



European Environment Agency



## Company reporting for Regulation (EU) No 517/2014 on fluorinated greenhouse gases

### Frequently Asked Questions

(F-gases FAQ: version 2.3, 6 February 2017)

#### Introduction

The new [Regulation \(EU\) No 517/2014](#) ('the Regulation') strengthens existing measures on fluorinated greenhouse gases (hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF<sub>6</sub>)) and introduces a number of far-reaching changes that will reduce emissions significantly.

The Regulation requires companies to report on production, import, export, feedstock use and destruction of fluorinated greenhouse gases and other greenhouse gases that contain fluorine. The reporting format is established by the [Commission Implementing Regulation \(EU\) No 1191/2014](#).

Companies must submit their reports using the electronic reporting tool provided by the European Environmental Agency (EEA), accessible from the [F-gas portal](#) on the website of the European Commission. Further guidance and a manual on how to use the BDR is provided online in the help section of the BDR at: <https://bdr.eionet.europa.eu/help>.

The aim of this document is to provide guidance to companies that are subject to reporting requirements without prejudice to the obligations contained in the Regulations. It is structured as answers to questions that might be asked by those entities concerning gas data reporting obligations. This guidance document shall not be understood as having a legal status.

#### Acknowledgement

The F-gases Frequently Asked Questions (F-gases FAQ) document was prepared for DG CLIMA by the European Environment Agency's (EEA) European Topic Centre for Air and Climate Mitigation (ETC/ACM). The authors were Wolfram Jörß and Graham Anderson (ETC/ACM partner Öko-Institut e.V.) and Barbara Gschrey and Winfried Schwarz (ETC/ACM partner Öko-Recherche GmbH). The EEA coordinator was Peder Gabrielsen.

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## 1. Definitions

### 1.1. What are F-gases gases?

The term *F-gases* as used in this document means any of the gases or mixtures defined in the Regulation. The gases to be reported in accordance with Article 19 of the Regulation are outlined below. These gases are listed in Annexes I and II of the Regulation which are reproduced under headings 7 and 8 of this document.

Annex I of the Regulation lists 'Fluorinated greenhouse gases'. These are:

1. Hydrofluorocarbons (HFCs),
2. Perfluorocarbons (PFCs),
3. Other perfluorinated compounds (sulphur hexafluoride (SF<sub>6</sub>)).

A list of these gases, their CAS numbers<sup>1</sup>, their Global Warming Potential (GWP) along with their typical applications is included near the end of this document under heading 7.

Annex II of the Regulation lists 'Other Fluorinated Greenhouse gases'. These are

1. Unsaturated hydro(chloro)fluorocarbons,
2. Fluorinated ethers and alcohols,
3. Other perfluorinated compounds.

A list of these gases and their GWP is included under heading 8 of this document.

### 1.2. What is a mixture?

A mixture means a gas or fluid composed of two or more substances, at least one of which is a substance listed in Annex I or Annex II of the Regulation. A list of the most commonly used mixtures is included under heading 11 of this document. Mixtures are commonly referred to as 'blends'.

### 1.3. What does 'global warming potential' (GWP) mean?

Each F-gas has a 'global warming potential' (GWP) assigned to it. For a mixture, the GWP is calculated on the basis of the individual components of that mixture (for the calculation scheme, please refer to heading 9 of this FAQ document). GWP is a relative measure of the warming potential of any gas compared to a corresponding amount of CO<sub>2</sub>.

The GWPs of F-gases and of common mixtures are listed under headings 7, 8 and 11 of this FAQ document.

### 1.4. What is 'placing on the market'?

In the context of the reporting requirements, as defined in Article 2 of the Regulation, placing on the market means supplying or making available to another party in the Union for the first time, for payment or free of charge, or using for its own account in the case of a producer, and includes customs release for free circulation in the European Union (EU)<sup>2</sup> (Article 2(10) of the Regulation).

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<sup>1</sup> A CAS Number is a unique numerical identifier assigned by [Chemical Abstracts Service \(www.cas.org\)](http://www.cas.org) to every chemical substance described in the open scientific literature.

<sup>2</sup> The 28 Member States of the EU are: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

**1.5. What is 'a feedstock'?**

A feedstock is any substance that undergoes chemical transformation in a process by which the chemical is entirely converted from its original composition and whose emissions are insignificant.

**1.6. What is 'reclamation'?**

Reclamation means the reprocessing of a recovered gas in order to match the equivalent performance of a virgin substance, taking into account its intended use.

**1.7. What is 'recycling'?**

Recycling means the reuse of a recovered gas following a basic cleaning process.

**1.8. What is 'destruction'?**

Destruction means the process of permanently transforming or decomposing all or most of an F-gas into one or more stable substances that are not F-gases.

**1.9. What date does an import take place on?**

Some companies may have difficulty in determining the date of import. While there is no legal definition of import date, it is common procedure to use the day of the first customs clearance (no matter whether as release for free circulation or other customs procedure) as the date of import.

## **2. Who needs to submit a report?**

### **2.1. What are the thresholds subject to obligatory reporting?**

Article 19 of the Regulation defines activity thresholds for the reporting obligation. Each company that exceeds the thresholds during the preceding calendar year must submit a report by 31 March every year. The thresholds refer to the sum of F-gases or mixtures; they are not to be understood as to apply for each gas separately. The new reporting requirements affect each:

1. producer, importer and exporter that produced, imported or exported one metric tonne or 100 tonnes of CO<sub>2</sub> equivalent or more of F-gases. The reportable quantity of F-gases imported or exported covers bulk shipments, including gases shipped with equipment for the purpose of charging that equipment.
2. company that destroyed 1 metric tonne or 1 000 tonnes of CO<sub>2</sub> equivalent or more of F-gases;
3. company that used 1 000 tonnes of CO<sub>2</sub> equivalent or more of F-gases as feedstock;
4. company that placed on the EU market 500 tonnes of CO<sub>2</sub> equivalent or more of F-gases contained in imported products or equipment where the gases had not been placed on the market previously. Note that placing on the EU market (see definition in question 1.4 above) may take place in a year subsequent to the import year.

Furthermore, quota authorisations given by producers or importers to importers of HFC-containing equipment need to be reported without any threshold.

### **2.2. How to determine if my operation exceeds the reporting thresholds?**

Some reporting thresholds are defined in units of CO<sub>2</sub> equivalents (see question 2.1). In order to convert the weight of F-gases into CO<sub>2</sub> equivalents, use the GWPs as specified in Annexes I and II of the Regulation. These are reproduced under headings 7 and 8 of this document. For the GWP of mixtures, please refer to method for calculating GWPs as specified in Annex IV of the Regulation which is reproduced under headings 9 and 10 at the end of this document.

### **2.3. Is my company considered as an importer or an exporter?**

Companies are considered to be importers or exporters only if they import or export F-gases from/to countries outside the EU. Trade between EU Member States is not considered import/export.

Usually importers and exporters will be EU based companies, however non-EU companies may import or export by means of an 'only representative' which is established in the EU. In such cases the 'only representative' is obliged to submit a report (on behalf of the non-EU company).

Companies are not considered to be importers/exporters if they only buy or sell F-gases to companies in other Member States of the European Union. Shipments between Member States of the EU are not considered to be imports/exports.

Trade with specific territories which are not part of the EU is considered to be import or export.

In cases of doubt you should contact your [National Contact Points for F-gases](#) or the entity designated by the European Commission. A list of the Member States contact points is also provided in the relevant web page of DG Clima (<http://ec.europa.eu/clima/policies/f-gas/reporting/>).

### **2.4. Who has to submit the report: the producer or the agent?**

If a company produces F-gases which are then exported by an agent, the responsibility depends on the conditions of the trade and what is meant by "agent". The reporting obligation applies to the importer or exporter which is the entity that is indicated on the customs documentation as importer/exporter ("Consignee"/"Consignor").

A typical customs agent only acts on behalf of someone else much like a secretary. They will not import/export in their own name. However, "agent" could also refer to a retailer or re-packager. In this case there is a placing on the market between the producer and the "agent" who exports. In this case the producer is not performing the export and the "agent" is responsible for the reporting.

## **2.5. As an 'only representative' do I have to report?**

The obligation to have a quota and report rests on the importer. If a non-EU company imports into the EU, and wishes to use its own quota, they have to make sure they are the importer. Having an 'only representative' company gives them the 'seat' in the EU, in order to hold quota and act as an importer. A non-EU company is free to use customs agents to handle administration procedures for them but should make sure that they (the non-EU company) remain the "Consignee" on the import sheet. This is how they would prove to any verifier that they (the non-EU company) were the importer. The only representative has the obligation to report on the activities (imports or others) of the non-EU company.

## **2.6. I sell products containing F-gases, how should I report?**

Importers of products or equipment containing F-gases from non-EU countries into the EU should:

- specify in 'Year & Activities' in the questionnaire that you import equipment<sup>3</sup> containing F-gases,
- report on the quantity of imported products/equipment placed on the EU market (see definition in question 1.4) and on the amounts of F-gases in Sheet VII<sup>4</sup>, Reporting Section 11<sup>4</sup>.

EU based manufacturers of products/equipment containing F-gases:

- if the F-gases are from own import: report respective amounts as imports in Sheet I, Reporting Section 2A,
- if the F-gases are from own production: report respective amounts as production in Sheet I, Reporting Section 1A. Note that blending of mixtures is not considered production,
- if the F-gases are purchased on the EU market: do not report.

## **2.7. What about F-gases exported in products or equipment?**

No reporting is required unless you re-export gases within products/equipment where the gases were imported by your company, and where the gases were never placed on the EU market. E.g. under the customs procedure of "inward processing" (see definition in question 1.4). In that case, report in Sheet I<sup>4</sup>, Reporting Section 2B<sup>4</sup> (see also questions 0, 4.8 and 4.8).

## **2.8. Composition of gases received for destruction**

What if the composition of recovered refrigerants received for destruction is unknown?

If you don't know the exact composition of recovered refrigerants received for destruction, report by providing:

- best guess of composition; or if this is impossible,
- 'unspecified mix' (offered among HFC mixtures).

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<sup>3</sup> Such as refrigeration, air conditioning or heat-pump equipment (including components) and/or other products/equipment.

<sup>4</sup> Throughout this document the term '**Reporting Section**' refers to the numbered sections of the online questionnaire which correlate with the numbered sections of Annex I of the [Commission Implementing Regulation \(EU\) No 1191/2014](#). 'Reporting Sections' are numbered in Arabic numerals. The term '**Sheet**' refers to sheets of the online questionnaire. Sheets are numbered in Roman numerals. Each sheet may cover several 'Reporting Sections'.

### **2.9. How should affiliate companies registered in different Member States report?**

A separate report is necessary for each individual company. Several legal entities, e.g. affiliated entities registered in different Member States, should not submit one combined report but each company should report separately. Companies are invited to report on affiliations to other reporting companies on a voluntary basis, see question 6.1.

Most importantly, entities holding quotas should always report as individual entities, not as part of larger conglomerates, corporate groups or affiliations.

### **2.10. How should companies with many facilities report?**

The reporting is made at company level, not facility level. Thus a single report should cover all relevant activities of all facilities operated by the legal entity registered in a Member State, see comment on quota holder in question 2.9 above.

