INTERNATIONAL REGULATORY UPDATE

The United Nations Framework Convention on Climate Change (UNFCCC) has been holding extra sessions in 2015 to prepare for a milestone climate meeting in Paris in December of this year. The purpose of the Paris meeting, known as COP-21, is to finalize an agreement on the mitigation of greenhouse gases (GHGs) and HFCs are included as part of the process. This agreement will be based upon individual nations submitting plans for reductions in greenhouse gas emissions. The number of countries that have submitted mitigation pledges or intended nationally determined contributions (INDCs) is slowly building, and many more are expected prior to the meeting in December. The management of HFC emissions is included in many of these pledges. The objective is to finalize the climate agreement under the UNFCCC by the end of this year and ratify the measures by 2020.

In anticipation of this milestone event, the Parties to the Montreal Protocol are in the process of reviewing proposals to amend this global treaty to include the management of HFCs. These proposals call for implementation of a phase-down of the production and use of HFCs. Parties have struggled to move this concept into formal negotiations this year but have initiated rounds of informal discussions on the management of HFCs under the Montreal Protocol. Three new HFC phase-down proposals (total of five from NAFTA region, EU, India, Senegal, and Pacific Island States) were presented this year at the July Open Ended Working Group (OEWG) meeting. This signifies a greater interest in this outcome. There was intense discussion on all the aspects of the proposals, for example, timing of the first reduction step or freeze, speed of phase-down, baseline levels for the reductions, availability of alternatives, and funding for developing countries to meet the reduction steps. This body is scheduled to meet again in November, but intercessional work and possibly an extra meeting are expected in order to try and meet the deadline of reaching agreement during this year.

However, countries and states are not waiting for an Amendment to the Montreal Protocol and have started to implement regional HFC programs. In 2015, the EU, Japan, and the U.S. launched separate efforts while programs for California, Canada, and Australia are currently under development. These programs all intend to limit the usage of different HFCs in particular applications, making global business decisions more challenging. For assistance on your particular Arkema material and application, please contact customer service at 800-245-5858.
Do not panic with the EPA Final Rule on the Change of Listing Status for Certain Substitutes. To begin with, in retail food refrigeration, everyone can continue to service their existing installations with the existing refrigerant, even R-404A or R-507A. The EPA is, however, changing options for refrigerants approved for new equipment installations and “new” retrofits starting in 2016 to 2020, depending on the application.

This Final Rule affirmed Forane® 407A, the leading alternative to R-404A, R-507A, and R22 in refrigeration applications, can continue to be used in supermarket systems and remote condensing units for both new equipment and retrofits. Forane® 407A remains acceptable for use in these applications and will continue to be the solution for end users looking to transition away from R-404A/R-507A.

**As of 1/1/2017** in supermarket systems and **as of 1/1/2018** in remote condensing units, R-404A, R-507A, and several other high GWP refrigerants cannot be used in new installations. For these applications, Forane® 407A is the approved refrigerant.

**After 7/20/2016**, you cannot start a retrofit using R-404A or R-507A and several high GWP refrigerants (>2730) in retail food refrigeration. This means you can continue to retrofit using Forane® 407A or Forane® 427A but not conduct new retrofits using high GWP retrofit blends, such as R-422D after this date. The Final Rule does not impact the use of Forane® 427A - The Easy Retrofit™ - and, due to its low-GWP, it remains EPA approved for use as a retrofit for R-22 in many air-conditioning, heat pump, and refrigeration applications. End users can continue to trust Forane®427A (R-427A) to minimize the work necessary during an R-22 retrofit, while providing comparable capacity, high efficiency, and avoiding an oil change in many installations.

New stand-alone equipment in retail food refrigeration and vending machines have dates pushed out to 2019 and 2020 with lower GWP limits.

HVAC applications, including stationary air-conditioning, heat pumps, and chillers, are generally not impacted by this Final Rule. Forane® 410A can continue to be used in new domestic and commercial air-conditioners as well as heat pumps, and Forane® 134a can continue to be used in new liquid chillers.

For the next generation in refrigerants, Arkema is developing both non-flammable and flammable solutions to meet global needs of the industry. For example, Forane® 449B, recently classified by ASHRAE, is a non-flammable, class A1, non-ozone depleting low-GWP replacement for R-404A, R-407 series, or R-22 in both new systems or as a retrofits for low- and medium-temperature commercial refrigeration, air conditioning, heat pump, and industrial applications. Compared to R-404A, Forane® 449B offers improved energy efficiency while reducing the GWP by two-thirds, and testing has confirmed no equipment, seal, or lubricant changes were needed. Forane® 449B is being approved by industry leaders, working to provide environmentally acceptable options with improved performance. Long term, Arkema’s global refrigerant solutions will involve movement to very low-GWP refrigerants across all HVAC and refrigeration markets.

