 6 months, then paragraph 4 could apply only to paragraph 2(6).

<sup>9</sup> **DELETED**: insert “A further leakage detection check shall be carried out every three months in the case of letter (b) and monthly in the case of letter (c). This check will focus on those parts of the equipment or system most likely to leak, in particular, the compressors and valves and shall be carried out using a leakage detection system.”.

<sup>10</sup> **DELETED** would prefer “stationary”.



6. Operators of the applications referred to in paragraph 1, containing 3 kg or more of fluorinated greenhouse gases, shall maintain records on the quantity and type of fluorinated greenhouse gases installed, any quantities added and the quantity recovered during maintenance, servicing and final disposal. They shall also maintain records of other relevant information including the identification of the company or servicing technician who performed the maintenance or servicing; as well as the dates and results of the inspections [...] carried out under paragraphs 2, 3 and 4. The records shall be made available on request to the competent authority and to the Commission.
7. By the date of entry into force of this Regulation, the Commission shall establish, in accordance with the procedure laid down in Article 10, the standard inspection requirements for each of the applications referred to in Article 3(1).<sup>11</sup>

#### *Article 4*

#### **Recovery**

1. Operators of the following types of stationary<sup>12</sup> equipment shall be responsible for putting in place arrangements for the proper recovery by certified personnel, who comply with the requirements of Article 5, of fluorinated greenhouse gases to ensure their recycling, reclamation or destruction:
- (a) the cooling circuits of refrigeration, air-conditioning and heat pump equipment;
  - (b) equipment containing fluorinated greenhouse gas based solvents;
  - (c) fire protection systems and fire extinguishers; and
  - (d) high voltage switch gear.

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<sup>11</sup> **DELETED** would prefer to define inspection for each type of application now, in the Regulation. **DELETED**: scrutiny reservation.

<sup>12</sup> **DELETED**: against; **DELETED**: scrutiny reservation.

2. When a refillable or non-refillable fluorinated greenhouse gas container reaches the end of its life the person utilising the container for transport or storage purposes shall be responsible for putting in place arrangements for the proper recovery of any residual gases it contains to ensure their recycling, reclamation or destruction.
3. The fluorinated greenhouse gases contained in other products and equipment, <sup>13</sup> except mobile equipment serving military operations, shall, to the extent that it is technically feasible and does not entail disproportionate cost, be recovered by appropriately qualified personnel, to ensure their recycling, reclamation or destruction. <sup>14</sup>
4. Recovery, for the purpose of recycling, reclamation or destruction of the fluorinated greenhouse gases, pursuant to paragraphs 1 to 3, shall take place before the final disposal of that equipment and, when appropriate, during its servicing and maintenance.

#### *Article 5*

#### **Training and certification**

1. By the date of entry into force of this Regulation, on the basis of information received from Member States and in consultation with the relevant sectors, the Commission shall establish, in accordance with the procedure laid down in Article 10, minimum requirements and mutual recognition for training programmes and certification for the relevant companies <sup>15</sup> and the personnel involved in the activities provided for in Articles 3 and 4.

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<sup>13</sup> **DELETED** suggests “except [...] equipment serving military operations and installations, shall to the extent that it is technically feasible and does not entail disproportionate cost, be recovered by [...] personnel, who comply with the requirements of Article 5.....”.

<sup>14</sup> **DELETED**: concern as to what is covered by this paragraph; would like some clarification from the Commission; **DELETED**: proposal for this paragraph “Operators of mobile equipment pursuant to para 1 letter (a) to (d) containing fluorinated greenhouse gases except mobile equipment serving military operations shall to the extent that it is technically feasible and does not entail disproportionate cost be responsible for putting in place arrangements for the proper recovery of these gases by certified personnel who comply with the requirements of Art. 5 and for ensuring their recycling, reclamation or destruction”; Cion: against; **DELETED**: positive scrutiny reservation.

<sup>15</sup> **DELETED**: reservation.