### **2.11. We report ozone-depleting substances, do we also need to report HFCs?**

Ozone-depleting substances (CFCs, HCFCs, halons, methyl bromide, etc.) are covered by Regulation (EC) 1005/2009 which has separate reporting requirements<sup>5</sup>. These substances are not classified as F-fluorinated gases. If your company meets the criteria for submitting reports on F-fluorinated gases (see question 1.1), a separate report about fluorinated gases must also be submitted.

### **2.12. We no longer meet the reporting criteria, do we report?**

We had reportable F-gases last year, but now we don't meet the criteria, should we continue to report?

Only companies which meet the criteria for reporting must submit a report. However, in this case, for reasons of transparency and continuity, you are encouraged to submit a 'Nil report' via the BDR (see question 3.1). A 'Nil report' informs DG CLIMA and the EEA on the fact that you consider your company is not obliged to report. Filling in the comment box enables you to explain why your company is submitting a Nil report.

### **2.13. When F-gases sold/bought between two producers who should report?**

Sometimes producers buy and sell F-gases between themselves for commercial reasons, in these cases, only the original producer should report.

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<sup>5</sup> <http://ec.europa.eu/clima/policies/ozone>



### 3. When and how to report?

In order to report on F-gas activities your company must first be registered at the F-gas portal. A Guidance document is also available for the registration process. What is the reporting deadline?

The report must be submitted by 31 March every year, and should cover your company's activities in the previous calendar year, i.e. from 1 January to 31 December. Note that the BDR system does not allow data entry for earlier years – only for the most recent past year.

#### 3.1. Where do I find the reporting forms?

The format and means for submitting the report has been established by the Implementing Regulation. Companies submit their report using the electronic reporting tool provided by the EEA, accessible from the [F-gas portal \(https://webgate.ec.europa.eu/ods2/\)](https://webgate.ec.europa.eu/ods2/) on the website of the European Commission. The electronic reporting tool is part of the EEA's [Business Data Repository \(BDR\) \(http://bdr.eionet.europa.eu\)](http://bdr.eionet.europa.eu), which has been developed to handle this type of confidential information:

- It offers protection against interception and loss of data.
- There is no need to submit more than once as all stakeholders (DG Clima, EEA, and national competent authorities) have access to the BDR.
- The BDR platform enables quality checks during reporting and also when submitting. This can help to correct any errors before submitting your company's report.
- BDR is transparent, traceable and ensures the confidentiality of the reporting information. All stakeholders have access to the same level of information. In the BDR, you can also see the previous submitted reports of your company.

When using the BDR it is not necessary to send copies of your report to the European Commission or the competent authorities in your Member State. They can access the data submitted to the EEA which means that your submissions made in EEA's BDR are automatically considered as submitted by the European Commission and Member States. However, in the case of any additional communication by e-mail with the EEA ([bdr.helpdesk@eea.europa.eu](mailto:bdr.helpdesk@eea.europa.eu)) you may wish to copy the European Commission and the competent authority in your Member State (addresses: see heading 14) to facilitate their assistance.

All reports are submitted electronically. Do not submit any paper copies. The forms do not need to be signed - you will receive an automatic confirmation after a successful submission. For unsuccessful submissions, for the sake of transparency the rejection of a report is accompanied by feedback files that identify the submission's possible implausibility.

The online questionnaire allows for the voluntary upload of verified reports under 5C (for reports exceeding 10Mt CO<sub>2</sub> eq).

In the unlikely event that serious issues are identified in your report, you will be formally requested to provide additional information at a later stage. For more information on how to report using the BDR you are strongly encouraged to refer to the BDR manual which is available from the help section of the BDR: <https://bdr.eionet.europa.eu/help>.

#### 3.2. What to report if exceeding the threshold for only one or two of the activities?

When completing the online questionnaire, you only need to tick the activities (production, import export, feedstock use, destruction, import of products/equipment) for which the threshold is exceeded. In this way you will be asked to fill in only the forms for the relevant activities in the questionnaire.

### 3.3. Should I report in tonnes or kilograms, and how many decimal places?

The reporting format specified in the Implementing Regulation requires that quantities of F-gases are reported in metric tonnes with accuracy to the third decimal place.

### 3.4. Should I report the quantity of mixtures or the constituents?

Mixtures should generally be reported as mixtures rather than as their constituent gases (an exemption applies for mixtures which were blended within the EU, see 4.3).

The most common mixtures are included in the mixtures short list of the questionnaire, see question 3.5. In case a mixture is not shown in the mixtures short list, please define a new mixture in the questionnaire and specify the composition as per question 3.6.

### 3.5. What mixtures are in the online reporting short list?

The table below lists the mixtures that are included in the online reporting short list. GWP\*

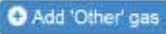
Mixture	Constituents	GWP*
R-404A	HFC-125: 44%; HFC-134a: 4%; HFC-143a: 52%	3 922
R-407A	HFC-32: 20%; HFC-125: 40%; HFC-134a: 40%	2 107
R-407C	HFC-32: 23%; HFC-125: 25%; HFC-134a: 52%	1 774
R-407F	HFC-32: 30%; HFC-125: 30%; HFC-134a: 40%	1 825
R-410A	HFC-32: 50%; HFC-125: 50%	2 088
R-413A	HFC-134a: 88%; PFC-218: 9%; R-600a: 3%	2 053
R-417A	HFC-125: 46,6%; HFC-134a: 50%; R-600: 3,4%	2 346
R-417B	HFC-125: 79%; HFC-134a: 18,3%; R600: 2,7%	3 027
R-422A	HFC-125: 85,1%; HFC-134a: 11,5%; R-600a: 3,4%	3 143
R-422B	HFC-125: 55%; HFC-134a: 42%; R-600a: 3%	2 526
R-422D	HFC-125: 65,1%; HFC-134a: 31,5%; R-600a: 3,4%	2 729
R-423A	HFC-134a: 53%; HFC-227ea: 47%	2 280
R-424A	HFC-125: 50,5%; HFC-134a: 47%; R-600: 1%; R-600a: 0,9%; R-601a: 0,6%	2 440
R-426A	HFC-125: 5,1%; HFC-134a: 93%; R-600: 1,3%; R-600a: 0,6%	1 508
R-427A	HFC-32: 15%; HFC-125: 25%; HFC-134a: 50%; HFC-143a: 10%	2 138
R-428A	HFC-125: 77,5%; HFC-143a: 20%; R-290: 0,6%; R-600a: 1,9%	3 607
R-434A	HFC-125: 63,2%; HFC-134a: 16%; HFC-143a: 18%; R-600a: 2,8%	3 245
R-437A	HFC-125: 19,5%; HFC-134a: 78,5%; R-600: 1,4%; R-601: 0,6%	1 805
R-438A	HFC-32: 8,5%; HFC-125: 45%; HFC-134a: 44,2%; R-600: 1,7%; R-601a: 0,6%	2 265
R-442A	HFC-32: 31%; HFC-125: 31%; HFC-134a: 30%; HFC-152a: 3%; HFC-227ea: 5%	1 888
R-507A	HFC-125: 50%; HFC-143a: 50%	3 985
R-508B	HFC-23: 46%; PFC-116: 54%	13 396

\* The GWP values shown here are rounded. The online system calculates the GWP according to the proportion of each constituent along with the GWPs and method in Annexes I, II and IV of the Regulation. Details from these Annexes are included in this document under headings 7, 8, 9 and 10.

### 3.6. How do I report on a mixture not in the mixture short list?

At the bottom of the **Gases** form, under **Define new mixtures not contained in the shortlist**, choose  then:

- Specify the trade name / industrial designation of the mixture,

- Select any predefined fluorinated gases of Annex I or II of the F-Gas Regulation<sup>6</sup> in the drop-down box on the left and specify the respective weight percentage
- Select gases not listed in Annex I or II of the F-Gas-Regulation<sup>7</sup> in the drop-down box on the right and specify the respective weight percentages.
- For other components (not included in the drop-down box on the right) choose  and specify the name / industrial designation of that component and specify the weight percentage. You may add more than one additional non-Annex I & II component.

### 3.7. How do I determine the GWP of a mixture?

When checking to see if you exceed the reporting obligation threshold (see question 2.1), you may need to calculate the GWP of a mixture. The method for calculating GWPs are specified in Annex IV of the Regulation which is reproduced under headings 9 and 10 at the end of this document.

### 3.8. Do I need to submit the verification of the report?

Two different types of verification or documentation documents may be required:

- A. Verification of the full report (may apply to HFC producers and importers)
- B. Verification supplies of quota-exempted HFCs to exporters reported in sheet II<sup>8</sup>, Reporting Section 5C\_exempted (may apply to HFC producers and importers)

#### A. Verification of the full report

According to Article 19 (6) of the Regulation, the full report must be verified in case the amount of HFCs placed on the market (as automatically calculated in sheet IV, Reporting Section 9C) exceeds 10 000t CO<sub>2</sub> equivalents. The company shall keep the verification report for at least five years and the verification report shall be made available, on request, to the competent authority of the Member State concerned and to the Commission. Reporters exceeding this threshold are required to acknowledge this obligation by ticking a box on sheet IV.

The legal deadline for the verification document to be available is 30 June while the deadline for reporting is 31 March.

However, in case the verification document would be available in time for the reporting deadline, reporters have the option to attach the verification document to their report by means of a file upload in sheet IV. For that purpose, reporters may print out their draft reports, have that document verified, and upload an electronic copy of the verification report before finally submitting the report in the BDR.

Otherwise, reporting companies need to be prepared to make the verification report available, on request, to the competent authority of the Member State concerned and to the Commission, at any time after the 30 June deadline.

#### B. Verification supplies of quota-exempted HFCs to exporters

According to Annex V and Art. 19 (6) of the Regulation, any transactions reported in Sheet II, Reporting Section 5C\_exempted, for the HFC quota exemption of Art 15(2c), supply to exporter of bulk HFCs, need to be verified. The company shall keep the verification report for at least five years and the verification report shall be made available, on request, to the competent authority of the Member State concerned and to the Commission. Reporters meeting this condition are required to acknowledge this obligation by ticking a box on sheet II (see also question 4.11.3).

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<sup>6</sup> Annex I or II are listed under headings 7 & 8 of this document.

<sup>7</sup> For gases not listed in Annex I or II of the F-Gas-Regulation see heading 10 of this document.

<sup>8</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

The legal deadline for the verification report to be available is 30 June while the deadline for reporting is 31 March.

However, in case the verification report would be available in time for the reporting deadline, reporters have the option to attach the verification document to their report by means of a file upload in sheet II.

Otherwise, reporting companies need to be prepared to make the verification report available, on request, to the competent authority of the Member State concerned and to the Commission, at any time after the 30 June deadline.

## 4. Reporting on bulk gases: production, import, export, feedstock use and destruction

### 4.1. Are my imports to be considered bulk or in products/equipment?

Where containers of F-gases are to be refilled before final use, such quantities ought to be reported as 'bulk'. Where gases are contained for example in aerosol cans, such quantities should be reported as import in products.

The word 'bulk' does not necessarily refer to large quantities in. In the reporting context 'bulk' means gas contained in gas containers, ranging from gas bottles to ISO tanks, (as opposed to gas contained in products/equipment).

With imported or exported equipment, all F-gases that are shipped alongside the equipment (for the purpose of charging that equipment later) should be reported as bulk import/export<sup>9</sup> in Sheet I, Reporting Sections 2 and 3I<sup>10</sup>, respectively. However, F-gases contained during shipping within imported products or equipment (i.e. pre-charged equipment) and placed on the EU market (see definition in question 1.4) should be reported in Sheet VII, Reporting Section 11 (see question 4.18).

