



**Solstice<sup>®</sup> Liquid Blowing Agent**  
Insulated Metal Panels

# A Balanced Solution to Today's Environmental and Performance Challenges

Honeywell Solstice® Liquid Blowing Agent is the latest advance in blowing agent technology and is ideal for a variety of uses including:

- Insulated Metal Panel Roofs and Walls
- Architectural Panels
- Walk-in Freezers
- Cold Storage
- Refrigerated trailers

The blowing agent causes the polyurethane foam to expand, creating highly energy-efficient closed-cell insulation. The choice of blowing agent directly impacts the performance of the finished product and operating costs of the structure. Honeywell's technical team can work with your system provider to develop the optimal system for your specific application.

## Performance

Solstice Liquid Blowing Agent increases the R-value of conventionally processed PUR and PIR foam in both continuous and discontinuous panel operations. This can translate into a thinner panel required to achieve the desired performance.

- At 40°F, the R-value of foam with Solstice LBA is 4% better than 245fa and 12% better than hydrocarbons.
- Solstice LBA has the best insulation performance at low operating temperatures seen in cold storage applications.<sup>1</sup>

## Cost Effectiveness

Solstice Liquid Blowing Agent is designed to be a straight-forward, cost-effective solution.

- Near drop-in replacement for common blowing agent technologies
- No investment in plant equipment necessary to meet flammability safety standards.

## Environmental Impact

The use of Solstice LBA can yield substantial improvements in the environmental impact of foam blowing agents right away. With a global warming potential (GWP) of 1, its widespread adoption could save about 60 million metric tons per year of CO<sub>2</sub> equivalent, comparable to eliminating carbon dioxide emissions from more than 11.8 million cars every year.

(Source: GHG Equivalencies Calculator: <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>)

## Safety

Solstice LBA is nonflammable, unlike hydrocarbon alternatives, which require explosion-proof handling.

## Regulatory

Honeywell Solstice LBA is:

- EPA SNAP-listed
- Listed on the TSCA inventory
- VOC-exempt (U.S. EPA)

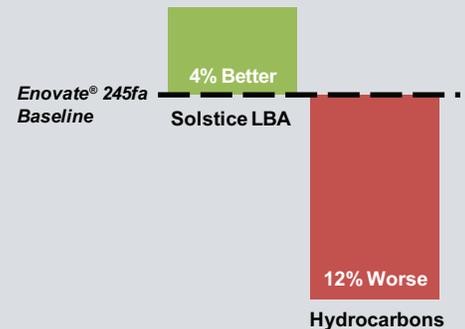


Scan to learn more about how blowing agents work

# Benefits of using Solstice LBA

- Highest R-value at low temperatures<sup>1</sup>
- GWP of 1 is 99.9% lower than HFCs
- Non-ozone-depleting
- Nonflammable (ASTM E-681)
- VOC-exempt (U.S. EPA)

## Improvement on R-value versus alternatives Mean Temperature @40°F<sup>1</sup>



## Environmental and Safety Properties

	Solstice LBA	245fa	134a	Cyclopentane
Atmospheric Life	26 days	7.6 years	14.6 years	Several days
GWP	1	858	1300	<25
VOC	No	No	No	Yes
Flammable	No	No	No	Yes
Exposure Limit, ppm	800	300	1000	600
Molecular Weight, g/mol	130	134	102	70
Boiling point, F/C	66.2/19.0	59.5/15.3	-15.1/-26.2	104.4/49.3
Vapor Pressure, bar (abs), @68F	1.06	1.22	4.83	0.34

<sup>1</sup> Evaluation of Low Global Warming Potential Blowing Agent Solutions in Pour-in-place Panel Applications. Ling, Jim Y. K., and Qin, Ryan S. L. September 2011.

## Contact Honeywell to Learn More

To learn more about the benefits of Honeywell Blowing Agents, call Honeywell at 1-800-631-8138 or visit [www.honeywell-blowingagents.com](http://www.honeywell-blowingagents.com).

## Honeywell Advanced Materials

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