

BRIEF REVIEW OF EU LEGISLATION ON FLUORINATED GREENHOUSE GASES

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Current and revised EU F-gas legislation



- Regulation (EC) 842/2006 of the EU Parliament and the Council on certain fluorinated greenhouse gases (F-gases) and related Commission Regulations issued on its basis → some provisions cannot be strengthened by the EU Member States (MSs)
- Revised F-gas Regulation (EU) 517/2014 → will replace Regulation 842/2006 from 1 January 2015 → all provisions can be strengthened by the MSs
- Directive 2006/40/EC on mobile air-conditioning systems in certain motor vehicles (MAC Directive) and related directives and regulations

Regulations → are mandatory for direct implementation by the concerned entities in all MSs

Directives → have to be implemented in the national legislations of the MSs

F-GAS REGULATION (EC) 842/2006 (I)

List of fluorinated greenhouse gases (F-gases)

F-gases (defined in Article 2) → definition below will be no longer valid → changed in the revised regulation (!)



- **HFCs** and **PFCs** (containing no more than 6 F atoms in the molecule) and **SF₆**
- **Preparations (mixtures)** containing those gases, except for preparations of Global Warming Potential (GWP) < 150

Range of GWP

F-gas	GWP
HFCs	12 - 14 800
PFCs	7 390 - 12 200
SF ₆	22 800

Recent GWP/100 values as listed in the revised F-gas regulation

Understanding the actual meaning of the term „preparation” (now called „mixture” in all EU legislation, including the revised F-gas regulation)



crucial for implementation of the Regulation

The components of the preparation (mixture) which do not play similar function as a single F-gas substance would do (refrigerant, aerosol propellant, extinguishing agent, blowing agent etc.) and are not liable to be released into the atmosphere under normal conditions of use are not counted in GWP calculations

→ e.g. in one component PUR foam (OCF) the mass of polyol or isocyanate/prepolymer components is not counted while the mass of components of mixture of gases which functions as a blowing agent is counted

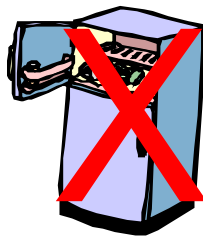
Understanding the actual meaning of the term
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crucial for implementation of the Regulation

→ If the „preparation” (mixture) contains both ODS and F-gas (eg. R-420 which contains HFC-134a and HCFC-142b) it will still fall under provisions of Regulation 842/2006 and GWP of that „preparation” (mixture) is calculated taking into account GWP of F-gas and GWP of ODS contained there

→ Under Regulation 842/2006 the pre-blended polyols are not considered „preparations”, but „products”, so e.g. there is no reporting obligation for import/export of F-gases contained in pre-blended polyols → **this approach is different in the new revised Regulation**



**Placing on the market (POM) and
use bans for F-gases**

POM with regard to F-gases has different meaning than POM with regard to ODS

- **POM in Regulation 842/2006 concerns only products and equipment containing or relying on F-gases (supplied or made available to the third Party for the first time) – but container is defined as „product”, so:**
 - Containers (cylinders) containing F-gas which enter the EU territory and are delivered as such to the final user → **are considered placed on the market**

BUT

- Big ISO containers which enter the EU territory, but are used only for discharging the F-gas they contain to smaller cylinders and then are returned to the ISO container owner do not fall under labeling obligation → **are considered not placed on the market**
- Containers (cylinders) which are used for recovery purposes, then sent to reclaim or destroy the contents → **are considered not placed on the market**

F-GAS REGULATION (EC) 842/2006 (II) Placing on the market (POM) and use bans for F-gases (substantially extended in the revised regulation)

Art. 8 and 9 (+ Annex II)

- **Ban on POM of non-refillable containers (Art. 9 + Annex II) → F-gases**
- **Bans on POM of certain products and equipment that contain F-gases or rely on F-gases (Art. 9 + Annex II)**
 - Non-confined direct evaporation systems → **HFCs + PFCs**
 - Fire protection systems and fire extinguishers → **PFCs**
 - One component foams (except when required to meet safety standards) → **F-gases**
 - Novelty aerosols → **F-gases**
 - Windows, footwear and tires → **F-gases**
- **Ban on use of SF₆ in magnesium die casting (if 850 kg/year or more) – Art. 8**
- **Ban on use of SF₆ for filling vehicle tires – Art. 8**

