



## **Extruded Polystyrene Foam Board Insulation**

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

Honeywell Solstice® Gas Blowing Agent (GBA) is among Honeywell's latest advances in blowing agent technology and is ideal for residential and commercial insulation.

The blowing agent causes the polystyrene foam to expand, creating highly energyefficient 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 you to optimize the use of Solstice GBA in your formulation.

## Performance

Solstice GBA increases the insulation value of XPS foam insulation boards. This can translate into a thinner panel required to achieve the desired performance, or higher thermal insulation value with the same thickness.

- The long term insulation performance of XPS foam insulation boards made with Solstice GBA is 7% better than HFC- 134a and 26% better than CO<sub>2</sub>.
- Solstice GBA has an ultra-low global warming potential of less than 1, even lower than CO<sub>2</sub>.

## Cost Effectiveness

Solstice GBA is designed to be a straightforward, cost-effective solution.

- Near drop-in replacement for gaseous blowing agent technologies.
- Limited investment in plant equipment necessary to meet flammability safety standards.

## Environmental Impact

The use of Solstice GBA can yield substantial improvements in the environmental impact of foam blowing agents right away. With a global warming potential (GWP) of less than 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 GBA is nonflammable, unlike other gaseous blowing agents or hydrocarbon alternatives, which require explosion-proof handling.

## For more information

[www.honeywell-blowingagents.com](http://www.honeywell-blowingagents.com)

[fluorines.europe@honeywell.com](mailto:fluorines.europe@honeywell.com)

## Honeywell Advanced Materials

Honeywell Belgium N.V

Gaston Geenslaan 14

3001 Heverlee Belgium

Tel: +32 16 391 212

Fax: +32 16 391 317



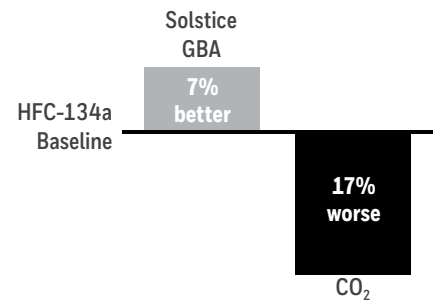
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## BENEFITS OF USING SOLSTICE GBA IN XPS

- GWP of less than 1 is 99.9% lower than HFCs
- Improved energy efficiency
- Non-ozone-depleting
- Nonflammable (ASTM E-681 and EU A11)
- VOC-exempt (U.S. EPA)

### Long Term Insulation Lambda Performance in XPS Insulating Foam (EN-13164)



### Environmental and Safety Properties

	Solstice GBA	134a	CO <sub>2</sub>
Global Warming Potential	<1	1300	1
VOC	No	No	No
Flammable	No	No	No
Exposure Limit, ppm	800	1000	5000
Molecular Weight, g/mol	114	102	44
Boiling point, °F/°C	-2.2/-19.0	-15.1/-26.2	70.6/-57.0

## Regulatory

Honeywell Solstice GBA is:

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



Scan to learn more about how blowing agents work

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