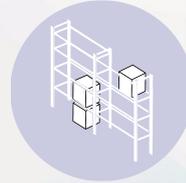




European Materials Handling Federation

GUIDANCE

on the application of Regulation EU n° 517/2014
on fluorinated greenhouse gases
to materials handling, lifting and storage equipment



MARCH 2017

Disclaimer

This publication is only for guidance and gives an overview regarding the assessment of *“Guidance on the application of Regulation EU n°517/2014 on fluorinated greenhouse gases to materials handling, lifting and storage equipment”*.

It shall not be considered as a binding interpretation of the existing legal framework. It neither claims to cover any aspect of the matter, nor does it reflect all legal aspects in detail. It is not meant to, and cannot, replace own knowledge of the pertaining directives, laws and regulations.

Furthermore the specific characteristics of the individual products and the various possible applications have to be taken into account. This is why, apart from the assessments and procedures addressed in this guide, many other scenarios may apply. Manufacturer’s instructions and manuals must always be respected.

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Foreword

Regulation (EU) No 517/2014¹ deals with fluorinated greenhouse gases, which are commonly used as refrigerants, notably in air conditioning and refrigeration systems. Since the majority of these gases present a high global warming potential (GWP), Regulation 517/2014 (“the F-gas Regulation”) aims at reducing emissions of these gases through a variety of measures, among which some are related to the conditions for the placing on the market of certain types of products or equipment containing or relying upon fluorinated greenhouse gases (bans) and quantitative limits for the placing on the market of hydrofluorocarbons (phase-down).

Certain types of materials handling equipment integrate air conditioning equipment, generally in the cabin of the operator of the machine. This is notably the case of some industrial trucks (e.g. counterbalanced forklift trucks, telehandlers) and cranes (e.g. tower cranes, mobile cranes). This type of non-hermetically sealed mobile air conditioning system must be compliant with the requirements set by the F-gas Regulation.

This guidance note provides information on the requirements that have to be fulfilled by manufacturers of materials handling equipment that integrates mobile air conditioning systems in order to comply with the F-gas Regulation.

Background

Fluorinated greenhouse gases, and in particular hydrofluorocarbons (HFCs), have been subject to European legislation since the first F-gas Regulation in 2006. The reason is that the majority of HFCs have a high global warming potential². In 2006, the main purpose of the legal framework was to improve the containment of HFCs in refrigeration and air conditioning systems, notably thanks to mandatory regular leak checks and minimum competence requirements of service engineers.

Regulation 517/2014 goes further in that it sets measures to gradually decrease the use of HFCs in air conditioning equipment, notably through equipment bans and a phase-down scheme. The phase-down scheme is particularly relevant to manufacturers of materials handling equipment that integrates air conditioning systems since it sets a quota system that entails certain requirements.

The requirements that generally apply to air conditioning systems installed in materials handling equipment are related to:

- Labelling of the product
- Respect of the obligations linked to the phase-down scheme (quota, declaration of conformity, record keeping, reporting)

Other requirements may also apply though in less frequent instances. They are described in the second part of this guide.

²Global warming potential or GWP means climatic warming potential relative to that of carbon dioxide, calculated in terms of the 100-year warming potential of one kilogram of a greenhouse gas relative to one kilogram of CO₂

I. MAIN REQUIREMENTS ON OEMs

The requirements manufacturers of materials handling equipment that integrates air conditioning systems (“OEMs”) may have to comply with depend on how they acquire the air conditioning system in the machine:

- either they buy the system already pre-charged with the refrigerant or
- they buy the system empty and charge it with refrigerant.

Moreover, the requirements related to each option then vary according to the origin of the purchase (EU or import).

1. The OEM buys the air conditioning system already pre-charged



The obligations explained in the subsections below apply to the purchase of:

- Mobile air conditioning systems (containing HFCs) as components to be integrated into materials handling equipment that is assembled in the EU, or
- Complete materials handling equipment that integrates a mobile air conditioning system containing HFCs.

The obligations apply from the first purchase, i.e. without minimum quantity threshold.

a) Import from outside EU

The OEM who imports the pre-charged air conditioning system (or complete materials handling equipment that integrates a mobile air conditioning system) from outside the EU acts as the importer who places the product on the (EU) market. Consequently, the OEM has to fulfil several requirements.