F-GAS REGULATION (EC) 842/2006
Specifics of POM/use bans and restrictions for F-Gases

- **Ban on POM of non-refillable containers (Annex II)**
 - Does not concern non-refillable containers manufactured before 4 July 2007 and filled in with F-gases before that date
 - Legally does not cover non-refillable containers with F-gas intended to be used for foams, pre-blended polyols or aerosol products manufacturing
 - a loophole in the Regulation that was supposed to be removed in the new revised text, but remained there

F-GAS REGULATION (EC) 842/2006
Specifics of POM/use bans and restrictions for F-Gases

- **Is servicing of fire-protection systems containing PFCs legal in the context of POM ban for such systems containing PFCs contained in Annex II?**

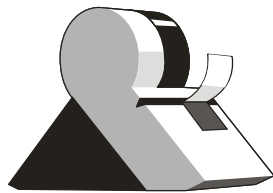
YES

➔ POM ban on equipment does not necessarily mean „use ban” for servicing the already installed equipment

F-GAS REGULATION (EC) 842/2006

Specifics of POM/use bans and restrictions for F-Gases

- Is ban on POM of „novelty aerosols” (Annex II) always applicable, even if the same aerosol products can be intended for uses other than covered by the term „novelty” (= entertainment) ?
- **NO → intended function is valid**
 - E.g. portable "gas horns" can generate loud noise. This function can be utilized in different contexts, either for
 - safety uses like industrial and personal safety, wilderness emergencies, fire & rescue and watercraft safety (i.e. not as novelty aerosols – ban would not apply)
 - entertainment uses: e.g. in parties, by supporters in sports events, in demonstrations (i.e. as novelty aerosols – ban would apply)



Labeling provisions with regard to F-gases

F-GAS REGULATION (EC) 842/2006 (III)

Labeling provisions related to F-gases

Art. 7

- Mandatory labeling of all F-gas containers and certain products and equipment containing certain F-gases before POM → means in practice that the exporter in country of origin or importer has to do the labeling (POM includes imports !!!)
- The following products and equipment and the following F-gases are covered:
 - Refrigeration pr/equ → PFCs or preparations containing PFCs
 - RAC&HP pr/equ (other than contained in motor vehicles), fire protection systems and fire extinguishers → HFCs or preparations containing HFCs
 - Switchgear → SF₆ and preparations containing SF₆
- Label shall contain indelible (not erasable) information:
 - That the container, product or equipment contains F-gas listed in the Kyoto Protocol
 - On chemical name of F-gas according to the accepted industrial nomenclature
 - On quantity of F-gas
- Label shall be placed adjacent to the service points or on that part which actually contains F-gas.

Details are contained in COM Regulation (EC) 1494/2007



F-gas emission controls

F-GAS REGULATION (EC) 842/2006 (IV)

Emission controls related to F-gases

Art. 3 (leakage checking)

- Operators of stationary RAC&HP equipment and fire protection systems are obliged to:
 - prevent leakages and repair them as soon as possible, if detected
 - for equipment containing 3 kg or more of F-gases → ensure that leakage checks are made by certified personnel as scheduled in the Regulation
 - if leaks are detected and repaired → ensure that next leakage check is performed within 12 months to see whether the repair was effective
 - for equipment containing 300 kg or more of F-gases → install leakage detecting system that has to be checked every 12 months

Leakage checking has to be conducted as described in COM Regulations (EC)1497/2007 and (EC)1516/2007

F-GAS REGULATION (EC) 842/2006 (V)

Emission controls related to F-gases

Art. 4 (Recovery)

- Operators of stationary RAC&HP, HVS, solvent equipment, and fire protection systems and fire extinguishers are obliged to:
 - put in place arrangements regarding recovery of F-gases by certified personnel
- Recovery from other equipment and from containers at the end of their life
 - shall be conducted by appropriately qualified personnel

Understanding the actual meaning of the term „operator“



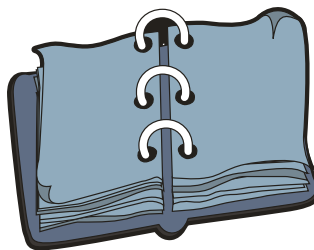
crucial for implementation of both ODS and F-gas Regulations

„Operator“ has to exercise actual power over technical functioning of the equipment → it should be understood as including the following elements:

- free access to the equipment or system
- controlling over day-by-day functioning (take decisions)
- have any kind of power, especially financial power, to decide about operations on equipment, e.g. leakage checks

Very important:

The „operator“ function can be delegated to a third Party only if ALL those elements are delegated and it is clearly stated in the contract that the third Party undertakes ALL „operator’s“ responsibilities contained in the Regulation.