### 4.2. How are purchases within the European Union reported?

Purchases within the EU are not reported, except if they become parts of mixtures, see question 4.3.

### 4.3. How to report mixtures blended by my company within the EU?

For mixtures blended by your own company, the amounts of mixtures placed on the EU market for the first time should be reported as quantities of mixtures in Sheet I<sup>10</sup>, Reporting Section 1F/1G of the questionnaire. All other information related to those self-blended mixtures **has to be reported**, recalculated to the level of constituents (or other mixtures) used for the blending process, such as:

- exports in Sheet I, Reporting Section 3;
- stocks in Sheet I, Reporting Section 4;
- quota-exempted quantities in Sheet II, Reporting Section 5;
- intended applications in Sheet III, Reporting Section 6,
- feedstock use in Sheet VI, Reporting Section 7,
- destruction in Sheet VI, Reporting Section 8).

Please note that reporting in Section 1F/1G is not used for the calculation of 'placing on the market' of HFCs in the context of HFCs quotas and the HFC phase-down. Calculation of placing on the market in the context of HFC quotas and the HFC phase-down is based on quantities as calculated in Section 4M.

#### Example 1: Production, EU purchases and blending:

A company produces 50t HFC-143a, purchases within the EU 50t HFC-125, blends these amounts into R-507A, exports 20t R507A and sells 80t R-507A on the EU market for air-conditioning uses (either in bulk or filled into equipment). The company will report:

- 50t HFC-143a production (Sheet I, Reporting Section 1A)

<sup>9</sup> Provided that they are shipped to/from countries outside the EU

<sup>10</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

- 10t HFC-143a total export (Sheet I, Reporting Section 3A): HFC-143a share of exported R-507A
- 10t HFC-125 total export (Sheet I, Reporting Section 3A): HFC-125 share of exported R-507A
- 10t HFC-143a export from own import/production (Sheet I<sup>10</sup>, Reporting Section 3B): HFC-143a share of exported R-507A
- 40t HFC-143a intended application: refrigeration, air conditioning and heating (Sheet III, Reporting Section 6D): HFC-143a share of EU-sold R-507A
- 80t R-507A placing on the market (Sheet I, Reporting Section 1F)

**Example 2: Import, EU purchases and re-blending:**

A company imports 88t R-507A, purchases within the EU 4t HFC-134a and 8t HFC-143a, (re-)blends these amounts into 100t R-404A, exports 10t R-404A and sells 90t R-404A on the EU market for air-conditioning uses (either in bulk or filled into equipment). The company will report:

- 88t R-507A import (Sheet I, Reporting Section 2A)
- 8.8t R-507A total export (Sheet I, Reporting Section 3A): R-507A share of exported R-404A
- 0.4t HFC-134a total export (Sheet I, Reporting Section 3A): HFC-134a share of exported R-404A
- 0.8t HFC-143a total export (Sheet I, Reporting Section 3A): HFC-143a share of exported R-404A which had been added to the R-507A
- 8.8t R-507A export from own import/production (Sheet I, Reporting Section 3B): R-507A share of exported R-404A
- 79.2t R-507A intended application: refrigeration, air conditioning and heating (Sheet III, Reporting Section 6D): R-507A share of EU-sold R-404A
- 90t R-404A placing on the market (Sheet I, Reporting Section 1F)
- 90t R-404A placing on the market with mixtures used in blending (Sheet I, Reporting Section 1G)

**Example 3: Production, Import, EU purchases and re-blending:**

A company produces 44t HFC-125, 52t HFC-143a and 4t HFC-134a. The company also imports 88t R-507A, purchases within the EU 4t HFC-134a and 8t HFC-143a and (re-)blends these amounts into 200t R-404A and sells 200t R-404A on the EU market for air-conditioning uses (either in bulk or filled into equipment). The company will report:

- 44t HFC-125 production (Sheet I, Reporting Section 1A)
- 52t HFC-143a production (Sheet I, Reporting Section 1A)
- 4t HFC-134a production (Sheet I, Reporting Section 1A)
- 88t R-507A import (Sheet I, Reporting Section 2A)
- 88t R-507A intended application: refrigeration, air conditioning and heating (Sheet III, Reporting Section 6D): R-507A share of EU-sold R-404A
- 44t HFC-125 intended application: refrigeration, air conditioning and heating (Sheet III, Reporting Section 6D): HFC-125 share from own production of EU sold R-404A
- 52t HFC-143a intended application: refrigeration, air conditioning and heating (Sheet III, Reporting Section 6D): HFC-143a share from own production of EU sold R-404A
- 4t HFC-134a intended application: refrigeration, air conditioning and heating (Sheet III, Reporting Section 6D): HFC-134a share from own production of EU sold R-404A
- 200t R-404A placing on the market (Sheet I, Reporting Section 1F)
- 100t R-404A placing on the market with mixtures used in blending (Sheet I, Reporting Section 1G)

#### 4.4. How are sales within the European Union reported?

There is no complete reporting on sales within the EU. However, the reporting questionnaire contains sections on:

- supplies to the EU market of HFCs exempted from the quota under Art 15 of the Regulation, to be reported in Sheet II<sup>11</sup>, Reporting Section 5 (see questions 4.11.1 to 4.11.6), and
- intended applications of F-gases supplied to the EU market, to be reported in Sheet III, Reporting Section 6 (see question 3.4).

#### 4.5. Reporting on by-products that are F-gases

Do I need to report the production of F-gases produced as by-products?

F-gases produced as a by-product during the production of other chemicals (e.g. HFC-23 from the production of HCFC-22) must be reported as new production only when captured. Reporting Section<sup>11</sup> 1 additionally requires the quantities of production of recovered by-production or unwanted products which have been destroyed or sent to other companies for destruction and had not been placed on the market.

#### 4.6. Import and re-export of bulk F-gases

I import and re-export bulk F-gases, how should I report?

- Report full imports in Sheet<sup>11</sup> I, Reporting Section 2A,
- Report full exports in Sheet I, Reporting Section 3A,
- report exports from own import in Sheet I, Reporting Section 3B
- In case of (re-) blending between import and export, report exports (both 3A & 3B in Sheet I) recalculated to the level of imported gases / mixtures (compare also question 3.4)
- Do not report on exempted exports by your own company in Sheet II, Reporting Section 5C\_exempted

In cases where the bulk re-export takes place in a subsequent year, please see question 4.9.

#### 4.7. Import for inward processing and re-export of equipment

I import bulk F-gases for inward processing and then charge the gases into equipment and re-export the equipment without having placed the gases on the EU market. How should I report?

When the re-exports of F-gases within products or equipment occur in the same year as the bulk imports:

- Report the amounts in Sheet I<sup>11</sup>, both as total imports in Reporting Section 2A and as re-export in products/equipment in Reporting Section 2B.
- Note that in these cases the imported/re-exported amounts will not be counted as placed on the market in 4M.

Where the re-exports of F-gases within products or equipment occur in a later year:

- In your report on the year of import: Report the amounts in Sheet I, both as total imports in Reporting Section 2A and as '31 December stocks from own import/production, not placed on the market' in Reporting Section 4H. (Note that amounts reported in 4H, should be included in the other stocks categories 4F (total stocks) and 4G (stocks from own import or production), as well.)
- In your report on the year of re-export: Report the amounts in Sheet I, both as 're-export within products/equipment' in Reporting Section 2B and as '1st January stocks from own import/production, not placed on the market' in Reporting Section 4C. (Note that amounts

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<sup>11</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

reported in 4C, should be included in the other stocks categories 4A (total stocks) and 4B (stocks from own import or production), as well.)

#### **4.8. Import and sale within equipment in subsequent year**

I import bulk F-gases for inward processing customs procedure and then charge the gases into equipment which is placed on the EU market in the subsequent year. How should I report?

The HFC charge of such equipment stocks as on 31 December must be reported as bulk stocks under 4H (31 Dec stocks from own import, not yet released for free circulation). This makes sure that these charges are not counted as placed on the market for that year. In the year of equipment sales the respective amount will need to be shown in 4C (and will thus be counted as placed on the market).

See also the question on inward processing and equipment re-export addressed in question 0.

#### **4.9. Re-export of previous year's imports**

How do I report on the bulk re-export of the previous year's imports which had been part of our 1<sup>st</sup> January stocks?

For re-export of 1<sup>st</sup> January stocks from own import or production, please report in Reporting Sections<sup>12</sup> 3A and 3B as explained below:

- Year of import: report imports in 2A + and 31<sup>st</sup> December stocks (see also question 4.13) in 4F and 4G (and, in case applicable, in 4H).
- Year of export: reports exports in both 3A and 3B and 1<sup>st</sup> January stocks in 4A (equalling 4F of previous year) and 4B (equalling 4G of previous year) and possibly 4C (equalling 4H of previous year).

#### **4.10. How to determine the imported share of gases sold in the EU, exported or in stocks?**

As noted in question 4.13 for reporting on stocks, companies which both purchase HFCs on the EU market and import (or produce) HFC themselves are not expected to physically track batches stemming from import or EU purchases, in particular in case of own blending (see question 4.3) or partial (re-)export (see questions 4.6 and 4.9). Instead, a plausible mass balance is acceptable.

##### **Example:**

A company has 20t HFC-143a in 1<sup>st</sup> January stocks from own import, already placed on the market. It imports (and gets released by customs for free circulation = places on the market) 30t HFC-143a and 25t of HFC-125, purchases within the EU 25t HFC-125, blends these amounts into R-507A, exports 20t R507A, sells 70t R-507A on the EU market for air-conditioning uses (either in bulk or filled into equipment) and retains 10t R-507A in 31<sup>st</sup> December stocks.

In order to plausibly account for HFC-125 the company may establish an 'HFC-125 import share' of 50% (25t imports / (25t imports + 25t EU purchases)) and apply this to the HFC-125 share of exported and stockpiled R-507A: The company would then report:

- 20t HFC-143a 1<sup>st</sup> January stocks in Sheet I<sup>12</sup>, Reporting Section 4A and 4B
- 30t HFC-143a imports and 25t of HFC-125 imports (Sheet I, Reporting Section 2A)
- 10t HFC-143a total export (Sheet I, Reporting Section 3A): HFC-143a share of exported R-507A
- 10t HFC-125 total export (Sheet I, Reporting Section 3A): HFC-125 share of exported R-507A
- 10t HFC-143a export from own import/production (Sheet I, Reporting Section 3B): HFC-143a share of exported R-507A

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<sup>12</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.



- 5t HFC-125 export from own import/production (Sheet I, Reporting Section 3B): 10t HFC-125 share of exported R-507A, rated with the 50% import share
- 5t HFC-143a 31<sup>st</sup> December stocks in Sheet I, Reporting Section 4F and 4G: HFC-143a share of stockpiled R-507A
- 5t HFC-125 total 31<sup>st</sup> December stocks in Sheet I, Reporting Section 4F: HFC-125 share of stockpiled R-507A
- 2.5t HFC-125 31<sup>st</sup> December stocks from own import in Sheet I, Reporting Section 4G: 5t HFC-125 share of stockpiled R-507A, rated with the 50% import share
- 35t HFC-143a intended application: refrigeration, air conditioning and heating (Sheet III, Reporting Section 6D): HFC-143a share of EU-sold R-507A
- 17.5t HFC-125 intended application: refrigeration, air conditioning and heating (Sheet III, Reporting Section 6D): 35t HFC-125 share of EU-sold R-507A, rated with the 50% import share
- 70t R-507A placing on the market (Sheet I, Reporting Section 1F): EU-sold R-507A

#### 4.11. Reporting on HFCs exempted under Article 15 (2)a - f

Those companies registered as in receipt of HFCs exempted from the HFC quota obligation under *Article 15 (2) a to f* of the Regulation do generally not have to report on these quantities. Companies in receipt of exempted HFCs may be subject to reporting based on their activities, in particular as a destruction company, feedstock user or as an exporter as given below.