2. Within one year of the date of entry into force of this regulation Member States shall establish or adapt their own training and certification requirements, on the basis of the minimum requirements referred to in paragraph 1. Member States shall notify the Commission of their training and certification programmes. Member States shall give recognition to the certificates issued in another Member State and shall not restrict the freedom to provide services or the freedom of establishment for reasons relating to the certification issued in another Member State.
3. The operator of the relevant application shall ensure that the relevant personnel have obtained the necessary certification, referred to in paragraph 2, which implies a level of knowledge of the applicable regulations and standards as well as the necessary competence in emission prevention and recovery of fluorinated greenhouse gases and handling safely the relevant type and size of equipment.
4. Within two years of the date of entry into force of this Regulation, Member States shall ensure that the companies involved in carrying out the activities provided for in Articles 3 and 4, shall only take delivery of fluorinated greenhouse gases where their relevant personnel hold the certificates mentioned in paragraph 2.
5. By the date of entry into force of this Regulation, the Commission, in accordance with the procedure laid down in Article 10, shall determine the format of the notification referred to in paragraph 2.

## *Article 6*

### **Reporting**

1. By 31 March each year from the first calendar year following entry into force of this Regulation, each producer, importer and exporter, shall communicate to the Commission, sending the same information to the competent authority of the Member State concerned, the following data in respect of the preceding calendar year:
  - a) Each producer of fluorinated greenhouse gases who produces more than one tonne per annum shall communicate:
    - the total production of each fluorinated greenhouse gas in the Community, identifying the main categories of applications (e.g. mobile air-conditioning, refrigeration, air-conditioning, foams, aerosols, electrical equipment, semi-conductor manufacture) in which the substance is expected to be used;
    - the quantities of each fluorinated greenhouse gas placed on the market in the Community;
    - any quantities of each fluorinated greenhouse gas recycled, reclaimed or destroyed.
  - b) Each importer of fluorinated greenhouse gases who imports more than one tonne per annum, including any producers who also import, shall communicate:
    - the quantity of each fluorinated greenhouse gas imported or placed on the market in the Community, separately identifying the main categories of applications (e.g. mobile air-conditioning, refrigeration, air-conditioning, foams, aerosols, electrical equipment, semi-conductor manufacture) in which the substance is expected to be used;
    - any quantities of each used fluorinated greenhouse gas imported for recycling, for reclamation or for destruction.

- c) Each exporter of fluorinated greenhouse gases who exports more than one tonne per annum, including any producers who also export, shall communicate:
- the quantities of each fluorinated greenhouse gas exported from the Community;
  - any quantities of each used fluorinated greenhouse gas exported for recycling, for reclamation or for destruction.
2. The format of the report referred to in paragraph 1 shall be established in accordance with the procedure laid down in Article 10 by the date of entry into force of this Regulation.
3. The Commission shall take appropriate steps to protect the confidentiality of the information submitted to it.
4. Member States shall establish reporting systems for the relevant sectors referred to in this Regulation, with the objective of acquiring, to the extent possible, emission data.

## *Article 6A*

### **Labelling**

1. Without prejudice to the provisions of Council Directive 67/548/EEC and of Directive 1999/45/EC of the European Parliament and of the Council on the labelling of dangerous substances and preparations, the products and equipment, listed in paragraph 2, containing fluorinated greenhouse gases shall not be placed on the market unless the chemical name of the fluorinated greenhouse gases are identified using the accepted industry nomenclature, with a clear indication that the product contains fluorinated greenhouse gases, and this is clearly and indelibly stated on the product or equipment, adjacent to the service points for charging or recovering the fluorinated greenhouse gas, or on that part of the product or equipment which contains the fluorinated greenhouse gas. Hermetically sealed systems should be labelled as such.
2. Paragraph 1 shall apply to the following types of equipment and products:
  - a) refrigeration equipment and products which contain perfluorocarbons or preparations containing perfluorocarbons;
  - b) refrigeration <sup>16</sup> equipment and products, fire protection systems and fire extinguishers, [...] if the respective type of equipment or product contains hydrofluorocarbons or preparations containing hydrofluorocarbons;
  - c) switch gear which contains sulphur hexafluoride or preparations containing sulphur hexafluoride; and
  - d) all fluorinated greenhouse gas containers.
3. The Commission shall establish, in accordance with the procedure laid down in Article 10, the form of the label to be used.

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<sup>16</sup> **DELETED** suggests “b) refrigeration and air conditioning equipment and products, heat pumps, fire protection systems...”.

*Article 7*<sup>17</sup>

**Control of use**

1. The use of sulphur hexafluoride or preparations thereof in magnesium die-casting, except where the quantity of sulphur hexafluoride used is below 850 kilograms per year, shall be prohibited from 1 January 2008.
2. The use of sulphur hexafluoride or preparations thereof for the filling of vehicle tyres shall be prohibited from the date of entry into force of this Regulation.