Records keeping with regard to F-gases

F-GAS REGULATION (EC) 842/2006 (VI)

Records keeping with regard to F-gases

Art. 3(6)

- Operators of stationary RAC&HP and fire protection systems containing 3 kg or more of F-gases are obliged to maintain records (keep logbooks) on :
 - quantity and type of F-gas installed
 - quantities added
 - quantity recovered during servicing, maintenance and final disposal
 - other relevant information including:
 - identification of company or technician who performed servicing or maintenance
 - dates and results of leakage checks

Those records shall be made available on request to the MS competent authority or COM

Though importers/exporters of more than 1 tonne per year of F-gases are not directly obliged to keep records, they actually have to do so in order to meet reporting obligation



Reporting requirements with regard to F-gases

F-GAS REGULATION (EC) 842/2006 (VII) Reporting requirements with regard to F-gases

Art.6 (1)

- Producers/importers/exporters of more than 1 tonne per year of F-gases are obliged to report to the Commission as follows :
- **Each importer reports**
 - quantity of each F-gas imported or placed on the EU market
 - main categories of expected applications (e.g. refrigeration, AC, MAC, foams, aerosols, solvents etc.)
 - quantity of each used F-gas imported for reclamation, for recycling or for destruction
- **Each exporter reports**
 - quantity of each F-gas exported
 - quantity of each used F-gas exported for reclamation, for recycling or for destruction

Reporting format has been established in COM Regulation (EC)1493/2007

F-GAS REGULATION (EC) 842/2006 (VIII) Reporting requirements with regard to F-gases

Art. 6(4)

- requires the MSs to establish a system of reporting (by the entities from different sectors) data allowing estimation of the emissions of F-gases
 - It is not clear what this provision actually means → though it remained in the new revised Regulation without any changes
 - It may be understood that this system shall be complimentary to the system of reporting on emissions of GHG based on Kyoto Protocol requirements
 - In Poland we intend to establish electronic systems of reporting by:
 - Operators of equipment/systems containing 3kg+ F-gases (or ODS)
 - Entities which bring to PL, send out from PL, use, destroy, recover, recycle or reclaim F-gases (or ODS)
 - Entities which bring to PL, send out from PL or produce in PL products or equipment/systems containing F-gases (or ODS → unlikely)



Training/certification with regard to F-gases

F-GAS REGULATION (EC) 842/2006 (IX) Training/certification related to F-gases

Art. 5

- **Mandatory certification of technicians dealing with F-gases in stationary RAC&HP, fire-fighting, high voltage switchgear and solvent sector and of companies in RAC&HP and fire-fighting sector for activities defined in the Regulation**
 - **minimum requirements established in separate Commission Regulations (303/2008, 304/2008, 305/2008, 306/2008)**
- **MSs are obliged to notify COM on the systems established using format contained in COM Regulation 308/2008**
 - **minimum requirements established in separate Commission Regulations (303/2008, 304/2008, 305/2008, 306/2008)**
- **Equipment operators are obliged to ensure that the relevant personnel obtained appropriate certificates**
- **MSs are obliged to ensure that the companies involved in servicing or maintenance, installation, leakage checking or recovery with regard to F-gas equipment take delivery of F-gases only if their personnel is appropriately certified**



Penalties with regard to F-gases

F-GAS REGULATION (EC) 842/2006 (X) Penalties with regard to F-gases

Art. 13

- MSs shall lay down rules on penalties for infringement of the provisions of the Regulation (EC) 842/2006
 - Penalties shall be effective, proportionate and dissuasive (discouraging)
- Penalties Directive 2008/99/EC → such infringement is considered „unlawful”, but not „environmental crime”

F-GAS REGULATION (EC) 842/2006 (XI)

Commission regulations established on the basis of F-gas Regulation

- **Regulations (EC)303/2008, (EC)304/2008, (EC)305/2008 and (EC)306/2008**
→ requirements concerning certification, respectively in RAC, fire-fighting, high voltage switchgear and solvent sectors
- **Regulation (EC)307/2008**
→ requirements concerning training and attestation in MAC sector
- **Regulation (EC)308/2008**
→ format of notification by MSs on their training and certification programmes
- **Regulation (EC)1493/2007**
→ format of reports by producers, importers and exporters
- **Regulation (EC)1494/2007**
→ format of labels and requirements on labeling
- **Regulation (EC)1497/2007**
→ requirements for leakage checking of stationary fire protection systems
- **Regulation (EC)1516/2007**
→ requirements for leakage checking of stationary RAC equipment