However, the companies supplying HFCs exempted under Article 15 (2)a - f continue to have full reporting obligations on quantities. Companies supplying HFCs exempted under Article 15 (2)a - f also have to name those companies to which the gases were supplied.

Reporting on the supply of exempted HFCs is due by 31 March for all such activities carried out in the previous calendar year.

##### 4.11.1. HFCs exempted under Article 15 (2)a (import for destruction)

Reporting on the import of HFCs for destruction is due by 31 March for all such activities carried out in the previous calendar year.

As the **importer** of HFCs for destruction:

- Report in Sheet I<sup>13</sup>, Reporting Section 2A<sup>13</sup> on total imports
- Report in Sheet II, Reporting Section 5A and identify the recipient destruction company (which maybe your own company).
- Make sure that recipient destruction company has registered in the [F-gas portal](#) before you fill in your questionnaire, otherwise recipient destruction company will not be accepted in the questionnaire and you cannot report on the exemption
- Report in Sheet III, Reporting Section 6 on intended applications in line 6B (destruction).

As the **destruction company** in receipt of HFCs imported for destruction: report on your total destruction in Sheet VI, Reporting Section 8, exempted amounts do not need to be specified.

##### 4.11.2. HFCs exempted under Article 15 (2)b (feedstock use)

Reporting on the production, import or use of HFCs for feedstock is due by 31 March for all such activities carried out in the previous calendar year.

Be aware of the definition of feedstock (see question 1.5 of these FAQs). In particular foam blowing is not considered feedstock use.

As the **producer/importer** of HFCs for feedstock use:

- Report in Sheet I<sup>13</sup>, Reporting Sections 1 and 2 on total production and imports

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<sup>13</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

- Report in Sheet II, Reporting Section 5B and identify the recipient feedstock using company (which maybe your own company).
- Make sure that recipient feedstock using company has registered in the [F-gas portal](#) before you fill in your questionnaire, otherwise recipient feedstock using company will not be accepted in the questionnaire and you cannot report on the exemption
- Report in Sheet III, Reporting Section 6 on intended applications in line 6L (feedstock use).

As the **feedstock using company** in receipt of HFCs:

- report on your total feedstock use in Sheet VI, Reporting Section 7A, exempted amounts do not need to be specified.

#### 4.11.3. HFCs exempted under Article 15 (2)c for export

Reporting on the production or import of HFCs for export is due by 31 March for all such activities carried out in the previous calendar year.

As the **importer / producer** supplying the HFCs to an exporting company

- Report in Sheet I<sup>13</sup>, Reporting Sections 1 and 2 on total production and imports
- Report in Sheet II, Reporting Section 5C\_exempted and identify the recipient company.
- Make sure that exporting company has registered in the [F-gas portal](#) before you fill in your questionnaire, otherwise recipient exporting company will not be accepted in the questionnaire and you cannot report on the exemption
- Acknowledge your obligation to have this transaction verified by 30 June (tick box in Sheet II, Reporting Section 5C\_exempted)
- Attach a verification document to your report (upload procedure in Sheet II, Reporting Section 5C\_exempted). If verification documents are not ready at the time of reporting be aware that this is a legal obligation to be complied with by 30 June each year and which should be able to be made available at any time thereafter upon request. It is therefore recommended to upload directly as soon as available.
- Report in Sheet III, Reporting Section 6 on intended applications in line 6A (export).

As the **exporting party**: report on your total exports in Sheet I, Reporting Section 3A, exempted amounts do not need to be specified.

Note that Article 15 (2)c does not apply to companies that export from their own imports. In this case companies do not report these quantities in Sheet II, Reporting Section 5C\_exempted, but instead in Sheet I, Reporting Section 3B (see question 5.4 of these FAQs).

#### 4.11.4. HFCs exempted under Article 15 (2)d, (military equipment)?

Reporting on the production or import of HFCs for military equipment is due by 31 March for all such activities carried out in the previous calendar year.

As the **producer/importer** of HFCs for the exempted uses:

- Report in Sheet<sup>14</sup> I, Reporting Sections 1 and 2 on total production and imports
- Report in Sheet II, Reporting Section 5D, and identify the recipient companies (which maybe your own company).
- Make sure that the recipient company has registered in the [F-gas portal](#) before you fill in your questionnaire, otherwise the recipient company will not be accepted in the questionnaire and you cannot report on the exemption
- Report in Sheet III, Reporting Section 6 on intended applications in line 6C (military equipment).

Companies in receipt of exempted HFCs do not need to report this activity.

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<sup>14</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

#### 4.11.5. HFCs exempted under Article 15 (2)e (semiconductor manufacture)

Reporting on the production or import of HFCs for semiconductor manufacture is due by 31 March for all such activities carried out in the previous calendar year.

As the **producer/importer** of HFCs for the exempted uses:

- Report in Sheet I, Reporting Sections 1 and 2<sup>14</sup> on total production and imports
- Report in Sheet II, Reporting Section 5E, and identify the recipient companies (which maybe your own company).
- Make sure that the recipient company has registered in the [F-gas portal](#) before you fill in your questionnaire, otherwise the recipient company will not be accepted in the questionnaire and you cannot report on the exemption
- Report in Sheet III, Reporting Section 6 on intended applications in line 6M (semiconductor manufacture).

Companies in receipt of exempted HFCs do not need to report this activity.

#### 4.11.6. HFCs exempted under Article 15 (2)f (medical dose inhalers)?

Reporting on the production or import of HFCs for medical dose inhalers is due by 31 March for all such activities carried out in the previous calendar year.

As the **producer/importer** of HFCs for the MDI use:

- Report in Sheet<sup>15</sup>I, Reporting Sections<sup>15</sup> 1 and 2 on total production and imports
- Report in Sheet II, Reporting Section 5F and identify the recipient companies (which maybe your own company).
- Make sure that the recipient company has registered in the [F-gas portal](#) before you fill in your questionnaire, otherwise the recipient company will not be accepted in the questionnaire and you cannot report on the exemption
- Report in Sheet III, Reporting Section 6 on intended applications in line 6J (aerosols – medical dose inhalers).

Companies in receipt of exempted HFCs do not need to report this activity.

#### 4.12. Reporting HFCs supplied to an EU manufacturer for export

How do I report on HFCs that are supplied to an EU manufacturer of products or equipment for later export from the EU?

If you export products or equipment containing quantities from your own import, do not report these quantities as exports in Sheet I<sup>15</sup>, Reporting Section 3. **Reporting of exports is only for bulk exports.**

As the importer / producer supplying HFCs to an EU manufacturer of products or equipment for later export from the EU you may *voluntarily*:

- Report in Sheet I, Reporting Sections 1 and 2 on total production and imports
- Report in Sheet II, Reporting Section 5C\_voluntary and identify the recipient company.

As the exporter of products or equipment charged with HFCs: Do not report on this activity.

In cases you re-export F-gases within products/equipment where the gases were imported by your company, and where the gases had not been placed on the EU market (see definition in question 1.4), please do not report in Reporting Section 5C\_voluntary but rather in Sheet I, Reporting Section 2B (see question 0).

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<sup>15</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

#### 4.13. How should I fill out the forms for stocks?

The reporting of stocks is applicable to producers and (bulk) importers. Information is required on quantities of stocks of F-gases held on 1 January and 31 December of the year being reported on. Reporting Section<sup>15</sup> 4 of the Implementing Regulation specifies three different categories for stocks held at the beginning (4A/4B/4C) and end (4F/4G/4H) of the year:

1. Total (4A/4F),
2. Quantities from own import or production (4B/4G)
3. Quantities from own import or production, previously not placed on the market (4C/4H).

4A/4F does cover your full physical stocks on 1<sup>st</sup> January/31<sup>st</sup> December, no matter where from you may have acquired them.

4B/4G covers that share of your 4A/4F stocks which your company produced or imported into the EU yourselves, i.e. not accounting for amounts which you may have purchased on the EU market. In case you do not purchase on the EU market, 4B/4G will equal 4A/4F. In case you do both purchase a gas on the EU market and import the same gas into the EU, you are not expected to physically track which amounts from EU purchases and imports are sold or end up in 31<sup>st</sup> December stocks respectively. A plausible balancing approach will be sufficient:

Example: HFC-134a: 1<sup>st</sup> January stocks 4A/B/C = zero, imports: 50 t, purchases on the EU market: 10t, exports= zero, EU sales 30t, total 31<sup>st</sup> December stocks 4F= 30t.

In this case the 31<sup>st</sup> December stock from own import/production 4G may plausibly be any number between 20t (if all EU purchases are considered as going into stocks) and 30t (if all EU purchases are considered as having been sold again). It is important that in your next year's report you will need to repeat the same number as your 4B 1<sup>st</sup> January stock from own import/production.

4C/4H refer to the status of 4B/4G stock as being not (yet) 'placed on the market'. For stocks not yet placed on the market, please consider the definition of placing on the market in question 1.4:

**Placing on the market means supplying or making available to another party in the Union for the first time, for payment or free of charge, or using for its own account in the case of a producer, and includes customs release for free circulation in the European Union**

Upon import, some companies choose other customs procedures than "release for free circulation", for example "inward processing", in case they intend to re-export the gases. Such end-of-year stocks are to be reported in 4C/4H. Also producers may hold stocks not yet placed on the market. A proper accounting of 4C/4H HFC stocks is relevant in order to correctly identify a company's annual placing on the market and need of HFC quota.

Furthermore, 'Destruction Companies' should report on total stocks waiting for destruction in Reporting Section 8, without a specification of the source of the material.

#### 4.14. How should I fill out the forms for intended applications?

Reporting best estimates of intended applications is very important as it provides information on how the gases are being used. Typical applications of F-gases are listed in the Annex I of the Regulation which is reproduced under heading 7 of this document.

When filling in the questionnaire please ensure completeness by checking that the 'Total of intended applications' (line 6W in sheet III<sup>16</sup>, Reporting Section 6) equals the 'Total gas supplied to the Union market' (line 6X), as calculated in the online questionnaire.

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<sup>16</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

For HFCs the amounts for intended applications must be equal to or larger than the amount for the same category reported in exemptions (Reporting Section 5).

In case you report on exempted HFCs for military applications in Reporting Section 5, please choose 'military equipment' (6C) as the intended application, even in case the HFCs might in fact be used for example for refrigeration, fire protection or foam applications within the military equipment.

A full list of available categories for intended applications is listed under heading 12 of this FAQ document.

#### **4.15. When do I choose 'export' as the intended application?**

When reporting on intended applications of bulk quantities supplied to the EU market in Reporting Section<sup>16</sup> 6, you should choose Reporting Section 6A 'export' in case the respective quantities are meant for export in bulk. In case of supplies to an EU manufacturer who is going to export products or equipment containing F-gases, the intended application in Reporting Section 6 should be chosen according to the type of product / equipment to be charged with the F-gases.