Labelling and product and equipment information (article 12)

The air conditioning system must bear a label that indicates the following information:

- A reference that the equipment contains fluorinated greenhouse gases (with the text “contains fluorinated greenhouse gases”)

- The accepted industry designation for the fluorinated greenhouse gases concerned (e.g. “HFC-R134a”) or, in the absence of such a designation, its chemical name;
- The quantity expressed in weight (in kilograms) and in (tonnes of) CO₂ equivalent of fluorinated greenhouse gases contained in the equipment and the global warming potential of those gases.

The label must be clearly readable and indelible, and must be placed securely:

- Adjacent to the service ports for charging or recovering the fluorinated greenhouse gas, or
- On that part of the equipment that contains the fluorinated greenhouse gas.

The label must be in the official languages of the Member State in which the equipment is to be placed on the market.

When the air conditioning system contains HFCs with a GWP of 150 or more (which is the case with the commonly used HFC-134a), the information indicated on the label must also appear in descriptions used for advertising.

Commission Implementing Regulation (EU) 2015/2068³ provides further information on the formats of labels.



Accounting in the quota system (article 14)

The F-gas Regulation provides for a gradual decrease of the quantities of fluorinated greenhouse gases placed on the EU market. In practice, this phase-down scheme is implemented through a system of quota, which tackles fluorinated greenhouse gases whether in bulk or pre-charged in equipment.

The importer of pre-charged equipment must ensure that the HFCs contained are accounted for within the quota system documenting compliance and drawing up a declaration of conformity (DoC). By drawing up the DoC, the importer also assumes full responsibility for compliance with these obligations.

³[Commission Implementing Regulation \(EU\) 2015/2068 establishing the format of labels for products and equipment containing fluorinated greenhouse gases](#)

In the most likely event that the HFCs pre-charged in the equipment have not been placed on the EU market prior to the charging of the equipment, the importer must obtain an authorisation matching the quantity of HFCs in the pre-charged equipment. It is important to note that the importer of pre-charged equipment does not need a quota himself (which only applies to those placing f-gases in bulk on the EU market).

Authorisations can be obtained directly from the quota holder or via a company such as the manufacturer of equipment that has obtained authorisations from the quota holder in order to pass them on (“delegate them”) to companies importing the equipment (“pooling arrangement”).

The European Commission’s [guidance on “information for importers of equipment containing fluorinated greenhouse gases on their obligations under the F-gas Regulation”](#) explains the process that must be followed depending on the scenario.

Determining the quantity of F-gases in the equipment

An authorisation is given for a determined quantity of HFCs expressed in CO₂ equivalent. The importer must therefore calculate the total quantity of f-gases contained in the equipment expressed in CO₂ equivalent. This is done on the basis of the weight of refrigerant and its GWP.

Example

A shipment of 500 mobile air conditioning units each containing 300 grams of R-134a which has a GWP of 1430:

-> each unit is charged with $0.0003 \text{ tonnes} \times 1430 = 0.429 \text{ tonnes CO}_2 \text{ equivalent}$

-> the total quantity is $500 \times 0.429 = 214 \text{ tonnes CO}_2 \text{ equivalent}$

Article 2 of Implementing Regulation 2016/879⁴ specifies what the documentation must notably consist of:

- The declaration of conformity, which, in the most likely event that the HFCs pre-charged in the equipment have not been placed on the EU market prior to the charging of the equipment, must mention the duly registered authorisation of quota use;

N.B.: the European Commission's guidance on "information for importers of equipment containing fluorinated greenhouse gases on their obligations under the F-gas Regulation" provides a model of declaration of conformity (section 10.2).

- A list identifying the equipment released for free circulation providing the following information:
 - The model information
 - The number of units per model
 - The identification of the type of HFCs contained in each model
 - The quantity of HFC in each unit rounded to the nearest gram
 - The total quantity of HFCs in kilograms and in tonnes of CO₂ equivalent
- The customs declaration related to the release for free circulation of the equipment in the EU

Other types of documents corresponding to specific situations may be requested (see article 2 of implementing regulation 2016/879 for more information).