Mobile Air Conditioning (MAC) Directives

2006/40/EC and 2007/37/EC

ODS AND F-GAS LEGISLATION IN THE EU

MAC Directives 2006/40/EC and 2007/37/EC – have to be implemented in legislations of all EU Member States

- Dates for phase out of F-gases of GWP>150 in MAC systems in **passenger cars, minibuses (up to 8 seats) and small trucks or vans (up to 3.5 tons)**
 - 1 Jan 2011 – no type approval shall be given to newly designed vehicles equipped with MAC containing F-gases of GWP > 150
 - 1 Jan 2017 - no new vehicles equipped with MAC containing such gases shall be registered and filling MAC in any vehicle with such F-gases shall be prohibited (except for vehicles fitted with MAC before that date)
- **Requirement for recovery of F-gases from MAC and for repair of any leakages before refilling → rather to be implemented in F-gas legislation**
- **Maximum leakage rates from MAC → 40/60 g/year**
 - Harmonized leakage test set up in Regulation (EC) 706/2007
- **Obligation to include info on MAC in the info package required in application for type approval - Directive 2007/37/EC**

New EU F-gas Regulation (EU) 517/2014

- **Finally approved in April 2014, published few days ago**
- **Will replace current F-gas Regulation 842/2006**
- **Will apply starting from 1 January 2015**
- **Contains certain new elements, *inter alia*:**
 - **Revised and new definitions (*inter alia*: F-gases, POM, switchgear, repair)**
 - **GWP values of F-gases contained in Annex I have been revised and „other fluorinated substances” added in Annex II**
 - **Quotas for placing on the market HFCs (including HFCs in RAC&HP equipment and in pre-blended polyols)**
 - **HFC phase-down schedule**
 - **New bans of placing on the market of products and equipment containing or relying on F-gases (specifically in RAC&HP and foam sectors)**
 - **New bans on use of F-gases, including ban on servicing certain refrigeration equipment with HFC with high GWP (>2500)**
 - **Leakage checking and F-gas recovery obligations for refrigerated trucks and trailers and certificates for installation, maintenance or servicing of switchgear equipment**
 - **Strengthened labeling and reporting obligations**

Definition of fluorinated greenhouse gases (F-gases)

Article 2(1)

- „fluorinated greenhouse gases” means the hydrofluorocarbons ("HFCs"), perfluorocarbons ("PFCs"), sulphur hexafluoride ("SF₆") and other greenhouse gases that contain fluorine, listed in Annex I, or mixtures containing any of those substances

NOTE :

- ➔ There is no limit of GWP = 150 for mixtures (before called „preparations”)
- ➔ any mixture containing HFC, PFC or SF₆ will be covered by the regulation
- ➔ There are no other greenhouse gases that contain fluorine in Annex I except for HFCs, PFCs and SF₆ ➔ Expression „and other greenhouse gases that contain fluorine” allows for moving substances from Annex II to Annex I

„Other fluorinated substances” contained in Annex II

- Unsaturated HFCs (and unsaturated HCFCs!!)
- Fluorinated ethers and alcohols
- Perfluorinated compounds (other than PFCs) ➔ e.g. NF₃

Annex II substances ➔ reporting obligation only

HFC phase down schedule (Annex V)

(baseline- 2009-2012, first reduction step – freeze in 2015, final reduction step – 89% reduction in 2030)

2015	100 %
2016–17	93 %
2018–20	63 %
2021–23	45 %
2024–26	31 %
2027–29	24 %
2030	21 %

Reduction concerns HFC quantities expressed in tonnes of CO₂ eq
Quantity of tonnes CO₂ eq of HFC = Quantity of metric tonnes x GWP of HFC

Quota allocation mechanism (Art. 16 and Annex VI) for HFCs placed on the EU market – also in pre-blended polyols

