

Webinar Questions and Answers

What is HFC sustainability?

Unlike the situation with halons under ozone depleting substance regulations, proposed regulations on HFCs are a cap and reduction to a phase down in availability and not a phase out. This means that HFCs will continue to be available for applications with high societal value where viable alternatives cannot be found. Clearly FE applications fit in the category of high societal value and we expect that HFCs will continue to be available for this application if economically viable alternatives are not found.

Will climate change legislation reduce HFC availability resulting in increased cost?

HFCs are being looked at as a group so HFCs used in many, many applications and industries fall under the proposed climate change legislation. HFCs used in fire suppression is <1% of the total amount of HFCs used in all applications. Some industries have already started transitioning to alternatives. The cap and allocation includes all HFCs. When other markets transition to alternatives, this leaves room for HFCs in fire suppression to meet market demand well into the future.

Does DuPont have a next generation molecule?

DuPont has many R&D projects underway evaluating potential low global warming potential fluorochemical molecules. We have already announced our intentions to provide hydro-fluoroolefin (HFO) 1234yf is a replacement for HFC-134a in mobile air conditioning. (Due to its chemical properties HFO-1234yf is not a candidate for fire protection). We have identified a number of other molecules that we are actively working on that could potentially serve a number of fluorochemical applications, possibly including fire protection. However, at this time, we have not identified a molecule which meets all of the requirements for use as a total flooding fire suppressant: low toxicity, effective and efficient in use, economically viable, etc.

Is there any change in the physiochemical characteristics of the FM200 (HFC-227ea) fire extinguishing media [GWP 3800 for 100 years and atmospheric Lifetime of 22.6 years]?

No significant changes are expected. GWPs are updated with new publications in the scientific literature and periodically in international assessments. The primary reason for changes in the GWPs of HFCs over the last 15 years is a better understanding of the carbon cycle that changes the global warming contribution of carbon dioxide, the denominator in the calculation of the GWP of a compound.



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Any action towards the countries that have already forbidden FM-200 due to environmental characteristics (Europe)?

F-Gas Article 95 is intended to equalize standards, making enforcement easier and ensuring that high GWP gas emissions are as low as possible. The Legal Affairs Committee of the European Parliament has essentially endorsed Article 95, concluding that the proposed regulation on certain fluorinated gases will “essentially harmonize the legislation of the Member States which have as their objective the establishment and functioning of the internal market.”

When will HFC 227ea be placed on the endangered species list like Halon 1301?

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What year is the pre-industrial value?

The carbon dioxide concentration in the atmosphere was reasonably constant at a pre-industrial value of about 280 ppm until around 1800 when it began to increase due to human activities, primarily deforestation and burning of fossil fuels.

What are the projected fees for 2015 and beyond?

The fees for 2015-2017 are averages of an auction clearing price and earlier fixed prices. For 2018 and beyond the fees are set by the auction clearing price.

How will the U.S. regulate/control imported HFCs?

Under the proposed legislation HFCs could not be imported into the U.S. without government granted allowances which would be subject to a fee, to be paid, by the importing company.

Why are we waiting until 2050 to achieve lower emissions? This is 41 years away.

The proposed legislation is a cap and reduction schedule beginning in 2012. Hence, we would not be waiting until 2050. All greenhouse gases would be reduced under the regulation; HFCs in a separate cap and reduction scheme from the rest of the greenhouse gases.

What will be DuPont’s commitment to the fire extinguishing gas vs. their caps for other markets?

Based on our developments for next generation molecules for many of our other applications currently served by HFCs, we do not anticipate needing to make “choices” in which markets we serve with the rights we will have access to through this regulation. It is our view that we will continue to be able to provide economically viable HFCs for fire protection for the long-term.

Is the CO₂ cost of HFC-125 inclusive of the price of the agent per lb?

No, the costs details are only the carbon cost for DuPont to place HFC 125 on the market. It does not give an indication of the pricing of HFC 125 over time. The price of the agent will be determined by many factors and it is the DuPont view that HFC 125 as well as HFC 227ea will remain the most economical clean agent fire suppressant for the long term.

The June 5 CBO analysis of H.R. 2454 estimates the allowance price for HFCs at \$10 in 2015 and \$20 in 2019. This is much higher than the minimum auction prices in the bill. Does DuPont expect HFC allowance prices to be this high?

DuPont anticipates the allowance price to be significantly less than \$10 beyond 2020 under the proposed legislation.