For a list of application categories, please refer to heading 12 of this FAQ document.

#### **4.16. Heel returns and weighing discrepancies**

How do I report on accountancy adjustments made for differences due to heel returns and weighing discrepancies?

Adjustments can be shown in 6V (Sheet III<sup>17</sup>, Reporting Section 6V) to account for heel returns and weighing discrepancies. All such entries should be accompanied by an explanation in the comment field.

In case of re-exported heel returns it is acceptable to offset imports against re-exported heel returns and thus report on 'net' imports in Reporting Section 2A.

#### **4.17. How do I need to report on HFCs imported for our foam production?**

The import of HFCs is considered as 'placing on the market', even if your company later on just sells the foams containing the F-gases on the EU market. Please report on bulk imports of HFCs on Sheet I<sup>17</sup>, Reporting Section 2. As 'intended application' in Sheet III, Reporting Section 6, foam should be chosen. Please note that foam blowing is not considered to be 'feedstock use'.

#### **4.18. How should feedstock users report?**

- Report in Sheet VI<sup>17</sup>, Reporting Section 7 on actual feedstock use.
- If also importer or producer: amounts imported or produced for own feedstock use to be reported in Sheet I Reporting Section 1A (production) or Reporting Section 2A (import) and additionally in Sheet II, Reporting Section 5B (as exempted quantities of HFCs)

#### **4.19. How should destruction companies report?**

- Report in Sheet VI<sup>17</sup>, Reporting Section 8 on total actual destruction, (specifying the destruction technology) and on stocks of material awaiting destruction
- If also an importer: amounts imported for own destruction should be reported in Sheet I, Reporting Section 2A (as imports) and Sheet II, Reporting Section 5A (as exempted quantities of HFCs)

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<sup>17</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

- If also a producer: destroyed amounts of own production should be additionally reported in Sheet I, Reporting Section 1B.

#### **4.20. Reporting quota authorisations given to equipment importers**

Authorisations given from quota holders (producers or bulk importers) to importers of equipment should be recorded in the HFC registry (for information how to do that, please refer to the European Commission's guidance document for equipment importers at [http://ec.europa.eu/clima/policies/f-gas/docs/guidance\\_equipment\\_importers\\_en.pdf](http://ec.europa.eu/clima/policies/f-gas/docs/guidance_equipment_importers_en.pdf)).

However, a record in the HFC registry is not sufficient to fulfil the reporting obligation. Both parties (the quota holder and the equipment importer) need to report on the authorisation amounts, however not necessarily in the same year:

- The quota holder issuing the authorisation needs to report by 31 March in the subsequent calendar year (e.g. 31 March 2016 for an authorisation issued in 2015) in Reporting Section 9A.
- In case the issuing quota holder is a 'new entrant' (i.e. a company for which no reference value has been established and which thus had received its quota entirely on the basis of a declaration according to Article 16(2) of the F-Gas Regulation), that quota holder must additionally report in Reporting Section 10 on physical sales accompanying the authorisation. The physical sale of the gas does not necessarily have to be to the recipient of the authorisation (i.e. the importer of equipment). For instance, the new entrant could sell the relevant amounts of gas to the manufacturer of equipment, which supplies the pre-charged units to the importer that receives the authorisation. Reporting on such physical sales in Reporting Section 10 must be amended with additional proof (e.g. invoices) which have to be uploaded into the reporting questionnaire.
- The equipment importer will need to report the use of the authorisation in the calendar year following the year of import of the equipment (e.g. by 31 March 2018 for equipment imported in 2017). The equipment importer will state who issued the authorisation and when it was issued. However, such reporting for equipment importers will not come into effect before 2018 reporting on 2017 transactions (see question 5.6).

## 5. Reporting on imported products and equipment

For more comprehensive information for importers of equipment containing F-gases on their obligations under the EU F-Gas Regulation please refer to the dedicated guidance document published by the European Commission at [http://ec.europa.eu/clima/policies/f-gas/docs/guidance\\_equipment\\_importers\\_en.pdf](http://ec.europa.eu/clima/policies/f-gas/docs/guidance_equipment_importers_en.pdf).

### 5.1. We import products containing F-gases, what do we need to report?

For reporting on placing on the EU market (see definition in question 1.4) of F-gases contained in imported products or equipment, a set of product/equipment categories are defined in the questionnaire (Sheet VII<sup>18</sup>, Reporting Section 11). These categories are listed under heading 12 of this FAQ document. The categories include components for equipment of the respective categories. Where available categories appear not to fit, the respective 'other' categories should be used including an explanation of the product/equipment category.

Subject to reporting are:

- The quantities of F-gas charges placed on the market, contained in the imported products/equipment per gas/mixture and per category in units of metric tonnes of gas.
- The number of pieces of equipment / amount of products.
- For importers of refrigeration, air conditioning or heat pump equipment containing HFCs: Additional information material should be added transparently documenting the reported HFC amounts, for example based on numbers of imported equipment and specific charges.

In case a company imports several types of equipment of the same category (e.g. differing in specific F-gas charge per piece of equipment) the amounts of imported pieces of equipment and contained charges should be summed up per category.

Importers of products or equipment containing F-gases are obliged to report where the charge of gases placed on the EU market exceeds 500 t CO<sub>2</sub> equivalents in a given year. The threshold applies for the sum of all gases/mixtures contained in products/equipment of all categories, mass converted into CO<sub>2</sub> equivalents by using the conversion factors as specified in Annex I, II IV of The Regulation. The relevant details from these Annexes are included at the end of this document under headings 7, 8, 9 and 10. The calculation procedure for GWP of mixtures under Annex IV of the new Regulation is also included under heading 9 at the end of this document.

### 5.2. What are the categories for pre-charged products and equipment?

Placing on the EU market (see definition in question 1.4) of imported pre-charged products and equipment is subject to reporting in Reporting Section<sup>18</sup> 11 in cases where the amount of F-gases contained in the products or equipment placed on the market exceeds 500 t CO<sub>2</sub> equivalents. Converted into physical amounts of gases commonly used as refrigerants, 500 t CO<sub>2</sub> equivalents corresponds to 350 kg of HFC-134a, 127 kg of R404A, 240 kg of R410A, 282 kg of R407C. See the tables in headings 7, 8 and 10 for GWPs of other gases.

Please note that the import of bulk refrigerants (including refrigerants/F-gases shipped alongside the equipment for the purpose of charging that equipment later) are subject to reporting as bulk imports in Reporting Section 2 (see question 4.1).

Imported products and equipment can be distinguished into:

- Refrigeration, air-conditioning and heat pump (RACHP) equipment (Reporting Sections 11A – 11F, see question 5.3)
- Other (non-RACHP) products and equipment categories (Reporting Sections 11H – 11P, for a full list please refer to heading 12 of this FAQ document)

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<sup>18</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.



### 5.3. What are the categories for refrigeration, air-conditioning and heat pump equipment?

Refrigeration, air conditioning or heat pump equipment can be reported against six different of products or equipment listed in Reporting Section 11:

- 11A: Stationary equipment for comfort cooling or heating
- 11B: Stationary equipment for refrigeration or process cooling or heating
- 11C: Heat pump tumble dryers
- 11D: Stationary heating/air conditioning including heat pumps as well as refrigeration (HACR) equipment for any other purpose
- 11E: Mobile refrigeration equipment
- 11F: Mobile air conditioning equipment.

The six categories are divided into four stationary applications (11A-11D) and two mobile applications (11E-11F). Each of these two overarching categories requires slightly different approaches (see below).

Please note that the term 'mobile' is not equivalent to 'moveable' or 'portable'. 'Mobile' equipment is designed for operation in moving vehicles or machinery. For example, portable/moveable air conditioning units designed for operation within buildings are to be reported as 'stationary equipment' in Reporting Section 11A1.

Please note that also pre-charged components of refrigeration, air conditioning or heat pump equipment should be reported in the respective equipment categories. However, reporting on gases in Sections 11A-11F is reserved for F-gases used as refrigerants. F-gases contained for example in insulation boards should be reported in Section 11H 'foam products' (see question 5.5).

If you are in doubt whether your imported equipment is refrigeration, air-conditioning or heat pump equipment, please seek clarification with your EU Member State's competent authorities. A list of contact points can be found at:  
[https://ec.europa.eu/clima/sites/clima/files/f-gas/docs/contact\\_list\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/f-gas/docs/contact_list_en.pdf).

#### Stationary applications (Reporting Section 11A-11D)

**First** step: Please select one of the four stationary sub-categories:

- 11A: Stationary equipment for comfort cooling or heating
- 11B: Stationary equipment for refrigeration or process cooling or heating
- 11C: Heat pump tumble dryers
- 11D: Stationary heating/air conditioning including heat pumps as well as refrigeration (HACR) equipment for any other purposes

The **second** step refers to the choice of the design type (11A, 11B, 11C, 11D). Please select one of the following:

- i: 'direct' design type,
- ii: 'indirect' design type, or
- iii: 'both direct and indirect' design type.



The term 'direct design' refers in particular to air-to-air, water-to-air, brine-to-air systems; the term 'indirect design' in particular to air-to-water, water-to-water, brine-to-water systems, including hydronic heat-pumps.

The **third** step refers to the unit types into which the selected design types are distinguished, in each stationary application category. Please select one of the following and provide the associated number of units:

- i: 'stand-alone/monobloc' units,
- iii: 'single split' units, or
- iii: 'multi split' units.

In addition, for 11D Stationary heating/air conditioning including heat pumps as well as refrigeration (HACR) equipment for any other purposes the equipment type must be specified.

A **fourth** step is required for 11A Stationary equipment for comfort cooling or heating and 11B: Stationary equipment for refrigeration or process cooling or heating.

In Reporting Section 11A the technical properties of direct design unit types need to be further specified. Please select one of the following technical properties:

Stand-alone/monobloc units:

- i: 'moveable' (11A1),
- ii: 'rooftop' (11A2), or
- iii: 'other' (11A3).

Single split units:

- i: 'charge sizes < 3 kg' (11A4) or
- ii: 'charge sizes > 3 kg' (11A5).

No additional technical property needs to be determined for multi split units (11A6).

Indirect design unit types under 11A as well as both direct and indirect design unit types under 11B need to be further specified according to their use type. Please select one of the following use types (11A7-11A12 and 11.B1-11B9):

- i: 'domestic use',
- ii: 'commercial use',
- iii: 'commercial or industrial use' or
- iv: 'other use'.

In case "other" or "other use" were selected as technical properties or use type equipment types need to be further specified in a final **fifth** step.

### Mobile applications (Reporting Section 11E-11F)

In a **first** step please select one of the two mobile sub-categories:

- 11E: Mobile refrigeration equipment
- 11F: Mobile air conditioning equipment

In a **second** step please select one of the design types for mobile equipment and provide the associated number of units:

11E: Mobile refrigeration equipment

- i: 'for refrigerated light duty vehicles' (e.g. vans; 11E1),
- ii: 'for refrigerated heavy duty vehicles' (including trucks and trailers; 11E2),
- iii: 'for refrigerated ships' (11E3), or
- iv: 'any other mobile refrigeration equipment' (11E4).