- Quota system covers only producers or importers who place on the market 100 tons of CO₂ eq of HFC or more per year (in case of HFC-134a it will equal to ca. 70 metric kg or more per year)
- Reference values expressed in CO₂ eq are determined for producers/importers who placed on the market HFCs in the period of 2009-2012 → 89% of total quota
- New entrants – may apply for 11% of total quota (those new entrants who will receive quotas become legitimate candidates for quota allocation next year based on their share in total quantity placed on the market in the previous year)
- Quotas can only be allocated to producers or importers which are established in the EU or which have mandated an only representative for the purpose of the regulation
- Transfer of quota is allowed and derogation from quota requirement up to 4 years is theoretically possible on request of a Member State
- Purposes generally exempted from quota system (without any request):
 - Destruction
 - Direct re-export
 - Feedstock
 - MDIs (from 1 January 2018)
 - Semiconductor industry
 - Military (arms, munitions, war material)

Placing on the market RAC&HP equipment pre-charged with HFC

(Art. 14)

- From 1 January 2017 HFC contained in such equipment must be accounted for in the quota system
- Declaration of conformity has to be presented to customs
- When HFC contained in that equipment has not been placed on the EU market before charging → importers have to register and (from 1 January 2018) declaration of conformity is to be verified by independent auditor

Electronic registry - who will have to register?

(Art. 17)

- Entities to which quotas were allocated or transferred
- Potential new entrants (they have to declare quantity of HFCs they would like to get)
- Suppliers and recipients of HFCs for purposes exempted from quota system
- Importers of RAC&HP equipment containing HFCs which were not placed on the EU market prior to charging of the equipment

Reporting on-line – who will have to report? (Art. 19 and Annex VII)

- Entities which produced, imported or exported 1 metric tonne or more or 100 tonnes of CO₂ eq or more of F-gases (and other fluorinated substances, e.g. fluorinated ethers, HFOs) per year
 - Report must be supplemented with a verification document if 10 000 tonnes of CO₂ eq or more per year
- Entities which destroyed 1 metric tonne or more or 1000 tonnes of CO₂ eq or more of those gases and substances per year
- Entities which used 1000 tonnes of CO₂ eq of F-gases or more as feedstock per year
- Entities which placed on the market 500 tonnes of CO₂ eq or more of F-gases (and other fluorinated substances, as above) contained in products or equipment

Importers who place on the market RAC&HP equipment containing HFCs which have not been placed on the EU market prior to charging have to submit a verification document (confirming correctness of declaration of conformity and of other documentation related to imports)

So – how will the HFCs flow be monitored in the quota system established in the new F-gas regulation?

- Registration
- Declaration of conformity
- Verification documents
- Reporting
- Labeling

Alternative option to declaration of conformity (rejected during negotiations) :

→ unique number attached to each tonne of HFC included in quota system

- reproduced on equipment label
- possible to be checked on-line

New bans on placing on the market (Annex III)
 (Commission will publish assessment on availability of alternative technologies
 by 31 Dec 2022 – for multipack refrigeration systems – by 31 Dec 2020)

Domestic refrigerators and freezers that contain HFCs with GWP of 150 or more		1 January 2015
Refrigerators and freezers for commercial use (hermetically sealed systems)	that contain HFCs with GWP of 2500 or more	1 January 2020
	that contain HFCs with GWP of 150 or more	1 January 2022
Stationary refrigeration equipment, that contains, or that relies for its functioning upon, HFCs with GWP of 2500 or more except equipment intended for application designed to cool products to temperatures below -50°C		1 January 2020
Multipack centralised refrigeration systems for commercial use with a capacity of 40kW or more that contain, or that rely for their functioning, upon fluorinated greenhouse gases with GWP of 150 or more, except in the primary refrigerant circuit of cascade systems where fluorinated greenhouse gases with a GWP of less than 1500 may be used		1 January 2022

Bans do not concern „military equipment” → definition contained in the regulation

New bans on placing on the market (Annex III)
 (Commission will publish assessment on availability of alternative technologies
 by 31 Dec 2022 – for multipack refig systems – by 31 Dec 2020)

Movable room air-conditioning appliances (hermetically sealed equipment which is movable between rooms by the end user) that contain HFCs with GWP of 150 or more		1 January 2020
Single split air-conditioning systems containing less than 3kg of fluorinated greenhouse gases, that contain, or that rely for their functioning, upon fluorinated greenhouse gases with GWP of 750 or more		1 January 2025
Foams that contain HFCs with GWP of 150 or more except when required to meet national safety standards	Extruded polystyrene (XPS)	1 January 2020
	Other foams	1 January 2023
Technical aerosols that contain HFCs with GWP of 150 or more, except when required to meet national safety standards or when used for medical applications		1 January 2018

