



The Alliance

for Responsible Atmospheric Policy

Societal Benefits of Alliance Member Products

The role of Alliance members' products in our society goes well beyond their contribution to global and regional economies from a manufacturing and employment perspective. These materials, which are sold into a variety of industrial markets and incorporated into many products, provide a tremendous value to consumers and the greater society.

As societies have evolved over the past century, Alliance members' products have enhanced the quality of life in food-preserving refrigeration, air conditioning and insulation systems, as well as in fire safety systems, medical products, aerosols and other applications. The specific equipment and fluids chosen are based on their unique physical and chemical properties and viability in certain applications.

Our industries are focused on reducing application or equipment energy usage and are continuously developing new technology, from an equipment and material perspective, to satisfy new standards and environmental performance. One of the dimensions on which we measure the contribution of our products is their life cycle climate performance, which encompasses all elements of a product's life cycle.

The risk associated with a particular material is a critical factor during the selection process. Materials with higher levels of flammability and/or toxicity are beginning to be used in more applications around the world. It is important that the application's performance, environmental impact and overall risk are all considered when selecting a material, and that the use is in accordance with all relevant codes and standards. Additionally, materials should only be used in the device or equipment that was designed for the respective use.

The Alliance is a strong supporter of effective refrigerant management principles and advocates for more stringent government control in this area. Reducing charge sizes, tightening systems, reducing leaks, containing and recovering refrigerants, and conducting other best practices will only enhance the benefits and safety aspects of these materials.

Listed below are ways in which the Alliance, its members' products and industries have provided significant societal benefits:

- ✓ The fluorinated compound using and producing industries are engineering an innovative growth path to new, more efficient and environmentally friendly equipment and substances to meet the needs of society.

- ✓ Air-conditioning has played a key role in increasing worker productivity, enhancing health and reducing heat-related illness over the past half-century by keeping individuals comfortable and healthy in hot climates. In fact, MIT researchers have identified a direct correlation between the introduction of air-conditioning in the 20th century and a greater than 80 percent reduction in deaths due to exposure to very high temperatures (Barreca, Clay, Deschenes, Greenstone and Shapiro, 2012).
- ✓ The Alliance has established and supports a comprehensive list of responsible use principles and best practices to guide the use of refrigerants.
- ✓ Alliance members' products provide better living conditions in extremely warm environments and could play an important adaptation role according to climate projections.
- ✓ Metered dose inhalers (MDIs) utilizing fluorinated compounds allow for the safe, effective delivery of critical medicines for the treatment of asthma and chronic obstructive pulmonary disease (COPD), which currently do not have a cure.
- ✓ Working fluids in household appliances add convenience and comfort to lives of their owners.
- ✓ Refrigeration units preserve and protect food for societies around the world. The growth of this technology will enhance the life of products and ensure that the food is reaching a larger percentage of the population.
- ✓ Blowing agents, which provide for increased thermal insulation in foam products, are helping to increase energy efficiency.
- ✓ Mobile air conditioning has become a necessity for passengers' comfort and safety in more than 600 million vehicles worldwide.
- ✓ The transport of food, drugs, and other products, which require climate control, is possible due to the use of refrigerants. Climate control assures that goods arrive without deterioration and do not endanger public health.
- ✓ The safe application of many materials is enabled through the use of aerosols, which are efficient and easy to use.
- ✓ Our industries provide solutions for novel applications in the solvent and fire extinguisher markets where safety is of critical importance.
- ✓ Our industries have available technologies for the safe, clean, destruction or conversion of fluorinated compounds that have reached the end of their life.

The Alliance for Responsible Atmospheric Policy is a leading U.S.-based advocacy group with a global voice on refrigerant policy and management, supporting the responsible use of fluorocarbons. It was organized as an industry coalition in 1980 to address the issue of stratospheric ozone depletion and the production and use of fluorocarbon compounds. Members of the Alliance consist of manufacturers and businesses, including their trade associations, which rely on HCFCs and HFCs. Alliance companies represent approximately 90 percent of US HFC production and imports and a significant majority of the user industries. According to a recent study, the US fluorocarbon using and producing industries contribute more than \$158 billion annually in goods and services to the US economy, and provide employment to more than 700,000 individuals with an industry-wide payroll of more than \$32 billion. Today, the Alliance coordinates the participation of its industries in the development of reasonable national and international policies at the nexus of ozone protection and climate change.

Alliance Members

A-Gas/RemTec	Heating, Air-conditioning & Refrigeration Distributors International
AGC Chemicals Americas	Honeywell
Air-Conditioning, Heating & Refrigeration Institute	Hudson Technologies
Airgas	Hussmann
American Pacific Corp.	ICOR International
Arkema	IDQ Holdings
Association of Home Appliance Manufacturers	Ingersoll-Rand
Auto Care Association	International Pharmaceutical Aerosol Consortium
Bard Manufacturing Co.	Johnson Controls
BASF	Lennox International
Brooks Automation, Inc.	Metl-Span Corporation
Cap & Seal Company	Mexichem Fluor Inc.
Carrier Corporation	Midwest Refrigerants
Center for the Polyurethanes Industry	Mitsubishi Electric
Combs Gas	National Refrigerants
Daikin Applied	Owens Corning Specialty & Foam Products Center
Danfoss	Polar Technology
DuPont	Rheem Manufacturing Company
Dynatemp International	Ritchie Engineering
Emerson Climate Technologies	Solvay
E.V. Dunbar Co.	Sub-Zero
Extruded Polystyrene Foam Association	The Dow Chemical Company
Falcon Safety Products	Trane Company
FP International	Whirlpool Corporation
Golden Refrigerant	Worthington Cylinder
Halotron	