11F: Mobile air conditioning equipment:

- i: 'for passenger cars' (11F1),
- ii: 'for buses' (11F2),
- iii: 'for vans' (light duty vehicles; 11F3),
- iv: 'for trucks and trailers' (heavy duty vehicles; 11F4),
- v: 'for agricultural, forestry and construction vehicles and machinery' (11F5),
- vi: 'for rail vehicles' (11F6),
- vii: 'for ships' (11F7),
- viii: 'for aircrafts and helicopters' (11F8), or
- ix: 'any other mobile air conditioning equipment' (11F9).

If 'any other mobile refrigeration equipment' or 'any other mobile air conditioning equipment' were selected as design types they need to be further specified in a final **third** step.

#### 5.4. What is the appropriate product/equipment category for dehumidifiers?

Imported dehumidifiers should be reported in Section 11D 'Stationary heating/air conditioning including heat pumps as well as refrigeration (HACR) equipment for any other purpose'

#### 5.5. I import foams into the EU, how should I report?

The placing on the EU market (see definition in question 1.4) of imported foam products containing F-gases can be reported in four different categories within Reporting Section 11<sup>19</sup>:

- 11H1: Extruded polystyrene (XPS) (e.g. for insulation boards)
- 11H2: Polyurethane (PU) (e.g. for insulation boards)
- 11H3: One component foam (OCF)
- 11H4: Other foam products

Foam contained in imported items, for example for insulation purposes, are subject to reporting as imports of foam products, if the foam contains F-gases and the amount of F-gases contained in products or equipment placed on the EU market exceeds 500 t CO<sub>2</sub> equivalents.

Converted into physical amounts, 500 t CO<sub>2</sub> equivalents corresponds to 350 kg of HFC-134a, 485 kg of HFC-245fa, 630 kg of HFC-365mfc (unblended).

The labelling obligation under the Regulation is in force from January 2015. Article 12(5) of the Regulation states that foams and pre-blended polyols that contain fluorinated greenhouse gases shall not be placed on the market unless the gases are identified with a label using the accepted industry designation. If no such designation is available, the chemical name should be used. The

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<sup>19</sup> For an explanation of the terms 'Sheet' and 'Reporting Section' see footnote 4 on page 9.

label shall clearly indicate that the foam or pre-blended polyol contains fluorinated greenhouse gases. In the case of foam boards, this information shall be clearly and indelibly stated on the boards.

Note that imports of F-gases contained in pre-blended polyols should be reported as bulk imports in Reporting Section 2.

#### **11H1: Extruded polystyrene (XPS)**

Amounts of imported foam products need to be reported in units of cubic meters. Furthermore, the amounts of F-gases contained in XPS products need to be reported. In absence of more reliable data, F-gas contents should be estimated as follows:

Imported charge of F-gases = Weight of foam products x 5%

Unless specified on the label of the foam product, please use HFC-134a as default.

#### **11H2: Polyurethane (PU)**

Amounts of imported foam need to be reported in units of cubic meters. Furthermore, amounts of F-gases contained in the PU need to be reported. In absence of more reliable data, F-gas contents should be estimated as follows:

Imported charge of F-gases = Weight of foam products x 10%

Unless specified on the label of the foam product, please use as default the following mixture: 57% HFC-365mfc, 3% HFC-227ea, 30% HFC-245fa, 10% HFC-134a.

#### **11H3: One component foam (OCF)**

One-component PU foam that contains fluorinated greenhouse gases with GWP of 150 or more has been banned since 4 July 2008 except when required to meet national safety standards. Amounts of imported OCF need to be reported by number of canisters. Furthermore, amounts of F-gases contained in the OCF canisters need to be reported. In absence of more reliable data F-gas contents should be estimated as follows:

Imported charge of F-gases = Weight of canister content x 15%

Unless specified on the label of the foam product, please use HFC-134a as default.

#### **11H4: Other foam products**

Imports of F-gas-containing foam products beyond the scope of Reporting Sections 11H1, 11H2 and 11H3 should be reported as 'other' foam products in Reporting Section 11H4. Examples include Phenolic Foam and Extruded Polyethylene. Amounts of imported foam products may be reported in units of cubic metres, metric tonnes or pieces of equipment. Furthermore, amounts of F-gases contained in the foam products need to be reported. In absence of more reliable data F-gas contents could be estimated as follows:

Imported charge of F-gases = Weight of foam products x 10%

Unless specified on the label of the foam product, please use HFC-134a as default.

#### **5.6. Reporting on quota authorisations received for imports of HFC-containing equipment**

Reporting by equipment importer on quota authorisations used to cover imports of HFC-containing equipment is not relevant before reporting on 2017 transactions. Reporting on 2017 transactions will be in 2018 up to 31 March 2018.

#### **5.7. Declaration of conformity and third-party verification for equipment importers**

A declaration of conformity and verification by an independent auditor is necessary for HFC imports in refrigeration, air conditioning and heat pump equipment starting 2017.

A Commission Implementing Regulation that is expected to be adopted in 2016 will set out the detailed arrangements relating to the declaration of conformity and verification by the independent auditor (Article 14(4)).

## 6. Affiliations and commercial sensitivity

### 6.1. Do I need to report company affiliations?

Reporting on company affiliations is voluntary. It may however be relevant to provide this information if you want to have more stringent confidentiality rules applied. This might be relevant if there is concern about competitors inferring information on your business activities from aggregated data based on the fact that the two companies are affiliated.

With regard to commercial sensitivity where two companies consistently report on mutual affiliations, those companies will be treated as belonging to one company group. In cases of more than two companies belonging to a company group, a series of confirmed 1:1 affiliations will be sufficient to have all involved companies be treated as being in the same group. When a company does not report on affiliations, it will be treated as a single company group on its own.

Thus, the criterion whether companies should consider themselves affiliated is whether they would exchange among each other the reported data. Information on company affiliation can be modified with each new report. Reciprocal reporting in the web form on affiliation by both parties is sufficient. No additional legal documents are required.

### 6.2. When do I need to identify my trade partners?

Other companies need to be identified in the reporting form in various cases. These include:

- Recipients of HFCs exempted from the quota (to be identified in the producer's / importer's report),
- Recipients of HFCs supplied to EU manufacturers of products or equipment for later export from the EU (voluntary reporting, to be identified in the producer's / importer's report),
- Companies which destroy recovered by-production or unwanted production (to be identified in the producer's report),
- Recipients or issuers of authorisations to use quota (only relevant for reporting on 2015 transactions and later),
- Exporters of quota-covered HFCs used for charging imported equipment (only relevant for reporting on 2015 transactions and later).

### 6.3. How do I identify my trade partners or affiliate companies?

For EU-based companies, the company name and the VAT Number (which includes indication of the relevant EU Member State) must be given.

For non-EU companies the company name must be given accompanied by

- The non-EU country where the company is established,
- The registration code (format: 5-6 digit number) of that company. This is available from the Company profile via the [F-gas portal \(https://webgate.ec.europa.eu/ods2/\)](https://webgate.ec.europa.eu/ods2/) on the website of the European Commission,
- The name of the Only Representative of that company in the EU,
- The VAT number of that Only Representative.

### 6.4. The data required are commercially sensitive. How will they be treated?

The Commission and the EEA have established procedures to ensure that all of the data relating to individual companies will be kept strictly confidential. The reported data is stored in a confidential database.

No company-specific information is disclosed to the public; all company data are aggregated into summary reports before being made available to the public, ensuring protection of data that relies significantly on information reported by less than three company groups. For company groups or affiliations, please see question 6.1.

Information on company affiliation is used by EEA only for the determination whether aggregated data (such as totals of particular gases) may be published. Statistics on F-gases will not be published unless the relevant aggregated data relies significantly on data reported by companies of at least three company groups. In this context 'Significantly' also means that company groups whose reported data add up to less than 5 % of the total aggregated value will be ignored in the count of company groups.

Please note however that the Commission and the EEA may receive individual requests of access to the confidential data. In such cases there is a legal procedure that includes a consultation with the concerned companies. The procedure is in line with:

- Regulation (EC) No 1049/2001, regarding public access to European Parliament, Council and Commission documents or,
- Regulation (EC) No 1367/2006, on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies.

## 7. F-gases listed in Annex I of the Regulation

Fluorinated Greenhouse Gases listed in Annex I of Regulation No 517/2014, along with their CAS number and typical applications

Industrial designation	Chemical name (Common name)	Chemical formula	GWP <sup>20</sup>	CAS number	Typical Applications
Section 1: Hydrofluorocarbons (HFCs)					
HFC-23	trifluoromethane (fluoroform)	CHF <sub>3</sub>	14800	75-46-7	Low temperature refrigerant Fire extinguishant
HFC-32	difluoromethane	CH <sub>2</sub> F <sub>2</sub>	675	75-10-5	Blend component for refrigerants
HFC-41	fluoromethane (methyl fluoride)	CH <sub>3</sub> F	92	593-53-3	Semiconductor manufacturing
HFC-125	pentafluoroethane	CHF <sub>2</sub> CF <sub>3</sub>	3500	354-33-6	Blend component for refrigerants Fire extinguishant
HFC-134	1,1,2,2-tetrafluoroethane	CHF <sub>2</sub> CHF <sub>2</sub>	1100	359-35-3	No typical applications at present
HFC-134a	1,1,1,2-tetrafluoroethane	CH <sub>2</sub> FCF <sub>3</sub>	1430	811-97-2	Refrigerant Blend component for refrigerants Extraction solvent Propellant for medical and technical aerosols Blowing agent component for extruded polystyrene (XPS) polyurethane (PUR) foams
HFC-143	1,1,2-trifluoroethane	CH <sub>2</sub> FCHF <sub>2</sub>	353	430-66-0	No typical applications at present
HFC-143a	1,1,1-trifluoroethane	CH <sub>3</sub> CF <sub>3</sub>	4470	420-46-2	Blend component for refrigerants
HFC-152	1,2-difluoroethane	CH <sub>2</sub> FCH <sub>2</sub> F	53	624-72-6	Not commonly used
HFC-152a	1,1-difluoroethane	CH <sub>3</sub> CHF <sub>2</sub>	124	75-37-6	Propellant for specialised technical aerosols Blowing agent component for extruded polystyrene (XPS) foams Refrigerant
HFC-161	fluoroethane(ethyl fluoride)	CH <sub>3</sub> CH <sub>2</sub> F	12	353-36-6	Not commonly used. Tested as alternative to R22, not used at commercial scale.
HFC-227ea	1,1,1,2,3,3,3-heptafluoropropane	CF <sub>3</sub> CHFCF <sub>3</sub>	3220	431-89-0	Refrigerant

