

HFO BLOWING AGENTS: INSULATING BUILDINGS EFFICIENTLY TO HELP STATES MEET CLIMATE GOALS

Proper building insulation is crucial for keeping energy costs low for families and businesses, making it an essential component of any well-designed and environmentally conscious building.



Honeywell

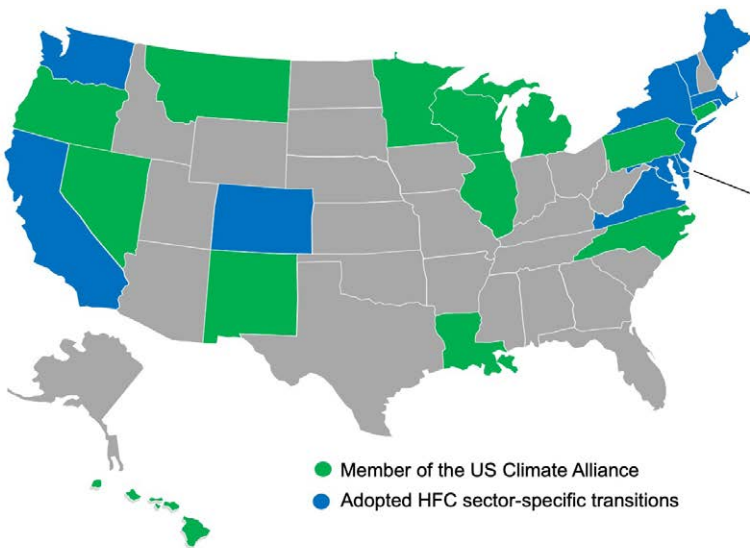
Closed-cell spray polyurethane foam (ccSPF) is a versatile insulation solution used in homes and commercial buildings – from basement to roof and everywhere in between. It seals air leaks, manages moisture, improves structural strength and provides insulation by expanding to fill gaps. These insulation foams are formed by blowing agents. HFO blowing agents are ultra-low global warming potential (low-GWP), and provide a direct replacement for legacy high-GWP substances under phasing out process (see details below). The EPA’s Significant New Alternatives Policy (SNAP) Program has approved the usage of HFO blowing agents for their intended uses¹.

Using superior, environmentally friendly blowing agents like HFOs improves building insulation performance and keeps homes and businesses safe and energy efficient. Because of their low-GWP and excellent thermal efficiencies, HFO blowing agents are an ideal choice for efficiently insulating indoor environments from extreme outdoor temperatures.



STATE HFC PROHIBITIONS IN EFFECT

EPA HFC SNAP transitions are in effect for a variety of foam end uses, **national restrictions** will become effective on **January 1, 2025**



Under AIM Act, EPA has finalized rulemaking to implement sector-specific HFC bans (similar to SNAP/CARB)

The United States Climate Alliance is a bipartisan coalition of governors committed to reducing greenhouse gas emissions consistent with the goals of the Paris Agreement.

REGULATORY TRANSITION DATES—FOAM BLOWING AGENTS

FOAM PRODUCTS*			
END-USE	GWP LIMIT*	PRODUCTION & IMPORT PROHIBITION**	SALES & EXPORT PROHIBITION**
High Pressure Two Component Spray Foam	150	January 1, 2025	January 1, 2028
Low-Pressure Two Component Spray Foam			
One Component Foam Sealant			
Other foam applications			

*Using AR-4 GWPs, if product isn't listed, use WMO
 **Some exclusions apply, including for spray foam used in space vehicles

FINAL TECHNOLOGY TRANSITION (TT) RULE RESTRICTIONS

FOAM PRODUCTS*		
SUBSECTOR	GLOBAL WARMING POTENTIAL LIMIT OR PROHIBITED SUBSTANCES	MANUFACTURE AND IMPORT COMPLIANCE DATE*
Polyurethane* (rigid, flexible, integral skin, laminated boardstock)	150	January 1, 2025
Polystyrene extruded boardstock and billet and extruded sheet	150	January 1, 2025
Phenolic insulation board and bunstock	150	January 1, 2025
Polyisocyanurate laminated boardstock	150	January 1, 2025
Polyolefin	150	January 1, 2025

* <https://www.epa.gov/system/files/documents/2023-10/technology-transitions-final-rule-fact-sheet-2023.pdf>

HFOs

- Use of Honeywell Solstice technology has helped avoid the potential release of the equivalent of more than 326 million metric tons of carbon dioxide into the atmosphere - equal to the carbon emissions from nearly 70 million gasoline-powered passenger vehicles per year².
- Honeywell’s HFO products are energy-efficient, have a low global warming potential, and positively benefit society by helping to lower emissions.
- HFOs are a critical technology that enables important industries to operate - the food chain, home and building construction and renovation, mobility and transport infrastructure (EVs), and healthcare and patient care (powdered Meter Dose Inhalers).
- HFOs will play a critical role in the roll-out of important transformational technologies such as heat pumps in residential single home, multi-family habitation, commercial buildings, schools and hospitals,
- affordable EV roll out, net zero emissions Data Centre district heating networks in densely urbanized areas, industrial processes, decarbonization via heat pumps, and home and building renovation.
- HFOs have low global warming potential (<1) and are an important technology in the fight against climate change.

HONEYWELL SOLSTICE® TECHNOLOGY – ENGINEERED FOR EXCELLENCE

Honeywell HFO solutions are engineered to be transformative to help tackle some of the global biggest climate, energy and economic challenges –enabling businesses, communities and people to thrive.

BENEFITS OF HFO-BASED FOAM INSULATION



COST SAVINGS

Energy efficient solutions help keep bills low



COMFORT

Reduces temperature fluctuations and minimizes drafts



MOISTURE AND CONDENSATION CONTROL

Helps prevent humidity, reducing the risk of mold, structural damage and health issues



SUSTAINABILITY

Lowers fossil fuel demand and contributes to durability and longevity of buildings



NAHB
IBSTM

Honeywell HFO blowing agents have won numerous awards, including The National Association of Home Builders' International Builders Show's **2019 Best Green Building Product Award**, and the American Chemical Society's **2023 Heroes of Chemistry Award**, which recognizes innovative commercialized products ingrained with chemistry for the benefit of humankind.

² Calculations are based on actual sales of Solstice® products (in lbs) from Jan 2010 through Dec 2022, and utilize the EPA GHG equivalency calculator for conversion

Wants to know more about the regulatory landscape for HFO, globally?



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