*Article 8*

**Placing on the market**

1. The placing on the market of products and equipment, containing, or whose functioning relies upon, fluorinated greenhouse gases, as listed in Annex II shall be prohibited as specified in that Annex.<sup>18</sup>
2. Paragraph 1 shall not apply to products and equipment shown to be manufactured before the date of entry into force of the relevant placing on the market prohibition.

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<sup>17</sup> **DELETED**: If this Article is to be based on Article 95, **DELETED** suggests an additional paragraph as a minimum increase to environmental ambition of this Article:  
“The use of fluorinated gases for the production of the applications listed in Annex II shall be prohibited from the dates specified in that Annex. This paragraph does not apply to the production for export.”

**DELETED** support this proposal; **DELETED**/Cion: against; **DELETED**: scrutiny reservation.

<sup>18</sup> **DELETED**, supported so far by **DELETED**, has suggested it may be preferable to prohibit the placing on the market of the gases themselves; however, **DELETED** would be prepared to show flexibility on this point as part of an overall compromise.

## *Article 9*

### **Review**

1. On the basis of progress in potential containment or replacement of fluorinated greenhouse gases in air conditioning systems, other than those fitted to motor vehicles referred to in Council Directive 70/156 EEC, and in refrigeration systems contained in modes of transport the Commission shall review the present Regulation and publish a report by 31 December 2007 at the latest. If appropriate it shall present legislative proposals also with respect to applying the provisions of Article 3 to air conditioning systems, other than those fitted to motor vehicles referred to in Council Directive 70/156 EEC, and refrigeration systems contained in modes of transport.
2. Within four years after the entry into force of this Regulation, the Commission shall publish a report based on the experience of the application of this Regulation. In particular, the report shall:
  - assess the impact of relevant provisions on emissions and projected emissions of fluorinated greenhouse gases and examine the cost-effectiveness of these provisions;
  - in the light of future assessment Reports of the IPCC, whether additional fluorinated greenhouse gases should be added to Annex I;
  - evaluate the training and certification programmes established by Member States under Article 5(2);
  - assess the need for European Community standards relating to the control of emissions of fluorinated greenhouse gases from products and equipment, in particular as regards foam, including technical requirements with respect to the design of products and equipment;
  - evaluate the effectiveness of containment measures carried out by operators under Article 3 and assess whether maximum leakage rates for installations can be established;



- assess and, if appropriate, may modify the reporting requirements in Article 4(1), in particular the one tonne quantitative limit to improve the practical application of those reporting requirements;
- assess the need for the development and dissemination of notes describing best available techniques and best environmental practices concerning the prevention and minimisation of emissions of fluorinated greenhouse gases;
- include an overall summary of the development, both within the EU and at an international level, of the state of technology, in particular as regards foams, experience gained, environmental requirements and any impacts on the functioning of the internal market;
- assess whether the substitution of sulphur hexafluoride in sand casting, permanent mould casting and high-pressure die-casting is technically feasible and cost-effective and, if appropriate, propose a revision of Article 7(1) by 1 January 2009; and review the exemption contained in Article 7(1) in the light of further assessment of the available alternatives by 1 January 2010.

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3. Where necessary, the Commission shall present appropriate proposals for revision of the relevant provisions of this Regulation.

19

**DELETED**: add new indent: "- assess whether to prohibit further fluorinated gases in products and equipments is technically feasible and cost-effective and, if appropriate, make proposals to amend Annex 2 in order to include those applications, such as, general aerosols, stationary, refrigerators, air conditioning and heat pump equipment, dehumidifiers, district heating pipes, tracer gases and flexible polyurethane foams and fire protection systems and fire extinguishers using hydrofluorocarbons.

### *Article 10*

#### **Committee**

1. The Commission shall be assisted by the committee instituted by Article 18 of Regulation (EC) No 2037/2000.
2. Where reference is made to this paragraph, the procedure <sup>20</sup> laid down in Article 5 of Decision 1999/468/EC shall apply, in compliance with Article 7 and Article 8 thereof.
3. The period provided for in Article 5(6) of Decision 1999/468/EC shall be set at three months.

### *Article 11*

#### **Sanctions**

1. Member States shall lay down rules on sanctions applicable to infringements of the provisions of this Regulation and shall take all measures necessary to ensure that such rules are implemented. The sanctions provided for shall be effective, proportionate and dissuasive.
2. Member States shall notify the rules on sanctions to the Commission by one year after the entry into force of this Regulation and shall also notify it without delay of any subsequent amendment affecting those rules.