When is the anticipated vote on the Waxman bill?

The Waxman-Markey Bill has already been passed by the House of Representatives. The Senate is now considering its version of the climate change bill. The timing for the passage of this type of bill through the Senate is unclear.

How is the progress coming along with using FM-200 in the aviation industry instead of Halon? Do you anticipate a phase out of Halon and the use of FM200 instead?

EU proposals have set the following dates; the retrofit of portable fire extinguishers by 2021, of waste tanks by 2017 and all other halon-based systems such as cargo, engine nacelles, auxiliary power units and fuel tank inerting by 2031. Halon would also be banned in all portable fire extinguishers, waste tanks, fuel tank inerting, engine nacelles, APUs in new aircraft by 2012 and cargo compartments by 2017.

In the United States the FAA has developed new guidance on clean agent extinguishers contained in proposed FAA advisory circular (AC) 20-42D. The AC would provide guidance on the installation and use of clean agent extinguishers and encourage owners and operators of all types of aircraft to use clean agent extinguishers. Therefore, UL believes that there will be a diminished need to support UL 1093 (the standard for UL certification of halon systems) and the continued UL Listing of these products and they can be eliminated. However the FAA appreciates the impact to the airline industry and also understands that there is current available Halogen Agent in the marketplace, which continues to be slowly decreasing due to previous production levels and the reclamation initiatives.

To allow an easier transition to other forms of extinguishers and systems, UL will continue to offer UL certifications for Extinguishers using Halogenated Agent due to the ability of current UL subscribers to obtain compliant agent in the marketplace. At such point that the availability of the agent prevents continued production based on the request from the current Applicants, UL will withdraw the Listings for these specific products. It is anticipated that the availability of the agent in the marketplace will be at such a level as to prevent continued Extinguisher production, and UL will withdraw all of the remaining certifications by October 1, 2014.

How are HFCs handled by the LEED rating system and other Green Build codes?

There are two LEED documents to consider when evaluating LEED Certification and both state HFCs used in fire suppression will received one (1) LEED credit for "Innovation in Operation and Upgrades."

LEED for New Construction (NC) – "Do not install fire suppression systems that contain ozone-depleting substances (CFCs, HCFCs or Halons)."

LEED for Existing Buildings (EB) – "Research and specify all building systems with non-ozone depleting equipment. Building systems to consider include HVAC, refrigerants and fire suppression systems." "Common substitutes for HCFCs are hydrofluorocarbons (HFCs)."

DuPont clean agent fire extinguishing agents are HFCs.

What is the status of any new regulatory restrictions for usage in European Countries due to GWP?

There are no European wide restrictions on use of HFCs in FE applications.

Is FM200 in fire suppression applications in a marine environment considered to be a high value application?

FM-200 as well as other DuPont clean agent offerings protect high valued assets in many market segments including marine and would be considered a "high value application" especially when protecting engine rooms and sophisticated computer and electronic equipment.

What actions has DuPont, individually or collaboratively with the FE industry, engaged in to influence these proposed regulations to achieve a maximum benefit for the FE industry?

DuPont has engaged in regulatory advocacy with others in industry through the Alliance for Responsible Atmospheric Policy. The objective is to have a regulation that minimizes disruption to the industry and consumers while providing environmental protection.

Will DuPont maintain U.S. production of HFCs?

HFC clean agents continue to expand into new global markets. DuPont will be a major global provider of fire extinguishants well into the future. Capital investments have been made in U.S. production facilities to support current and future demand. DuPont currently intends to continue to manufacture many of our HFCs in the United States.

Does it appear there will be any control over usage in China or India?

It is unclear when there will be controls on HFCs in these countries. Clearly, climate change is a global issue ultimately requiring all countries to take action to reduce greenhouse gas emissions. There has been recent discussion of a global agreement patterned after the Montreal Protocol to cap and reduce HFC use over time.

Can you differentiate between a phase out and a phase down? Is the legislative goal to eliminate the products as they are phased down, don't they become economically unsustainable?

Ozone depleting substances are being phased out under the provisions of the Montreal Protocol; there is an agreed schedule for the elimination of production for use except for critical applications. The proposed U.S. legislation as well as ongoing discussions for a global agreement to control HFCs would result in a phase down to some percentage of the initial cap, e.g. to 15% of the initial cap under the Waxman-Markey proposal.

For more information on DuPont Fire Extinguishants, please contact your local representative:

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