Bans do not concern military equipment → definition contained in the regulation

New or strengthened bans on use of F-gases (Art. 13)

- **Use of SF₆ in magnesium die-casting**
 - If 850 kg/year or more → prohibited
 - If less than 850 kg/year – allowed until 1 January 2018
- **Use of F-gases, with GWP of 2500 or more, to service or maintain refrigeration equipment with a charge size of 40 tonnes of CO₂ equivalent or more → prohibited from 1 January 2020 (except for equipment designed for cooling below -50°C)**

But

- **Allowed until 1 January 2030 for:**
 - Reclaimed F-gases → in existing equipment if appropriately labeled
 - Recycled F-gases → in existing equipment if recovered from such equipment → can only be used by the same undertaking which conducted recovery or for which recovery was conducted

New recovery and installation, maintenance or servicing, repair and decommissioning obligations (Art. 8 and 10)

- **Recovery obligation extended to refrigerated trucks (>3.5 t) and trailers → certification required**
- **Recovery from container at the end of its life must be ensured by the undertaking that is the last user of the container before decommissioning**
- **Appropriate qualification required for recovery of F-gases from any equipment (including mobile) not covered by certification or attestation requirements → to be ensured by equipment operator**
- **Certification requirement added for installation, maintenance or servicing, repair and decommissioning of refrigerated trucks and trailers (>3.5 t) and of electrical switchgear equipment**
- **Certification requirement added for decommissioning of stationary RAC&HP and of fire protection equipment**

Installation + maintenance or servicing + repair = installation + maintenance or servicing in Regulation 842/2006

Definition of switchgear equipment now covers ALL such equipment (there is no 1 kV limit)

New leakage checking obligations (Art. 3 and 4)

- Leakage checking limits expressed in CO₂ eq
 - 5 tonnes or more
 - 50 tonnes or more
 - 500 tonnes or more
- General exemption for hermetically sealed equipment containing less than 10 tonnes of CO₂ eq of F-gases and labeled as hermetically sealed
- Exemption until 31 December 2016 for equipment containing less than 3 kg of F-gases or less than 6 kg (if hermetically sealed)
- Leakage checking obligation extended to :
 - refrigerated trucks (>3.5 tonnes) and trailers → **certification required**
 - organic rankine cycles → **certification not required**
 - electrical switchgear equipment → **certification not required**
- Equipment operators and undertakings conducting leakage checks obliged to keep records for 5 years unless those data are kept in a central database established by the Member State

New obligations regarding leakage detection systems (Art. 5)

- From 1 January 2017 operators of the following equipment containing 500 tons of CO₂ eq of F-gases or more must ensure that the leakage detection system is installed:
 - **organic rankine cycles**
 - **electrical switchgear equipment**
- Such systems must be checked every 12 months (organic rankine cycles) and every 6 years (electrical switchgear)
- Obligation to install leakage detection systems for RAC&HP and fire protection equipment remains, but limit is now 500 tons of CO₂ eq

Strengthened labeling requirements (Art. 12)

- **Labeling obligation extended to :**
 - ALL RAC&HP, fire protection and electrical switchgear equipment
 - Aerosols (except for MDIs)
 - Containers
 - Organic rankine cycles
 - Electrical switchgear equipment
 - Foams and pre-blended polyols
- **If the use of product or equipment is covered by exemption → the particular purpose F-gas will have to be applied for has to be indicated on the label**
- **Reclaimed and recycled F-gases → label must contain information on the source and the batch number**
- **From 1 January 2017 the label must include, inter alia, information on quantity of F-gas in mass units and in CO₂ eq**

Other important new or modified obligations (certification)

- **Any undertaking which assigns a task for which a certificate is needed to another undertaking shall take reasonable steps to ascertain that the latter holds the necessary certificate → Art. 10(11)**
- **For activities requiring certificates F-gases can only be sold to and purchased by certified persons or undertakings employing such persons → collection, transporting and delivery of F-gases can be done by non-certified undertakings → Art. 11(4)**
- **Non-hermetically sealed equipment charged with F-gases shall only be sold to the end-user if evidence is provided that installation will be carried out by certified undertaking → Art. 11(5)**

LINK TO EU LEGISLATION ON F-GASES



<http://ec.europa.eu/clima/policies/f-gas>

**Thank you for your
attention !**