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<sup>20</sup> Cion: reservation; maintains original proposal for the management procedure.

*Article 12*

**Entry into force**

This Regulation shall enter into force twelve months following the date of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, [...]

For the European Parliament  
The President

For the Council  
The President

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**Part 1**

**Fluorinated greenhouse gases**

<u>Fluorinated greenhouse gas</u>	<u>Chemical Formula</u>	<u>Global Warming Potential</u>
Sulphur hexafluoride	SF <sub>6</sub>	22200
<u>Hydrofluorocarbons (HFCs):</u>		
HFC-23	CHF <sub>3</sub>	12000
HFC-32	CH <sub>2</sub> F <sub>2</sub>	550
HFC-41	CH <sub>3</sub> F	97
HFC-43-10mee	C <sub>5</sub> H <sub>2</sub> F <sub>10</sub>	1500
HFC-125	C <sub>2</sub> HF <sub>5</sub>	3400
HFC-134	C <sub>2</sub> H <sub>2</sub> F <sub>4</sub>	1100
HFC-134a	CH <sub>2</sub> FCF <sub>3</sub>	1300
HFC-152a	C <sub>2</sub> H <sub>4</sub> F <sub>2</sub>	120
HFC-143	C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>	330
HFC-143a	C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>	4300
HFC-227ea	C <sub>3</sub> HF <sub>7</sub>	3500
HFC-236cb	CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	1300
HFC-236ea	CHF <sub>2</sub> CHFCF <sub>3</sub>	1200
HFC-236fa	C <sub>3</sub> H <sub>2</sub> F <sub>6</sub>	9400
HFC-245ca	C <sub>3</sub> H <sub>3</sub> F <sub>5</sub>	640
HFC-245fa	CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	950
HFC-365mfc	CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub>	890
<u>Perfluorocarbons (PFCs)</u>		
Perfluoromethane	CF <sub>4</sub>	5700
Perfluoroethane	C <sub>2</sub> F <sub>6</sub>	11900
Perfluoropropane	C <sub>3</sub> F <sub>8</sub>	8600
Perfluorobutane	C <sub>4</sub> F <sub>10</sub>	8600
Perfluoropentane	C <sub>5</sub> F <sub>12</sub>	8900
Perfluorohexane	C <sub>6</sub> F <sub>14</sub>	9000
Perfluorocyclobutane	c-C <sub>4</sub> F <sub>8</sub>	10000

## Part 2

Method of calculating the total global warming potential (GWP) for a preparation

The total GWP for a preparation is a weighted average, derived from the sum of the weight fractions of the individual substances multiplied by their GWPs.

$$\Sigma (\text{Substance X \%} \times \text{GWP}) + (\text{Substance Y \%} \times \text{GWP}) + \dots (\text{Substance N \%} \times \text{GWP})$$

Where % is the contribution by weight with a weight tolerance of +/- 1%

For example: applying the formula to a theoretical blend of gases consisting of 23% HFC-32; 25% HFC-125 and 52% HFC-134a

$$\Sigma (23\% \times 550) + (25\% \times 3400) + (52\% \times 1300)$$

$$\Rightarrow \text{Total GWP} = 1652.5$$

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**Placing on the market prohibitions in accordance with Article 8**

<b>Fluorinated greenhouse gases</b>	<b>Application</b>	<b>Date of prohibition</b>
Fluorinated greenhouse gases	Non-refillable containers	Date of entry into force
Hydrofluorocarbons and perfluorocarbons	Refrigerants in non-confined direct-evaporation systems	Date of entry into force
Perfluorocarbons	Fire protection systems and fire extinguishers	Date of entry into force
Fluorinated greenhouse gases	Windows for domestic use	Date of entry into force
Fluorinated greenhouse gases	Other windows	One year after the date of entry into force
Fluorinated greenhouse gases	Footwear	1 July 2006
Fluorinated greenhouse gases	Tyres	Date of entry into force
Fluorinated greenhouse gases	One component foams, except when required to meet national safety standards	One year after the date of entry into force
Hydrofluorocarbons	Novelty aerosols	Two years after the entry into force

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<sup>21</sup> **DELETED** support **DELETED** suggestion for ban on cosmetic aerosols; **DELETED** suggests this could be achieved by referring to “aerosols” generally with the exceptions listed in footnote 22 at \*\*\*; **DELETED**: add two new rows as follows: “Fluorinated greenhouse gases / Solvents in installations that are not regulated by other EU or national legislation in relation to their emission rates / Date of entry into force”; “Hydro fluorocarbons / Propellant in signal horns / Date of entry into force”.