These documents must be kept for at least 5 years after the placing on the market of the equipment.

From 1st January 2018, in the most likely event that the HFCs pre-charged in the equipment have not been placed on the EU market prior to the charging of the equipment, the importer must ensure that by 31st March every year the accuracy of the documentation and the DoC of the preceding year are verified by an independent auditor. The importer must submit the verification documents and supporting documents by 31st March for the preceding calendar year and indicate the auditor's findings.

⁴[Commission Implementing Regulation \(EU\) 2016/879 establishing detailed arrangements relating to the declaration of conformity when placing refrigeration, air conditioning and heat pump equipment charged with hydrofluorocarbons on the market and its verification by an independent auditor](#)



Registration on the electronic registry for quotas (article 17 (e))

In the most likely event that the HFCs pre-charged in the equipment have not been placed on the EU market prior to the charging of the equipment, the importer must also register on the electronic registry for quotas, which forms a part of the [F-gas portal](#).

The European Commission has made available [guidance on how to register](#).

In addition, the quota authorisation must also be recorded in the HFC registry. This will help to fulfil reporting obligations.



Reporting

In the most likely event that the HFCs pre-charged in the equipment have not been placed on the EU market prior to the charging of the equipment, importers must report on the use and source of authorisations covering the HFCs contained in equipment imports. To this end, authorisations as received in the HFC Registry are automatically imported into the reporting tool. Importers are then asked to specify how many available authorisations were used to cover the actual imports.

In addition, importers of at least 500 tonnes CO₂ equivalent in equipment per year (corresponding to 350kg of R-134a) must report:

- The quantity in metric tonnes of F-gases contained in the equipment/products, by category;
- The number of units per category.

More information on annual reporting can be found in the European Commission's Implementing Decision 1191/2014⁵ and in the [FAQ on reporting](#).



Special case: importing equipment filled with HFC previously placed on the EU market

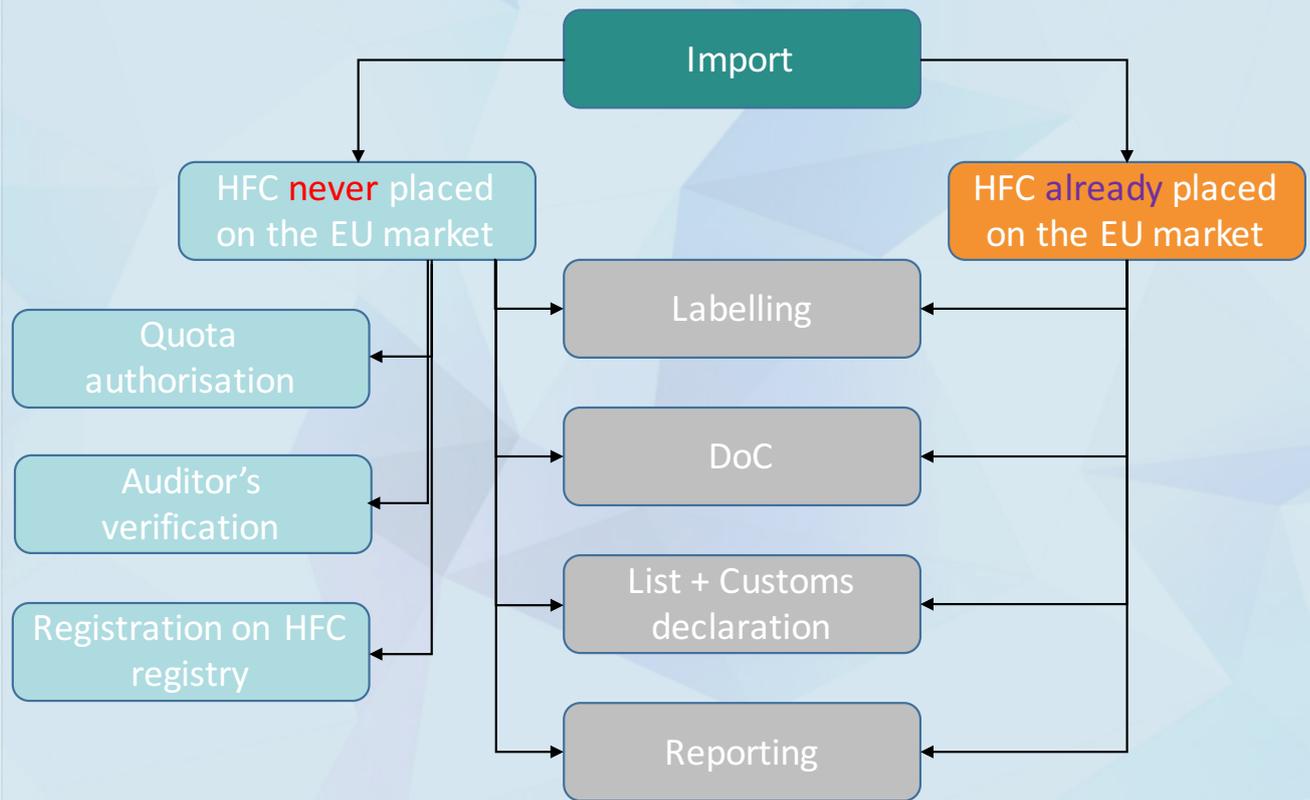
This targets the unlikely situation where:

