



EFCTC NEWSLETTER

An update on fluorocarbons and sulfur hexafluoride

ISSUE 21 - March 2005

SPECIAL REPORT ON HFCs TO BE FINALIZED BY IPCC NEXT APRIL

The [23rd IPCC Plenary](#) will take place on April 8 in Addis Ababa, Ethiopia. It will review and approve the Summary for Policymakers of the [IPCC Special Report](#) on "Safeguarding the ozone layer and the global climate system: issues related to hydrofluorocarbons and perfluorocarbons". The full report will be published in May 2005.

[Background of this Report](#)

HFC-407C FOR THE "GRAN TEATRO LA FENICE" IN VENICE

The "Gran Teatro La Fenice" in Venice has been entirely rebuilt, and its new air-conditioning system is quite unique in its logistic difficulties, aesthetic requirements and environmental impact. The theatre was almost totally destroyed by a devastating fire in 1996.

The installation is an extremely silent, HFC-407C based, water cooling systems, for a total cooling power exceeding 1600kW.

The project was extremely challenging, demanding the utmost minimal acoustic impact and the total absence of vibrations. The equipment had to be installed in an extremely reduced space, and in the heart of Venice, which required complex logistics solutions.

Source: Equipment Manufacturer

SAFE NAVIGATION WITH HFCs

HFCs are used to provide comfort and ensure safety to cruise ships passengers, cooling the provisions stores, the catering equipment (counters and refrigerators) and technical spaces.

Indeed, for private boats, cruise or military ships, safety on board is crucial.

That's why even refrigerator manufacturers using commonly hydrocarbons manufacture HFC-based refrigerators or freezers for the marine and offshore sector.



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Military ships need also safe and reliable refrigeration systems, and in submarines, issues of space and capacity are further complicated by the problem of noise. Stealth is one of the submarines' most potent defence strategies, and the acoustic signature of the air-conditioning and refrigerant plants are of great concern. Again extensive testing allowed the selection of HFCs for those functions.

Source: Equipment Manufacturers

SF₆ EMISSIVE APPLICATIONS PRACTICALLY VANISHED

From a survey of SF₆ Global Historical Sales Data, it can be noticed that emissive adiabatic applications (in car tires, sport shoes soles, etc.) have practically vanished in 2003.

The SF₆ Data Collection was presented at the [2004 Conference on SF₆ and the Environment](#), organized by the US EPA in December 2004 at Scottsdale, Arizona (USA).

Katie Smythe (RAND Corporation) presented Historical Data on SF₆ Sales and End-Use Applications – from 1961 to 2003 http://www.epa.gov/highgwp/electricpower-sf6/pdf/dec04/Smythe_datatable.pdf)

These data represent the most comprehensive summary of global data available on SF₆. Primary market sectors include: electric utilities, original equipment manufacturers (for electric power systems), magnesium industry, electronics industry, shock absorbing properties (called adiabatic, for use in tires or shoe soles), and all other uses.

Such data are important for analyzing trends, sources and applications of SF₆ as well as calculating emissions and correlating with atmospheric measurements.

The survey includes producers in Europe, United States, Japan and South Africa.

Sales in 2003 are 15% below the peak year of 1996, and remain at the level of the 2001 volume. By application, they decreased in the Electric Power Sector (Utilities and OEM), but increased in the Electronic Sector. It is remarkable that emissive Adiabatic Applications did practically vanish.

See also <http://www.fluorocarbons.org/voxnews/News.asp?NewsID=79> for the Data from the 2002 Conference.

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HFCs REFRIGERANTS RETAINED IN US AIR CONDITIONERS AND HEAT PUMPS ENERGY EFFICIENCY STANDARDS

For the U.S. Department of Energy national energy conservation standards, proposed for commercial unitary [air conditioners](#) and heat pumps, hydrocarbons or other alternative refrigerants to HFCs were not considered as design options for improving the energy efficiency of equipments intended for consumer use.

The Department [Appliances and Commercial Equipment Standards Program](#) was established to develop test procedures and minimum efficiency standards.

During this process, refrigerant choice has been subject to screening. It appeared in this process that commercial unitary air conditioning equipment using dangerous refrigerants would likely need to include safety features to protect against the possibility of fire and explosion.

New designs would have to be developed, new sensing/control capabilities to be implemented to mitigate the various risks, personnel to be trained to follow special safe handling and installation procedures, and therefore such alternative refrigerants were not considered.

Source for the criteria document:

http://www.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/cuac_tsd_chp_4.pdf

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