22 **DELETED** suggest the following alternative table for Annex II:

Fluorinated greenhouse gases	Application	Date of prohibition
Hydro fluorocarbons Perfluorocarbons	Refrigerants in non-confined direct-evaporation systems	Date of entry into force
Hydro fluorocarbons Perfluorocarbons	Fire protection systems and fire extinguishers *	Date of entry into force
Fluorinated greenhouse gases	Windows	1 July, 2006
Fluorinated greenhouse gases	Footwear	1 July, 2006
Fluorinated greenhouse gases	Tyres	Date of entry into force
Fluorinated greenhouse gases	One component foam **	Date of entry into force
Hydro fluorocarbons	Aerosols ***	Date of entry into force
Fluorinated greenhouse gases	Stationary refrigeration, air-conditioning and heat pump equipment and dehumidifiers with charges with or above 10 kg ****	1 January, 2008
Hydro fluorocarbons	Household refrigerators and freezers with charges less than 150 grams	1 January, 2008
Hydro fluorocarbons	District heating pipes	Date of entry into force
Sulphur hexafluoride	Tracer gas *****	1 January, 2006
Perfluorocarbons	Refrigerant	1 January, 2006
Hydro fluorocarbons	Production of flexible polyurethane foam	1 January, 2006

\* Except for use in military installations and in critical uses (to be defined by the Committee referred to in Article 10).

\*\* Except in uses where safety regulations prohibit the use of alternatives.

\*\*\* Except for medical purposes and for use in confined space where fire standards prevent the use of flammable propellants or where their use is stipulated for maintenance of electrical or electronic components.

\*\*\*\* Except in uses where safety regulations prohibit the use of alternatives or if it does not entail disproportionate cost for the industry.

\*\*\*\*\* Except for use in laboratories.

**DELETED** supports the table, apart from the inclusion of HFCs in row two, the inclusion of row 8 on stationary refrigeration and in row 9 the limit of 150g, **DELETED** suggests 60g, **DELETED** proposes that the three items it cannot support should be included specifically in the review in Article 9.

**DELETED** supports inclusion of row 9 on domestic fridges and, row 13 on flexible foam.

**DELETED** are willing to compromise on the scope of the table if Article 175(1) is recognized as the legal base for the Regulation.

Proposal for a  
**DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL**  
relating to emissions from air conditioning systems in motor vehicles and amending Council  
Directive 70/156/EEC <sup>23</sup>

*Article 1*

**Subject matter**

This Directive lays down the requirements for the EC type-approval or national type-approval of vehicles as regards emissions from, and the safe functioning of, air conditioning systems fitted to vehicles. It also lays down provisions on retrofitting and refilling of such systems.

*Article 2*

**Scope**

The Directive shall apply to motor vehicles of category M1 and N1 as defined in Annex II of Directive 70/156/EEC. For the purpose of this Directive, vehicles of category N1 are limited to those of class I as described in the first table in point 5.3.1.4 of Annex I of Directive 70/220/EEC <sup>\*</sup>, as inserted by Directive 98/69 <sup>\*\*</sup>.

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<sup>23</sup> **DELETED**: general scrutiny reservation; **DK**: parliamentary scrutiny reservation;  
**DELETED**: only prepared to accept this solution for this part of the proposal if the legal base for the Regulation part contained in Annex A of this document is Article 175(1);  
**DELETED** wants to ensure that this legislation remains as environmentally effective as the initial proposal and must be dealt with together with the text contained in Annex A of this document.

<sup>\*</sup> OJ L 76, 6.4. 1970, p. 1.

<sup>\*\*</sup> OJ L 350 , 28.12.1998, p. 1.



*Article 3*  
**Definitions**

For the purposes of this Directive the following definitions shall apply:

- (1) “vehicle” means any motor vehicle falling within the scope of this Directive;
- (2) “vehicle type” means a type as defined in section B of Annex II of Directive 70/156/EEC;
- (3) “air conditioning system” means any system whose main purpose is to decrease the air temperature and humidity of the passenger compartment of a vehicle;
- (4) “dual evaporator system” means a system where one evaporator is mounted in the engine compartment and the other in a different compartment of the vehicle, all other systems shall be considered “single evaporator systems”; <sup>24</sup>
- (5) “fluorinated greenhouse gases” means hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>) as referred to in Annex A of the Kyoto Protocol and preparations containing these substances, but excludes substances controlled under Regulation (EC) No 2037/2000;
- (6) “hydrofluorocarbon” means an organic compound consisting of carbon, hydrogen and fluorine, and where no more than six carbon atoms are contained in the molecule;
- (7) “perfluorocarbon” means an organic compound consisting of carbon and fluorine only, and where no more than six carbon atoms are contained in the molecule;
- (8) “Global Warming Potential” expresses the climatic warming potential of a fluorinated greenhouse gas relative to that of carbon dioxide. The standard Global Warming Potential (GWP) is calculated in terms of the 100 year warming potential of one kilogram of a gas relative to one kilogram of CO<sub>2</sub>. The relevant GWP figures are those published in the third assessment report adopted by the Intergovernmental Panel on Climate Change (“2001 IPCC GWP values”) \*;

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<sup>24</sup> **DELETED**: positive scrutiny reservation.

\* IPCC Third Assessment Climate Change 2001. A Report of the Intergovernmental Panel on Climate Change (<http://www.ipcc.ch/pub/reports.htm>).

- (9) “preparation” means a mixture composed of two or more substances at least one of which is a fluorinated greenhouse gas. The total global warming potential \* of the preparation shall be determined in accordance with Part 2 of the Annex to this Directive;
- (10) “retrofitting” means installing an air conditioning system in a vehicle after it has been registered.

#### *Article 4*

#### **Obligations of the Member States**

1. Member States shall grant, as appropriate, EC type-approval or national type-approval, with regard to emissions from air conditioning systems, only to such vehicle types that satisfy the requirements of this Directive.
2. For the purpose of granting whole vehicle type-approval pursuant to Article 4 (1)(a) of Directive 70/156/EEC, Member States shall ensure that manufacturers supply information on the type of refrigerant used in air conditioning systems fitted to new motor vehicles.
3. For the purpose of type-approval of vehicles equipped with air conditioning systems designed to contain a fluorinated greenhouse gas with a global warming potential higher than 150 <sup>25</sup>, Member States shall ensure that according to the test procedure laid down in Article 7 paragraph 1 the leakage rate of such gases shall not exceed the maximum permissible limits laid down in Article 5.

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\* For the calculation of the GWP of non-fluorinated greenhouse gases in preparations, the values published in the First IPCC Assessment shall apply, see: Climate Change, The IPCC Scientific Assessment, J.T. Houghton, G.J. Jenkins, J.J. Ephraums (ed.), Cambridge University Press, Cambridge (UK) 1990.

<sup>25</sup> **DELETED** suggest that the GWP figure should be changed to 50 throughout the text of the Directive; **DELETED**/Cion: proposal must be technology neutral so would not support lowering of the GWP figure.

*Article 5*  
***Type-approval***

1. With effect from 6 months from the date of adoption of a harmonised leakage detection test, Member States may not, on grounds relating to emissions from air conditioning systems:

- refuse, in respect of a new type of vehicle, to grant EC type-approval, or national type approval, or
- prohibit registration, sale or entry into service of new vehicles

if the vehicle fitted with an air conditioning system designed to contain fluorinated greenhouse gases with a global warming potential higher than 150 complies with the requirements of this Directive.

2. With effect from 12 months from the date of adoption of a harmonised leakage detection test or 1 January 2007, whichever is later <sup>26</sup>, Member States shall no longer grant EC type-approval or national type-approval for a type of vehicle equipped with an air conditioning system designed to contain fluorinated greenhouse gases with a global warming potential higher than 150 <sup>27</sup>, unless the rate of leakage from that system does not exceed 40 grams of fluorinated greenhouse gases per year for a single evaporator system, or 60 grams of fluorinated greenhouse gases per year for a dual evaporator system. <sup>28</sup>

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<sup>26</sup> **DELETED**: 2007; **DELETED**: 1 January 2008.

<sup>27</sup> **DELETED** suggest that the leakage rates should apply to all MACs using fluorinated greenhouse gases, i.e. this should also apply to HFC 152a systems;

**DELETED**: not convinced that this is environmentally justified.

<sup>28</sup> **DELETED** suggests that, given lack of test method, it is too early to put figures on leakage rate; **DELETED**: scrutiny reservation on figure of 60 grams here and in paragraph 3.