<sup>20</sup> Based on the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

Company reporting on fluorinated greenhouse gases – Frequently Asked Questions

Industrial designation	Chemical name (Common name)	Chemical formula	GWP <sup>20</sup>	CAS number	Typical Applications
					Propellant for medical aerosols Fire extinguishant Blowing agent for foams
HFC-236cb	1,1,1,2,2,3-hexafluoropropane	CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	1340	677-56-5	Refrigerant Blowing agent
HFC-236ea	1,1,1,2,3,3-hexafluoropropane	CHF <sub>2</sub> CHFCF <sub>3</sub>	1370	431-63-0	Refrigerant Blowing agent
HFC-236fa	1,1,1,3,3,3-hexafluoropropane	CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub>	9810	690-39-1	Fire extinguishant Refrigerant
HFC-245ca	1,1,2,2,3-pentafluoropropane	CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub>	693	679-86-7	Refrigerant Blowing agent
HFC-245fa	1,1,1,3,3-pentafluoropropane	CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	1030	460-73-1	Foam blowing agent for polyurethane (PUR) Solvent for specialised applications
HFC-365 mfc	1,1,1,3,3-pentafluorobutane	CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub>	794	406-58-6	Foam blowing agent for polyurethane (PUR) and phenolic foams Blend component for solvents
HFC-43-10 mee	1,1,1,2,2,3,4,5,5,5-decafluoropentane	CF <sub>3</sub> CHFCHFCF <sub>2</sub> CF <sub>3</sub>	1640	138495-42-8	Solvent for specialised applications Blowing agent for foams
Section 2: Perfluorocarbons (PFCs)					
PFC-14	tetrafluoromethane (perfluoromethane, carbon tetrafluoride)	CF <sub>4</sub>	7390	75-73-0	Semiconductor manufacturing Fire extinguishant
PFC-116	hexafluoroethane (perfluoroethane)	C <sub>2</sub> F <sub>6</sub>	12200	76-16-4	Semiconductor manufacturing
PFC-218	octafluoropropane (perfluoropropane)	C <sub>3</sub> F <sub>8</sub>	8830	76-19-7	Semiconductor manufacturing
PFC-3-1-10 (R-31-10)	decafluorobutane (perfluorobutane)	C <sub>4</sub> F <sub>10</sub>	8860	355-25-9	Physics research Fire extinguishant
PFC-4-1-12 (R-41-12)	dodecafluoropentane (perfluoropentane)	C <sub>5</sub> F <sub>12</sub>	9160	678-26-2	Precision cleaning solvent Low-use refrigerant
PFC-5-1-14 (R-51-14)	tetradecafluorohexane	C <sub>6</sub> F <sub>14</sub>	9300	355-42-0	Coolant fluid in specialised applications



Company reporting on fluorinated greenhouse gases – Frequently Asked Questions

Industrial designation	Chemical name (Common name)	Chemical formula	GWP <sup>20</sup>	CAS number	Typical Applications
14)	(perfluorohexane)				Solvent
PFC-c-318	octafluorocyclobutane (perfluorocyclobutane)	c-C <sub>4</sub> F <sub>8</sub>	10300	115-25-3	Semiconductor manufacturing
Section 3: Other perfluorinated compounds					
	sulphur hexafluoride	SF <sub>6</sub>	22800	2551-62-4	Insulating gas in high-voltage switchgear Blanket gas for magnesium production Etching and cleaning in the semiconductors industry

## 8. Other Fluorinated Greenhouse Gases listed in Annex II of the Regulation

From, Annex II - Other Fluorinated Greenhouse Gases subject to reporting in accordance with Article 19 [of Regulation No 517/2014]

Common name / Industrial designation	Chemical formula	GWP <sup>21</sup>
Section 1: Unsaturated hydro(chloro)fluorocarbons		
HFC-1234yf	CF <sub>3</sub> CF=CH <sub>2</sub>	4 <sup>22</sup>
HFC-1234ze	trans — CHF=CHCF <sub>3</sub>	7 <sup>22</sup>
HFC-1336mzz	CF <sub>3</sub> CH=CHCF <sub>3</sub>	9
HCFC-1233zd	C <sub>3</sub> H <sub>2</sub> ClF <sub>3</sub>	4,5
HCFC-1233xf	C <sub>3</sub> H <sub>2</sub> ClF <sub>3</sub>	1 <sup>23</sup>
Section 2: Fluorinated ethers and alcohols		
HFE-125	CHF <sub>2</sub> OCF <sub>3</sub>	14900
HFE-134	CHF <sub>2</sub> OCHF <sub>2</sub>	6320
HFE-143a	CH <sub>3</sub> OCF <sub>3</sub>	756
HCFE-235da2 (isofluorane)	CHF <sub>2</sub> OCHClCF <sub>3</sub>	350
HFE-245cb2	CH <sub>3</sub> OCF <sub>2</sub> CF <sub>3</sub>	708
HFE-245fa2	CHF <sub>2</sub> OCH <sub>2</sub> CF <sub>3</sub>	659
HFE-254cb2	CH <sub>3</sub> OCF <sub>2</sub> CHF <sub>2</sub>	359
HFE-347 mcc3 (HFE-7000)	CH <sub>3</sub> OCF <sub>2</sub> CF <sub>2</sub> CF <sub>3</sub>	575
HFE-347pcf2	CHF <sub>2</sub> CF <sub>2</sub> OCH <sub>2</sub> CF <sub>3</sub>	580
HFE-356pcc3	CH <sub>3</sub> OCF <sub>2</sub> CF <sub>2</sub> CHF <sub>2</sub>	110
HFE-449sl (HFE-7100)	C <sub>4</sub> F <sub>9</sub> OCH <sub>3</sub>	297
HFE-569sf2 (HFE-7200)	C <sub>4</sub> F <sub>9</sub> OC <sub>2</sub> H <sub>5</sub>	59
HFE-43-10pccc124 (H-Galden 1040x) HG-11	CHF <sub>2</sub> OCF <sub>2</sub> OC <sub>2</sub> F <sub>4</sub> OCHF <sub>2</sub>	1870
HFE-236ca12 (HG-10)	CHF <sub>2</sub> OCF <sub>2</sub> OCHF <sub>2</sub>	2800
HFE-338pcc13 (HG-01)	CHF <sub>2</sub> OCF <sub>2</sub> CF <sub>2</sub> OCHF <sub>2</sub>	1500
HFE-347mmy1	(CF <sub>3</sub> ) <sub>2</sub> CFOCH <sub>3</sub>	343
2,2,3,3,3-pentafluoropropanol	CF <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> OH	42
bis(trifluoromethyl)-methanol	(CF <sub>3</sub> ) <sub>2</sub> CHOH	195
HFE-227ea	CF <sub>3</sub> CHFOCF <sub>3</sub>	1540
HFE-236ea2 (desfluoran)	CHF <sub>2</sub> OCHF <sub>2</sub> CF <sub>3</sub>	989
HFE-236fa	CF <sub>3</sub> CH <sub>2</sub> OCF <sub>3</sub>	487
HFE-245fa1	CHF <sub>2</sub> CH <sub>2</sub> OCF <sub>3</sub>	286
HFE 263fb2	CF <sub>3</sub> CH <sub>2</sub> OCH <sub>3</sub>	11
HFE-329 mcc2	CHF <sub>2</sub> CF <sub>2</sub> OCF <sub>2</sub> CF <sub>3</sub>	919
HFE-338 mcf2	CF <sub>3</sub> CH <sub>2</sub> OCF <sub>2</sub> CF <sub>3</sub>	552
HFE-338mmz1	(CF <sub>3</sub> ) <sub>2</sub> CHOCHF <sub>2</sub>	380
HFE-347 mcf2	CHF <sub>2</sub> CH <sub>2</sub> OCF <sub>2</sub> CF <sub>3</sub>	374
HFE-356 mec3	CH <sub>3</sub> OCF <sub>2</sub> CHFCF <sub>3</sub>	101
HFE-356mm1	(CF <sub>3</sub> ) <sub>2</sub> CHOCH <sub>3</sub>	27
HFE-356pcf2	CHF <sub>2</sub> CH <sub>2</sub> OCF <sub>2</sub> CHF <sub>2</sub>	265

<sup>21</sup> Based on the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

<sup>22</sup> GWP according to the Report of the 2010 Assessment of the Scientific Assessment Panel (SAP) of the Montreal Protocol, Tables 1-11, citing two peer-reviewed scientific references. [http://ozone.unep.org/Assessment\\_Panels/SAP/Scientific\\_Assessment\\_2010/index.shtml](http://ozone.unep.org/Assessment_Panels/SAP/Scientific_Assessment_2010/index.shtml)

<sup>23</sup> Default value, global warming potential not yet available.

Common name / Industrial designation	Chemical formula	GWP <sup>21</sup>
HFE-356pcf3	CHF <sub>2</sub> OCH <sub>2</sub> CF <sub>2</sub> CHF <sub>2</sub>	502
HFE 365 mcf3	CF <sub>3</sub> CF <sub>2</sub> CH <sub>2</sub> OCH <sub>3</sub>	11
HFE-374pc2	CHF <sub>2</sub> CF <sub>2</sub> OCH <sub>2</sub> CH <sub>3</sub>	557
	- (CF <sub>2</sub> ) <sub>4</sub> CH (OH) -	73
Section 3: Other perfluorinated compounds		
perfluoropolymethylisopropylether (PFPMIE)	CF <sub>3</sub> OCF(CF <sub>3</sub> )CF <sub>2</sub> OCF <sub>2</sub> OCF <sub>3</sub>	10300
nitrogen trifluoride	NF <sub>3</sub>	17200
trifluoromethyl sulphur pentafluoride	SF <sub>5</sub> CF <sub>3</sub>	17700
perfluorocyclopropane	c-C <sub>3</sub> F <sub>6</sub>	17340 <sup>24</sup>

## 9. Method of calculating the total GWP of a mixture

From, Annex IV - Method of calculating the total GWP of a mixture [of Regulation No 517/2014]

The GWP of a mixture is calculated as a weighted average, derived from the sum of the weight fractions of the individual substances multiplied by their GWP, unless otherwise specified, including substances that are not fluorinated greenhouse gases.

$$\Sigma [(Substance\ X\% \times GWP) + (Substance\ Y\% \times GWP) + \dots (Substance\ N\% \times GWP)]$$

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

For example: applying the formula to a blend of gases consisting of 60 % dimethyl ether, 10 % HFC-152a and 30 % isobutane:

$$\Sigma (60\% \times 1) + (10\% \times 124) + (30\% \times 3)$$

Total GWP = 13.9

The GWP of the following non-fluorinated substances (under heading 10 below) are used to calculate the GWP of mixtures. For other substances not listed in the Annexes a default value of 0 applies.

<sup>24</sup> Minimum value according to the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change.

## 10. GWP of non-fluorinated gases in Annex IV of the Regulation

From, Annex IV - Method of calculating the total GWP of a mixture [of Regulation No 517/2014]:

Common name	Industrial designation	Chemical formula	GWP <sup>25</sup>
Methane		CH <sub>4</sub>	25
Nitrous oxide		N <sub>2</sub> O	298
Dimethyl ether	E-170	CH <sub>3</sub> OCH <sub>3</sub>	1
Methylene chloride		CH <sub>2</sub> Cl <sub>2</sub>	9
Methyl chloride		CH <sub>3</sub> Cl	13
Chloroform		CHCl <sub>3</sub>	31
Ethane	R-170	CH <sub>3</sub> CH <sub>3</sub>	6
Propane	R-290	CH <sub>3</sub> CH <sub>2</sub> CH <sub>3</sub>	3
Butane	R-600	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub>	4
Isobutane	R-600a	CH(CH <sub>3</sub> ) <sub>2</sub> CH <sub>3</sub>	3
Pentane	R-601	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub>	5 <sup>26</sup>
Isopentane	R-601a	(CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> CH <sub>3</sub>	5 <sup>26</sup>
Ethoxyethane (Diethyl ether)	R-610	CH <sub>3</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>3</sub>	4
Methyl formate	R-611	HCOOCH <sub>3</sub>	25
Hydrogen	R-702	H <sub>2</sub>	6
Ammonia	R-717	NH <sub>3</sub>	0
Ethylene	R-1150	C <sub>2</sub> H <sub>4</sub>	4
Propylene	R-1270	C <sub>3</sub> H <sub>6</sub>	2
Cyclopentane		C <sub>5</sub> H <sub>10</sub>	5 <sup>26</sup>

<sup>25</sup> Based on the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

<sup>26</sup> Substance not listed in the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change, default value on the basis of the GWPs of other hydrocarbons.

