

Department for Environment, Food and Rural Affairs

# General Guidance for Solvent Cleaning

## Guidance: F Gas and Ozone Regulations

### Information Sheet SV 1: Overview

April 2012

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#### Contents

Summary of Key Obligations under the EU F Gas Regulation.....	1
Summary of Key Obligations under the EU Ozone Regulation.....	2
Which personnel must be certified under the EU F Gas Regulation?.....	2
What is the status of a non-UK qualification?.....	3
Other Relevant Information for companies using solvents.....	4

This was archived in January 2015  
For current guidance search GOV.UK for "F Gas"

This Information Sheet relates to the use of certain solvents for cleaning components used in manufacturing industry e.g. electronic circuit boards, high precision metal components (used in sectors like aerospace) and optical components. Certain key obligations apply to the use of fluorinated (F gas) and Ozone Depleting Substances (ODS) used as cleaning solvents.

Please note, this Information Sheet only refers to the use of solvents; if you have any refrigeration, air conditioning, fire fighting equipment or switchgear on your sites which contain F gases you will also have further obligations for this equipment. Refer to Information Sheet GEN 3 to check whether you have any other uses of F gases.

## Summary of Key Obligations under the EU F Gas Regulation

A relatively small number of specialist manufacturers use solvents containing F gases which are usually a blend or preparation of a number of compounds. If such solvents are used, the company must ensure that it meets the requirements in the F gas Regulation EC 842/2006 and the GB Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261<sup>1</sup>).

The Regulation only applies if the resulting preparation has a global warming potential (GWP) of 150 or more. For more information see EU F gas Regulation Annex 1 – Part 1 gives a list of F gases and their GWPs and Part 2 provides a formula for calculating the total GWP of a preparation.

The following solvents are known to be used and are covered by this Regulation:

- Perfluorocarbons (PFCs)
- Hydrofluorocarbons - HFC-431mee and HFC-365mfc.

Some of the trade names for products include:-

- Vertrel
- Ionium 'F' Series,
- Solvokane,
- Electrolube,
- Flutec.

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<sup>1</sup> See Information Sheet GEN 4 for a list of relevant regulations and links to download the full text.

You need to check with your supplier whether the solvents you are using contain F gases that are covered by the EU F gas Regulations and what the GWP of the solvent is. Note that if the GWP of a solvent is at or near 150, as it is used its GWP may increase above the 150 threshold and the obligations in the EU F gas Regulation will apply.

So if such solvents are used, the company must ensure that it meets the requirements in the EU F gas Regulation. The key obligations for solvent using companies:

<b>Recovery</b>	F gas solvent must be properly <b>recovered</b> during plant servicing / maintenance and at end of life. It is illegal to knowingly vent F gas solvent vapours to the atmosphere or to pour solvents into the drains. Recovered solvents must be sent for reprocessing or destruction.
<b>Training</b>	Any personnel carrying out solvent recovery activities must have appropriate <b>qualifications</b> .
<b>Taking delivery</b>	Companies taking delivery of containers of F gas need to employ personnel with appropriate qualifications if undertaking F gas recovery.

## Summary of Key Obligations under the EU Ozone Regulation

Historically various ODS solvents including CFCs and 1,1,1 trichloroethane were widely used as cleaning solvents. These substances were banned under the EU Ozone Regulation 2037/2000. In summary, the EU Ozone Regulation requires:

<b>Ban</b>	<b>Ban</b> on the use of CFCs, 1,1,1 trichloroethane, chlorobromomethane and carbon tetrachloride for any solvent application from 1 <sup>st</sup> October 2000. <b>Ban</b> since 1 <sup>st</sup> January 2002 on the use of HCFCs in all solvent applications (including, since 31 <sup>st</sup> December 2008, precision cleaning of electrical and other components in aerospace and aeronautics applications).
<b>Leak Checks</b>	Regular checks for <b>leakage</b> .
<b>Recovery</b>	Solvent <b>recovery</b> during plant maintenance and at end of life. Recovery should be undertaken by personnel with appropriate <b>qualifications</b> .

## Which personnel must be certified under the EU F Gas Regulation?

Personnel recovering F gas solvents from equipment must have appropriate qualifications.

**Since 4<sup>th</sup> July 2009**, a new personnel certificate has been required. This new qualification specifically addresses F gas issues. The content of the required training is described in detail in the supporting Commission Regulation 306/2008.

Personnel wishing to undertake recovery of F gas solvents need to hold either:

- Fraser Technology solvents F gas qualification, or
- European qualification recognised under mutual recognition provisions, see below for more details.

**Contact Fraser Cleaning Technology Ltd for more details:**

Telephone: 01506 443 058

Email: [sales@frasertech.co.uk](mailto:sales@frasertech.co.uk)

Website: [www.frasertech.co.uk](http://www.frasertech.co.uk)

**Exemptions:** There are exemptions for one category of personnel: Trainees are exempt for up to 1 year, but they must work under the supervision of certificated personnel and must be enrolled on a relevant training course.

### **What is the status of a non-UK qualification?**

The EU F gas Regulation requires that Member States give mutual recognition to certification of suitable qualifications from other EU countries. This will only apply to a “full qualification” that meets the minimum standards described in Regulation EC 306/2008. In some EU countries the existing qualifications already meet or go beyond these minimum requirements. Interim certificates issued by other EU Member States will not be valid in the UK.

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## Other Relevant Information for companies using solvents

Defra has produced a set of information sheets that are intended to help companies understand all their obligations under the EU F gas and Ozone Regulations.

The following information sheets may be relevant:

Number	Content of Information Sheet
<i>Information Sheets on Solvent Use Issues</i>	
SV 1	Short overview of obligations on solvent users.
<i>Information Sheets on Refrigeration and Air-conditioning Issues</i>	
RAC 1	Short overview of issues for users of RAC Systems.
RAC 2	Background to F gas and ODS use in RAC Systems. Sources of emissions. Emission reduction opportunities. Alternative refrigerants.
RAC 3	Detailed description of key obligations for companies.
RAC 4	Getting started – advice on the steps to take to achieve compliance.
RAC 5	Qualifications & Certification – details about the training and certification requirements for RAC personnel and contracting companies.
RAC 6	Practical Guidance – dealing with numerous detailed RAC topics including: leak testing, refrigerant recovery, record keeping and labelling of equipment.
RAC 7	Alternative Refrigerants – minimising emissions and options for refrigerant selection.
RAC 8	HCFC Phase-out
<i>General F Gas and ODS Information Sheets</i>	
GEN 1	Glossary of terms related to F gas and ODS Regulations.
GEN 2	Background to F gas and ODS fluids.
GEN 3	Overview of markets and equipment affected by the F gas and ODS Regulations.
GEN 4	Links to full copies of all relevant Regulations and legislation.
GEN 5	Guidance on estimating refrigerant charge.

The information in this document is intended as guidance and must not be taken as formal legal advice or as a definitive statement of the law. Ultimately only the courts can decide on legal questions and matters of legal interpretation. If you have continuing concerns you should seek legal advice from your own lawyers.

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