3. With effect from 24 months from the date of adoption of a harmonised leakage detection test or 1 January 2008, whichever is later <sup>29</sup>, in respect of new vehicles equipped with air conditioning systems designed to contain fluorinated greenhouse gases with a global warming potential higher than 150, unless the rate of leakage from that system does not exceed 40 grams of fluorinated greenhouse gases per year for a single evaporator system or 60 grams of fluorinated greenhouse gases per year for a dual evaporator system, Member States shall:
- consider certificates of conformity to be no longer valid for the purposes of Article 7(1) of Directive 70/156/EEC, and
  - refuse registration and prohibit sale and entry into service.
4. With effect from 1 January 2011 <sup>30</sup> Member States shall no longer grant EC type-approval or national type-approval for a type of vehicle equipped with an air conditioning system designed to contain fluorinated greenhouse gases with a global warming potential higher than 150.
5. With effect from 1 January 2017 <sup>31</sup>, in respect of new vehicles which are fitted with an air conditioning system designed to contain fluorinated greenhouse gases with a global warming potential higher than 150, Member States shall:
- consider certificates of conformity to be no longer valid for the purposes of Article 7(1) of Directive 70/156/EEC, and
  - refuse registration, and prohibit sale and entry into service.

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<sup>29</sup> **DELETED**: 30 months; **DELETED**: 2007.

<sup>30</sup> **DELETED**: 2009; Cion: 2010; **DELETED** support 2011; **DELETED** can accept current or later deadlines (for both 4 and 5); **DELETED** suggest 2012 (**DELETED**: only if GWP limit is reduced to 50).

<sup>31</sup> **DELETED** suggests 2013, **DELETED** - 2014, **DELETED** - 2015 (could accept a later date if GWP limit is reduced) and Cion - 2016; **DELETED** support 2017; **DELETED** suggest 2018 (**DELETED**: only if GWP limit is reduced to 50);

*Article 6 \**

***Retrofitting and refilling***

1. With effect from 1 January 2011, air conditioning systems designed to contain fluorinated greenhouse gases with a global warming potential higher than 150 shall not be retrofitted to vehicles type-approved from that date. With effect from 1 January 2017, such air conditioning systems shall not be retrofitted to any vehicles.
2. Air conditioning systems fitted to vehicles type-approved on or after 1 January 2011 shall not be filled with fluorinated greenhouse gases with a global warming potential higher than 150. With effect from 1 January 2017 air conditioning systems in all vehicles shall not be filled with fluorinated greenhouse gases with a global warming potential higher than 150, with the exception of refilling of air conditioning systems containing those gases, which have been fitted to vehicles before that date.
3. Service providers offering service and repair for air conditioning systems shall not fill this equipment with fluorinated greenhouse gases if an abnormal amount of the refrigerant has leaked from the system, until the necessary repair has been completed.

*Article 7*

***Implementing measures***

1. Within 12 months of the date of entry into force of this Directive the Commission shall adopt the measures for the implementation of Article 4 and Article 5, and in particular:
  - the administrative provisions for the EC type-approval of vehicles; and
  - a test procedure for measuring the leakage rate of fluorinated greenhouse gases with a global warming potential higher than 150 from air conditioning systems.

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\* Note: The dates in paragraphs (1) and (2) are to be consistent with those in Article 5(4) and (5) and so the positions expressed in footnotes 30 and 31 also apply here.

2. The Commission shall adopt the measures in accordance with the procedure of Article 13 of Directive 70/156/EEC.
3. The Commission shall publish these measures in the *Official Journal of the European Union*.
4. The same procedure shall apply to the adoption, where appropriate, of:
  - measures needed to ensure the safe functioning and proper servicing <sup>32</sup>of refrigerants in mobile air conditioning systems;
  - measures relating to the retrofitting of in-use vehicles with air conditioning systems and the refilling of in-use air conditioning systems to the extent not covered by Art. 6;
  - the adaptation of the method of determining the relevant global warming potential of preparations.

#### *Article 8*

##### ***Review***

1. On the basis of progress in potential containment of emissions from, or replacement of, fluorinated greenhouse gases in air conditioning systems fitted to motor vehicles the Commission shall examine:
  - whether the present legislation should be extended to other categories of vehicles, in particular categories M2 and M3 as well as classes II and III of category N1,

33

and publish a report by .....20...\*. Where necessary, it shall present appropriate legislative proposals.

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<sup>32</sup> **DELETED**: scrutiny reservation.

<sup>33</sup> **DELETED** suggests adding second indent “- whether, in the future, the GWP limit of 150 should be reduced to 50”; Cion/**DELETED**: against.