- 1) the HFCs are placed on the EU market,

- 2) HFCs are exported,
- 3) HFCs are filled in mobile air conditioning equipment outside the EU,
- 4) the pre-charged mobile air conditioning systems are imported into the EU.

In such a scenario, the importer of equipment will need to specify the quantities imported in equipment in the reporting sheets and identify the undertaking that exported the bulk gas and the year of export.

Summary of OEM obligations when acting as equipment importer



b) Purchase on the EU market

If the air conditioning equipment is purchased on the EU market, the requirements must already have been fulfilled by the manufacturer or the importer of the equipment. The OEM has no further obligation.

2. The OEM buys the system empty and charges it during the manufacturing process

a) Acquiring the equipment

Whether the equipment is imported or bought on the EU market, it must bear a label with specific information (see “Labelling and product and equipment information”, page 5).

b) Acquiring the refrigerant

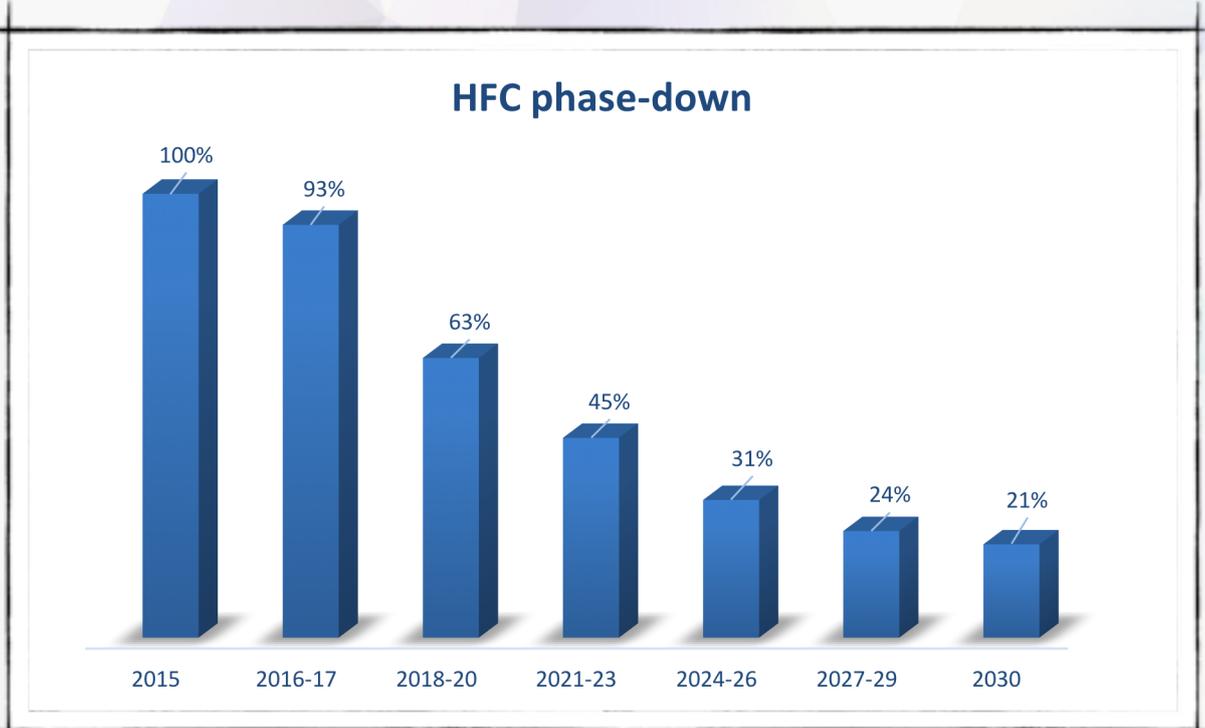
Whether the equipment is imported or bought on the EU market, it must bear a label with specific information (see “Labelling and product and equipment information”, page 5).