## 11. Common mixtures

List of common mixtures taken from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 3: Industrial Processes and Product Use Table 7.8, p. 7.44. Only 10 of these are included in the online reporting shortlist, see question 3.5.

Blend	Constituents	Composition (%)	In online reporting shortlist
R-400	CFC-12/CFC-114	Should be specified <sup>1</sup>	No
R-401A	HCFC-22/HFC-152a/HCFC-124	(53.0/13.0/34.0)	No
R-401B	HCFC-22/HFC-152a/HCFC-124	(61.0/11.0/28.0)	No
R-401C	HCFC-22/HFC-152a/HCFC-124	(33.0/15.0/52.0)	No
R-402A	HFC-125/HC-290/HCFC-22	(60.0/2.0/38.0)	No
R-402B	HFC-125/HC-290/HCFC-22	(38.0/2.0/60.0)	No
R-403A	HC-290/HCFC-22/PFC-218	(5.0/75.0/20.0)	No
R-403B	HC-290/HCFC-22/PFC-218	(5.0/56.0/39.0)	No
R-404A	HFC-125/HFC-143a/HFC-134a	(44.0/52.0/4.0)	Yes
R-405A	HCFC-22/ HFC-152a/ HCFC-142b/PFC-318	(45.0/7.0/5.5/42.5)	No
R-406A	HCFC-22/HC-600a/HCFC-142b	(55.0/4.0/41.0)	No
R-407A	HFC-32/HFC-125/HFC-134a	(20.0/40.0/40.0)	Yes
R-407B	HFC-32/HFC-125/HFC-134a	(10.0/70.0/20.0)	No
R-407C	HFC-32/HFC-125/HFC-134a	(23.0/25.0/52.0)	Yes
R-407D	HFC-32/HFC-125/HFC-134a	(15.0/15.0/70.0)	No
R-407E	HFC-32/HFC-125/HFC-134a	(25.0/15.0/60.0)	No
R-408A	HFC-125/HFC-143a/HCFC-22	(7.0/46.0/47.0)	No
R-409A	HCFC-22/HCFC-124/HCFC-142b	(60.0/25.0/15.0)	No
R-409B	HCFC-22/HCFC-124/HCFC-142b	(65.0/25.0/10.0)	No
R-410A	HFC-32/HFC-125	(50.0/50.0)	Yes
R-410B	HFC-32/HFC-125	(45.0/55.0)	No
R-411A	HC-1270/HCFC-22/HFC-152a	(1.5/87.5/11.0)	No
R-411B	HC-1270/HCFC-22/HFC-152a	(3.0/94.0/3.0)	No
R-411C	HC-1270/HCFC-22/HFC-152a	(3.0/95.5/1.5)	No
R-412A	HCFC-22/PFC-218/HCFC-142b	(70.0/5.0/25.0)	No
R-413A	PFC-218/HFC-134a/HC-600a	(9.0/88.0/3.0)	Yes
R-414A	HCFC-22/HCFC-124/HC-600a/HCFC-142b	(51.0/28.5/4.0/16.5)	No
R-414B	HCFC-22/HCFC-124/HC-600a/HCFC-142b	(50.0/39.0/1.5/9.5)	No
R-415A	HCFC-22/HFC-152a	(82.0/18.0)	No
R-415B	HCFC-22/HFC-152a	(25.0/75.0)	No
R-416A	HFC-134a/HCFC-124/HC-600	(59.0/39.5/1.5)	No
R-417A	HFC-125/HFC-134a/HC-600	(46.6/50.0/3.4)	Yes
R-418A	HC-290/HCFC-22/HFC-152a	(1.5/96.0/2.5)	No
R-419A	HFC-125/HFC-134a/HE-E170	(77.0/19.0/4.0)	No
R-420A	HFC-134a/HCFC-142b	(88.0/12.0)	No
R-421A	HFC-125/HFC-134a	(58.0/42.0)	No
R-421B	HFC-125/HFC-134a	(85.0/15.0)	No
R-422A	HFC-125/HFC-134a/HC-600a	(85.1/11.5/3.4)	Yes
R-422B	HFC-125/HFC-134a/HC-600a	(55.0/42.0/3.0)	Yes
R-422C	HFC-125/HFC-134a/HC-600a	(82.0/15.0/3.0)	No
R-500	CFC-12/HFC-152a	(73.8/26.2)	No
R-501	HCFC-22/CFC-12	(75.0/25.0)	No
R-502	HCFC-22/CFC-115	(48.8/51.2)	No
R-503	HFC-23/CFC-13	(40.1/59.9)	No
R-504	HFC-32/CFC-115	(48.2/51.8)	No
R-505	CFC-12/HCFC-31	(78.0/22.0)	No

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<b>Blend</b>	<b>Constituents</b>	<b>Composition (%)</b>	<b>In online reporting shortlist</b>
R-506	CFC-31/CFC-114	(55.1/44.9)	No
R-507A	HFC-125/HFC-143a	(50.0/50.0)	Yes
R-508A	HFC-23/PFC-116	(39.0/61.0)	No
R-508B	HFC-23/PFC-116	(46.0/54.0)	Yes
R-509A	HCFC-22/PFC-218	(44.0/56.0)	No
<sup>1</sup> R-400 can have various proportions of CFC-12 and CFC-114. The exact composition needs to be specified, e.g., R-400 (60/40).			

**Source:** 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 3: Industrial Processes and Product Use Table 7.8, p. 7.44

## 12. Categories of intended applications

The list below reproduces the categories for intended applications of gases for the EU market as specified in Section 6 of the Implementing Regulation.

Section 6 Categories of application of gases for the EU market	
6A	Export
6B	Destruction
6C	Military equipment
6D	Refrigeration, air-conditioning and heating
6E	Other heat transfer fluids
6F	Foams
6G	Production of pre-blended polyols, e. g. for PU foam
6H	Fire protection
6I	Aerosols – medical dose inhalers
6J	Aerosols - other uses
6K	Solvents
6L	Feedstock
6M	Semiconductor manufacture
6N	Photovoltaics manufacture
6O	Other electronics manufacture
6P	Electrical equipment
6Q	Particle accelerators
6R	Magnesium die casting operations
6S	Anaesthetics
6T	Other or unknown application
6U	Leakage during storage, transport or transfer
6V	Accountancy adjustments

## 13. Categories of products or equipment

The list below reproduces the product and equipment categories as specified in Section 11 of the Implementing Regulation.

The term 'direct design' refers in particular to air-to-air, water-to-air, brine-to-air systems; the term 'indirect design' in particular to air-to-water, water-to-water, brine-to-water systems, including hydronic heat-pumps.

Section 11: Categories of products or equipment	
<b>11A</b>	<b>Stationary equipment for comfort cooling or heating</b>
	<b>direct design</b>
	<b>Standalone/monobloc units</b>
11A1	Moveable
11A2	Rooftop
11A3	Other
	<b>single split units</b>
11A4	charged with 3 kilograms or more of refrigerant
11A5	charged with less than 3 kilograms of refrigerant
11A6	multi split units
	<b>indirect design</b>
	<b>Standalone/monobloc units</b>
11A7	domestic use
11A8	commercial use
11A9	other use
	<b>split units</b>
11A10	domestic use
11A11	commercial or industrial use
11A12	other use
	<b>both direct and indirect design</b>
11A13	Standalone/monobloc units

<b>Section 11: Categories of products or equipment</b>	
11A14	split units
<b>11B</b>	<b>Stationary equipment for refrigeration or process cooling or heating</b>
	<b>Stationary equipment for refrigeration</b>
	<b>direct design</b>
	<b>Standalone/monobloc units</b>
11B1	domestic use
11B2	commercial or industrial use
11B3	other use
	<b>split units</b>
11B4	commercial or industrial use
11B5	other use
	<b>indirect design</b>
	<b>Standalone/monobloc units</b>
11B6	commercial or industrial use
11B7	other use
	<b>split units</b>
11B8	commercial or industrial use
11B9	other use
	<b>both direct and indirect design</b>
11B10	Standalone/monobloc units
11B11	split units
	<b>Stationary equipment for process cooling or heating</b>
11B12	direct design
11B13	indirect design
11B14	both direct and indirect design
<b>11C</b>	<b>Heat pump tumble dryers</b>
<b>11D</b>	<b>Stationary heating/air conditioning including heat pumps as well as refrigeration (HACR) equipment for any other purposes</b>
11D1	direct design
11D2	indirect design
11D3	both direct and indirect design
<b>11E</b>	<b>Mobile refrigeration equipment</b>
11E1	for refrigerated light duty vehicles (e.g. vans)
11E2	for refrigerated heavy duty vehicles (including trucks and trailers)
11E3	for refrigerated ships
11E4	Any other mobile refrigeration equipment
<b>11F</b>	<b>Mobile air conditioning equipment</b>
11F1	for passenger cars
11F2	for buses
11F3	for vans (light duty vehicles)
11F4	for trucks and trailers (heavy duty vehicles)
11F5	for agricultural, forestry and construction vehicles and machinery
11F6	for rail vehicles
11F7	for ships
11F8	for aircrafts and helicopters
11F9	Any other mobile air conditioning equipment
<b>11H</b>	<b>Foam products</b>
11H1	Extruded polystyrene (XPS) (e.g. for insulation boards)
11H2	Polyurethane (PU) (e.g. for insulation boards)
11H3	One component foam (OCF)
11H4	Other foam products
<b>11I</b>	<b>Fire protection equipment (including systems incorporated in vehicles)</b>
<b>11J</b>	<b>Medical or pharmaceutical aerosols</b>
<b>11K</b>	<b>Non-medical aerosols</b>
<b>11L</b>	<b>Medical equipment (without aerosols)</b>
<b>11M</b>	<b>Switch gear for transmission and distribution of electricity</b>
<b>11N</b>	<b>Other electrical transmission and distribution equipment</b>
<b>11O</b>	<b>Particle accelerators</b>
<b>11P</b>	<b>Other products and equipment containing gases listed in Annex I or Annex II of Regulation (EU) No 517/2014</b>



## **14. Where to get more information on the reporting obligations?**

In accordance with the Regulation, the EEA has an explicit role to handle the Reporting obligation for: Fluorinated gases (F-Gases) reporting by undertakings (Regulation 2014) (<http://rod.eionet.europa.eu/obligations/713>). For additional questions concerning F-gas data please make use of the BDR support e-mail account: [bdr.helpdesk@eea.europa.eu](mailto:bdr.helpdesk@eea.europa.eu).

For legal questions related to gas data reporting obligations please contact the

European Commission, Directorate General Climate Action (DG Clima) ([http://ec.europa.eu/clima/contact/index\\_en.htm](http://ec.europa.eu/clima/contact/index_en.htm)), or your

National Contact Points for F-gases

([http://ec.europa.eu/clima/policies/gas/reporting/docs/1\\_national\\_contact\\_points\\_en.pdf](http://ec.europa.eu/clima/policies/gas/reporting/docs/1_national_contact_points_en.pdf)), in each Member State.