\* Five years from the date of entry into force; Cion: against.

2. Where a fluorinated greenhouse gas with a global warming potential higher than 150, which is not yet covered by the IPCC report referred to in Article 3(8), is included in a future report of IPCC, the Commission shall assess, whether it is appropriate to amend this Directive in order to include that gas. If the Commission considers it necessary, it shall, in accordance with the procedure of Article 13 of Directive 70/156/EEC:

- adopt the necessary measures; and
- define transition periods for the application of these measures. In doing so the Commission will strike a balance between the need for an appropriate lead-time and the risk that the fluorinated greenhouse gas poses to the environment.

#### *Article 9*

#### ***Amendments to Directive 70/156/EEC***

Directive 70/156/EEC is amended in accordance with Part 1 of the Annex to this Directive.

#### *Article 10*

#### ***Transposition***

1. Member States shall adopt and publish by [*18 months after the entry into force*] at the latest, the laws, regulations and administrative provisions necessary to comply with this Directive. \*

They shall apply those provisions from [*18 months and one day after the entry into force*].  
When Member States adopt these provisions, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

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\* Note: Standard recital on correlation of new provisions to be included: “The Council, in accordance with paragraph 34 of the Interinstitutional agreement on better law-making, should encourage Member States to draw up, for themselves and in the interest of the Community, their own tables, which will, as far as possible, illustrate the correlation between the Directive and the transposition measures and to make them public.”

2. Member States shall communicate to the Commission the text of the main provisions of national law, which they adopt in the field covered by this Directive.

*Article 11*

***Entry into force***

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

*Article 12*

***Addressees***

This Directive is addressed to the Member States.

Done at Brussels, [...]

*For the European Parliament*  
*The President*  
[...]

*For the Council*  
*The President*  
[...]



**Part 1**

Directive 70/156/EEC is amended as follows:

1. In Annex IV, part I, a new item numbered [61], and footnote, is inserted as follows:

Subject	Directive number	Official journal reference	Applicability									
			M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>
['61]. Air conditioning system	[.../.../EC]	L ..., ..., p. ..	X			X <sup>(8)</sup>						

<sup>(8)</sup> Only for vehicles of category N<sub>1</sub> and class I as described in the first table in point 5.3.1.4. of Annex I of Directive 70/220/EEC as inserted by Dir 98/69'

2. Annex XI of Directive 70/156/EEC is amended as follows:

- (a) In Appendix 1 a new item numbered [61] is inserted as follows:

Item	Subject	Directive number	M <sub>1</sub> ≤ 2 500 ( <sup>1</sup> ) kg	M <sub>1</sub> > 2 500 ( <sup>1</sup> ) kg	M <sub>2</sub>	M <sub>3</sub>
['61]	Air conditioning system	[.../.../EC]	X	X'		

- (b) In Appendix 2 a new item numbered [61] is inserted as follows:

Item	Subject	Directive number	M <sub>1</sub>	M <sub>2</sub>	M <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>
['61]	Air conditioning system	[.../.../EC]	X			W'						

- (c) In Appendix 3 a new item numbered [61] is inserted as follows:

Item	Subject	Directive number	M <sub>2</sub>	M <sub>3</sub>	N <sub>1</sub>	N <sub>2</sub>	N <sub>3</sub>	O <sub>1</sub>	O <sub>2</sub>	O <sub>3</sub>	O <sub>4</sub>
['61]	Air conditioning system	[...../.../EC]			W'						

- (d) In "Meaning of letters" the following letter is added:

'W Only for vehicles of category N<sub>1</sub> class I as described in the first table in point 5.3.1.4. of Annex I of Directive 70/220/EEC as inserted by Directive 98/69'

## Part 2

Method of calculating the total global warming potential (GWP) for a preparation

The total GWP for a preparation is a weighted average, derived from the sum of the weight fractions of the individual substances multiplied by their GWPs.

$$\Sigma (\text{Substance X \%} \times \text{GWP}) + (\text{Substance Y \%} \times \text{GWP}) + \dots (\text{Substance N \%} \times \text{GWP})$$

Where % is the contribution by weight with a weight tolerance of +/- 1%

For example: applying the formula to a theoretical blend of gases consisting of 23% HFC-32; 25% HFC-125 and 52% HFC-134a

$$\Sigma (23\% \times 550) + (25\% \times 3400) + (52\% \times 1300)$$

$$\Rightarrow \text{Total GWP} = 1652.5$$

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