



Honeywell has the solutions you need to handle the major changes taking place globally that are impacting your choice of insulation materials.

To meet the growing demand for increased energy efficiency and reduced environmental impact, market leaders are using foam insulation made with Honeywell Solstice® Liquid Blowing Agent (LBA). As ozone-depleting hydrochlorofluorocarbons (HCFCs) continue to be phased out around the globe and governments are beginning to do the same with high-global-warming-potential hydrofluorocarbons (HFCs), Honeywell's non-ozone-depleting Solstice LBA, with an ultra-low global warming potential of 1, delivers the superior insulating performance and environmental properties you need to set your brand apart. Join other global appliance manufacturers who are already seeing the cost-effective, energy efficient performance of foam insulation with Solstice LBA.

Fourth Generation Solstice® Liquid Blowing Agent, Available and Being Adopted Today

In commercial refrigeration, Solstice® Liquid Blowing Agent (LBA) offers better insulation performance at low temperatures than all commonly used foam blowing agents today. Solstice LBA is nonflammable, non-ozone-depleting, VOC-exempt (U.S. EPA) and does not require platform design changes or process configuration modifications.

Improve Energy Efficiency With Environmentally-Preferred Solstice Liquid Blowing Agent

In residential refrigerator trials, using Solstice LBA has resulted in up to 10% improved refrigerator energy efficiency when compared to hydrocarbons.* Today, trials are on-going globally with commercial appliance manufacturers, who are seeing improved performance results with Solstice LBA compared to their current blowing agent.

Features and Benefits Comparison

Property/ Benefit:							
	Insulation Performance	Environmental Properties		Safety	Reduced Foam Usage		Ease Of Manufacturing
Metric:	K-Factor	Low-GWP	VOC-exempt	Non-Flammability	Density	Dimensional Stability	Flow and Processing
Solstice LBA	●	●	●	●	●	●	●
Enovate® 245fa	●	●	●	●	●	●	●
HFC-134a	●	●	●	●	●	●	●
Water	●	●	●	●	●	●	●
Methyl Formate	●	●	●	●	●	●	●
Cyclopentane	●	●	●	●	●	●	●

Cost-Effective Solution

Solstice LBA not only delivers across the full range of properties described in the comparison table above, it offers many benefits to help reduce the total cost to manufacture. Solstice LBA works with existing equipment, so platform modifications are not required. OEMs can also avoid the costs associated with conversion to flammable cyclopentane or maintaining the flammability mitigation equipment. Because insulation made with Solstice LBA delivers a higher performing end product (improved foam density and better processing), OEMs may be able to use up to 10% less material without compromising end product performance and gives you another way to reach your energy targets. Trials have also demonstrated faster de-mold times, which results in higher production rates overall.**

Momentum is Building with Global Appliance OEMs

Beginning with a commitment from Whirlpool Corporation in 2012 and followed by Midea in 2013, global residential refrigerator OEMs have been engaged in product trials, which have led to the adoption of Solstice LBA as the foam blowing agent of choice with several key manufacturers. Other customers have seen similar success in the spray polyurethane foam market, with West Development Group in the U.S. and Achilles in Japan, and in the insulated panel market, with Kingspan Insulation in Europe.

As HFCs continue to be taxed or phased-out around the globe and energy efficiency standards continue to be increased, customers are seeking options that are low in climate impact and high in energy efficiency. Solstice LBA fits that requirement, and several customers are accelerating development programs with Solstice LBA. Join them!

Take the Next Step

Call **1-800-631-8138** or visit www.honeywell-blowingagents.com today to discuss your commercial appliance insulation requirements, and to start a trial with Solstice LBA.



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* While insulation performance in residential refrigerators may be directionally indicative, it may not be directly comparable to that in commercial appliance

** Results may vary by type of cabinet and end-use requirements.

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