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**GHS Labeled Product**

At Arkema Inc., we continuously strive to improve our product stewardship performance by providing our customers with appropriate regulatory, hazard, and safe handling information regarding our products.

OSHA has revised its Hazard Communication Standard (HCS) to adopt the Globally Harmonization System (GHS) method for classifying hazards of products. Under the new OSHA GHS system, Arkema (and all other chemical manufacturers) was required to rewrite all MSDSs (now called Safety Data Sheets or SDSs) and labels to conform to the new GHS standards. Changes to our SDSs and labels include GHS classification of our products and, where necessary, pictograms with color borders. In conjunction with this new OSHA requirement and to meet the needs of the diverse audience that relies on our SDSs and labels, we enhanced our SDSs to meet these regulatory requirements and further improved the presentation of information and data.

Effective June 1, 2015, all manufacturers and importers, including product formulators, must be in compliance of the modified provisions of the HCS. Effective December 1, 2015, all distributors and wholesalers should be selling only GHS complaint product.

All product shipped from Arkema effective June 1, 2015 has been shipped with updated SDSs and labels in the new GHS format.

Additional information can be found on the OSHA GHS website at:

- [https://www.osha.gov/dsg/hazcom/index.html](https://www.osha.gov/dsg/hazcom/index.html)
- [https://www.osha.gov/Publications/HazComm_QuickCard_Labels.html](https://www.osha.gov/Publications/HazComm_QuickCard_Labels.html)
- [https://www.osha.gov/Publications/OSHA3695.pdf](https://www.osha.gov/Publications/OSHA3695.pdf)

OSHA has additional information on enforcement guidance available at:

- [https://www.osha.gov/dep/enforcement/hazcom_enforcement-memo.html](https://www.osha.gov/dep/enforcement/hazcom_enforcement-memo.html)
By a unanimous vote of six commissioners, the United States International Trade Commission (USITC) determined that there is a “reasonable indication” that the U.S. industry is materially injured by the import of Chinese refrigerant blends and components that are allegedly sold in the United States at less than fair value.

As a result of the Commission’s affirmative determination, the U.S. Department of Commerce will continue its investigation on imports of these products from China, with its preliminary antidumping duty determination by about December 2, 2015.

The antidumping petition was filed by the American Hydrofluorocarbon (“HFC”) Coalition, whose members include Arkema Inc., the Chemours Co., Honeywell International Inc., Hudson Technologies Inc., Mexichem Fluor Inc., Worthington Industries Inc., and Amtrol Inc. The American HFC Coalition members allege that refrigerant products from China are being unfairly imported at consistently low prices, which is harming the domestic fluorochemical industry.

The HFC refrigerant products, such as R-410A, R-404A, and R-407C, are used in a variety of air conditioning, heating, and refrigeration applications. The large and very rapidly increasing volume of Chinese imports of these refrigerant products and their components has had a direct, negative impact on the domestic U.S. fluorochemical industry, resulting in rapidly falling prices and loss of market share.

To counter “dumping” and to level the international playing field, the petition seeks the imposition of antidumping duties on the various HFC refrigerants and components ranging from 100 percent to over 300 percent. The action is expected to take 9-13 months to complete, with a preliminary determination imposing antidumping duty deposits within approximately 6 months.

**FORANE® TEAM NEWS**

**Richard Rowe - CEO**

Rich Rowe, former Fluorochemicals Global Group President, has been promoted to CEO of Arkema Inc. Arkema has named Richard Rowe as CEO of Arkema Inc., the group's operations in North America. Rowe succeeds Bernard Roche, CEO since 2008, who is retiring after 42 years with the Arkema organization. Mr. Rowe has a long history with Arkema and ascends to this position after a series of successes; his resume includes leadership positions in many of Arkema’s top businesses, most recently as the global group president of Arkema’s fluorochemicals business unit.

**Christophe Villain - Managing Director**

Christophe Villain is a graduate of Ecole Nationale Supérieure de Chimie in Paris. He began his career at Elf Atochem in 1987 as Polypropylene Development Engineer within the Appryl subsidiary. In 1990, he joined General Electric Plastics to head marketing in the automotive sector. In 1996, he became Head of Elf Atochem’s Polystyrene Department, and in 2001 Head of Atofina’s global Bleaching Department. In 2003, he was appointed Managing Director of Arkema’s Urea Formaldehyde Resins business unit. From 2006 to 2011, he was Managing Director of CECA, and since 2011 has been Managing Director of the PMMA [Altuglas International] business unit.