The refrigerant is imported

If the OEM intends to import HFCs in bulk, it will have to register to receive a quota, unless it imports less than 100 tonnes CO₂ equivalent of HFC per year (= 70kg of R-134a).

Quotas are allocated on a yearly basis. The total amounts available decrease every 3 years as a result of the HFC phase-down scheme. The phase-down scheme provides for a gradual decrease in the quantity of HFCs placed on the EU market. The total decrease will reach 79% in 2030.



The OEM must register on the electronic registry (see “Registration on the electronic registry for quotas”, page 9).

Finally the OEM will also have reporting requirements (see “Reporting”, page 9).

For more information, see the [Guidance on how to make a quota declaration in the HFC Registry](#).

For questions on quota allocation and the HFC registry, please email CLIMA-HFC-REGISTRY@ec.europa.eu

Scenario
2

The refrigerant is bought on the EU market

The OEM has no obligations as these will have been fulfilled by the refrigerant manufacturer or the importer.

c) Charging the refrigerant

The OEM personnel does not need to be certified to charge the refrigerant in the system or to perform maintenance or servicing. Such an obligation only applies to stationary air conditioning and refrigeration equipment and refrigerated trucks and trailers.

HFC recovery in road vehicles outside the scope of Directive 2006/40 on mobile air conditioning⁶ must be carried out by “appropriately qualified natural persons”. This impacts motor vehicles of the M1 and N1 categories as defined in the Annex II of Directive 70/156/EEC⁷.

⁶ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32006L0040>

⁷ <http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:31970L0156>

II. OTHER REQUIREMENTS

First and from a general point of view, intentional release of HFCs into the atmosphere is prohibited where the release is not technically necessary for the intended use.

Other requirements apply to the operator of the equipment or take the form of bans that can be relevant to the OEM.

1. If the OEM is the operator of the equipment

In the unlikely event that the OEM is also the operator of the equipment it has manufactured, 3 requirements apply:

- Precautions must be taken to prevent unintentional leakages. Operators must take all measures that are technically and economically feasible to minimise leakages.
- When a leakage is detected, the equipment must be repaired without undue delay.
- The operator of mobile air conditioning equipment must arrange for the recovery of the refrigerant to the extent that it is technically feasible and does not entail disproportionate costs, by a certified natural person so that the refrigerant is then recycled, reclaimed or destroyed. Alternatively it can arrange for the refrigerant's destruction prior to recovery.

2. Bans and prohibitions

The use of sulphur hexafluoride is prohibited for filling vehicle tyres.

In addition, two bans are potentially indirectly relevant to OEMs:

- Ban on fire protection equipment containing HFC-23 since 1st January 2016
- Ban on foams containing HFC with GWP > 150 (except when required by national safety standards):
 - By 1st January 2020 for extruded polystyrene (XPS)
 - By 1st January 2023 for other foams

Useful links

European Commission, DG Growth page on F-gas legislation

https://ec.europa.eu/clima/policies/f-gas/legislation_en

List of national contacts in EU Member States

https://ec.europa.eu/clima/sites/clima/files/f-gas/docs/contact_list_en.pdf



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