EFCTC NEWSLETTER

An update on fluorocarbons and sulfur hexafluoride

ISSUE 32 - February 2006

F-GAS REGULATION: CONCILIATION AGREEMENT BETWEEN EU PARLIAMENT AND NATIONAL GOVERNMENTS

At the first Conciliation Meeting between the Council and the EU Parliament an agreement was reached on the F-Gas Regulation proposals, leading to their final acceptance by the Parliament and the Council.

EFCTC welcomes the agreement, a clear message in support of refrigerant choice, energy efficiency and containment to reduce emissions of fluorinated gases, and which confirms the continued use of HFCs across Europe in their many applications, including refrigeration, stationary air conditioning and thermal insulation.

The objective of the Regulation on Fluorinated Gases is to contain, prevent and thereby reduce emissions of the fluorinated greenhouse gases, rather than to ban their uses. Only where containment is not feasible or their use deemed inappropriate, marketing and use could be banned (for example use of SF_6 in double glazing, magnesium casting or car tyres, recreational items, as well as PFCs in new fire protection systems and fire extinguishers).

The Directive on Mobile Air Conditioning will phase out HFC-134a from air conditioning systems from 1 January 2011 onward for new vehicle models and from 1 January 2017 for all new vehicles.

The final endorsement of the Agreement by the Parliament and the Council is expected by mid-2006.

Member States will then have 18 months to transpose the Directive on Fluorinated Gases in national law, while the Regulation on F-Gases in Mobile Air Conditioning will be immediately applicable and will apply 12 months from the date of entry into force (20 days after its publication in the Official Journal).

See the EU Council Press Release (in English) and the EU Parliament Press Release (in all EU languages) giving positions and details on the Agreement.

See EFCTC PR on the Conciliation Agreement and EPEE PR.

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DECEMBER 2005 MONTREAL PROTOCOL MEETING MAIN RESULTS

The 17th Meeting of the Parties to the Montreal Protocol (MOP-17) was held in Dakar, Senegal from 12-16th December 2005.

The main results of the discussion were

- An agreement for the replenishment of the Multi-lateral Fund (MLF)[1] to be US $ 470 million for the period 2006-8;
- essential use nominations for 2006 and 2007 for developed countries for the manufacture of metered dose inhalers (MDIs) for asthma and COPD (chronic obstructive pulmonary disorder);
- the decision (UNEP/OzL.Pro.17/CRP.18) on the "IPCC/TEAP Special Report on HFCs and PFCs with respect to ODS" to organize an experts' workshop on that topic at the Open-Ended Working Group (OEWG) Meeting in July 2006. The workshop will produce a list of practical measures relating to ozone depletion that arise from the reports, indicating their associated cost-effectiveness, and a report of the workshop will be presented at MOP-18 (end 2006).

Note 1 : The Multi-lateral Fund is paid by developed countries to fund projects in developing countries (article 5(1) countries) to phase out the production and use of ozone depleting substances (ODS).

Status of Ratification : As of 16.12.2005, there are 189 Parties to the Montreal Protocol, 170 Parties to the Copenhagen Amendment, 139 Parties to the Montreal Amendment and 103 Parties to the Beijing Amendment. This is seen as the most effective international multi-lateral agreement. Countries were urged to ratify (Decision XVII/1).

MOBILE AIR-CONDITIONING TORINO CONFERENCE HIGHLIGHTS ADVANCES IN IMPROVED HFC-134a SYSTEMS

Progress of the I-MAC program (Improved Mobile Air Conditioning Cooperative Research Program), aiming at decreasing dramatically the environmental impact of HFC-134a in MAC, was presented at the First European Mobile Air Conditioning Workshop in Torino (Italy) in November 2005.

The I-MAC Status Presentation showed advances in improving HFC-134a Mobile Air Conditioning Systems in relation to I-MAC Targets.

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1. **Reduction of direct system refrigerant leakage by at least 50 percent**
   Current Status: A repeatable test method and test cycle has been developed. Leakage rates have been found between 5 and 8 g/y (depending upon the climate) – significantly below the limit of 40 to 60 fixed by the future EU Directive (article 5 § 3).
   A technical Standard for Refrigerant Emissions (SAE J-2727) has been approved and is applicable.

2. **Improvement of the system efficiency by at least 30 percent**
   Current Status: Improved compressors and Controls have together yielded a COP improvement of 32 %.

3. **Reduction of system cooling loads by at least 30 percent**
   Current Status: A number of measures have been evaluated (Ventilated vehicle, Reflective paint, Reflective glass, Improved insulation, etc.), and reduced temperatures have been achieved, and a Model being developed to show impact on vehicle load.

4. **Reduction of the Refrigerant Loss during Servicing and at the End of life by 50 percent**
   Current Status: Technical standards for recovery and charging and a leak detection standard will drive improvement in equipment and practice.

In another session, using a "Total Warming Prediction Graph (TWPG)" to integrate long term effects of Greenhouse Gases Emissions, Akira Sekiya of the Japanese National Institute of Advanced Industrial Science and Technology made an interesting presentation showing that Enhanced HFC-134a systems have a better result than CO_2 systems, even in a cooler city like Boston.

HFCs BLENDS IMPORTANT FOR CLEANING OXYGEN SYSTEMS

Oxygen system cleaning is a critical cleaning application with more demanding parameters than usual.

Oxygen is commonly used in hospitals, on airplanes or for deep-sea diving among others. Such systems are highly sensitive to contamination of particles, which may hinder the operation of valves, or cause excessive friction, heating, and premature component wear, potential sources of system failure.

Oxygen systems need therefore to be thoroughly cleaned from their manufacture and transport to their point of use.

HFCs blends are approved for oxygen system cleaning. They have the optimal combination of handling, cleaning, safety, environmental and economic characteristics.

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Alternative hydrocarbon solvents are inadequate because they are combustible. Also since they are slow-drying, it is impossible to ensure that no combustible solvent has remained trapped within the complex shapes of an oxygen system. This situation may contribute to an explosive situation once pure oxygen is reintroduced into the system (combustible materials ignite much more rapidly in an oxygen rich atmosphere).

To design a cleaning system, it is necessary to take account of different situations, for instance the type of surface coming in contact with the oxygen (fixed surfaces such as the insides of pipes, or moving surfaces such as valve gates), or whether the oxygen is in the form of a liquid or a gas.

The solvent must also be compatible with the wide variety of materials and elastomers used in such systems, which is the case for HFC Blends have excellent materials compatibility across almost all of the common materials of construction. Only some stronger solvent blends have minor compatibility concerns with soft plastics, such as polycarbonates (the transparent windows on LCDs, calculators, pagers, palmtop computers and cell phones usually are made from polycarbonates.)

Source: Commercial information

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