**Joe Chirico - Senior Account Manager, HVAC OEM**

Joe returned to Arkema in February as a Senior Account Manager in the Fluorochemical business. He was part of Functional Additives from 2007 until October 2012, when their organotin product lines were sold to PMC Group, Inc. Prior to being at Arkema, Joe worked at PolyOne in a variety of roles, including engineering, manufacturing, finance, product management, distribution sales, market development, and sales management. He lives in the Cleveland, Ohio suburbs with his wife and has two grown children.

**Bryan Thompson - Senior Account Manager, FSA Industrial Accounts**

Bryan Thompson joined Arkema in the Fluorochemicals group in an account management role in April of 2015. He has enjoyed the last 15 years spent in sales and business development roles in the polyurethanes industry. This includes a senior account management role over the last four years with the INVISTA aromatic polyester polyols group, serving the insulation foam industry, and ten years in polyurethane systems with a small manufacturer. The systems products included rigid insulation foams and structural coatings. Bryan attended the University of Louisville for a BS in Chemistry and Business and subsequent MBA in Strategic Management. He and his wife, Mirla, currently reside in Wilmington, North Carolina.

**FORANE® TECH TIPS - KEEP IT COOL**

The goal of Arkema Inc.’s Forane® Refrigerant Tech Tips is to provide useful information on refrigerants to the HVACR service technician in a concise, easy to understand format. These tips address some of the more common questions/concerns we’ve encountered and will hopefully help to dispel some of the misinformation in our industry.

We’re all accustomed to refrigerant keeping us cool during hot summer months. However, it’s important to remember to keep your refrigerant cool during this time as well. In order to prevent any unnecessary loss of inventory, Arkema recommends following some basic storage recommendations. Keep cylinders stored in a cool, dry, well-ventilated area, where the cylinder will not be exposed to sustained high temperatures. Keep cylinders away from direct sunlight, any heat source, or any source of ignition, such as flames, sparks, and static electricity. Do not store cylinders in an enclosed vehicle on hot, sunny days - as interior vehicle temperatures can far exceed outside temperatures. If a relief device opens, DO NOT attempt to stop the release of product. Maintain a safe distance from the cylinder and ventilate the area. Following these basic recommendations will help ensure safe use of the product and minimize loss of inventory.
The statements, technical information and recommendations contained herein are believed to be accurate as of the date hereof. Since the conditions and methods of use of the product and of the information referred to herein are beyond our control, ARKEMA expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information; NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE GOODS DESCRIBED OR THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be applicable when such product is used in combination with other materials or in any process. The user should thoroughly test any application before commercialization. Nothing contained herein constitutes a license to practice under any patent and it should not be construed as an inducement to infringe any patent and the user is advised to take appropriate steps to be sure that any proposed use of the product will not result in patent infringement. See SDS for Health & Safety Considerations. Arkema has implemented a Medical Policy regarding the use of Arkema products in Medical Devices applications that are in contact with the body or circulating bodily fluids: ([http://www.arkema.com/en/social-responsibility/responsible-product-management/medical-device-policy/index.html](http://www.arkema.com/en/social-responsibility/responsible-product-management/medical-device-policy/index.html)).

Arkema has designated Medical grades to be used for such Medical Device applications. Products that have not been designated as Medical grades are not authorized by Arkema for use in Medical Device applications that are in contact with the body or circulating bodily fluids. In addition, Arkema strictly prohibits the use of any Arkema products in Medical Device applications that are implanted in the body or in contact with bodily fluids or tissues for greater than 30 days. The Arkema trademarks and the Arkema name shall not be used in conjunction with customers’ medical devices, including without limitation, permanent or temporary implantable devices, and customers shall not represent to anyone else, that Arkema allows, endorses or permits the use of Arkema products in such medical devices. It is the sole responsibility of the manufacturer of the medical device to determine the suitability (including biocompatibility) of all raw materials, products and components, including any medical grade Arkema products, in order to ensure that the final end-use product is safe for its end use, performs or functions as intended, and complies with all applicable legal and regulatory requirements (FDA or other national drug agencies). It is the sole responsibility of the manufacturer of the medical device to conduct all necessary tests and inspections and to evaluate the medical device under actual end-use requirements and to adequately advise and warn purchasers, users, and/or learned intermediaries (such as physicians) of pertinent risks and fulfill any postmarket surveillance obligations. Any decision regarding the appropriateness of a particular Arkema material in a particular medical device should be based on the judgment of the manufacturer, seller, the competent authority, and the treating physician.

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