



A Fresh Perspective: What's in Your Fridge?

GE replaces foam-blowing agent of top-freezer refrigerators to reduce greenhouse gas emissions

Today, most U.S. refrigerator manufacturers insulate the doors and side panels of their refrigerators with a hydro-fluorocarbon (HFC)-based foam-blowing agent known as HFC-134a or HFC-245fa, which happen to be powerful greenhouse gases (GHGs) that inevitably escape during the manufacturing process. While this is how it's "always been done," GE is leading the way as the first full-line appliance manufacturer in the United States¹ to adopt a foam-blowing agent, known as **cyclopentane**, which significantly reduces the GHG emissions of the foaming process.

Cyclopentane: So, What is it?

- Cyclopentane is a "blowing agent" used to propel polyurethane foam insulation into the doors and cases of refrigerators and freezers.

Cyclopentane: A Lower Global Warming Potential

- Industry-standard insulations can have a global warming potential (GWP) as high as 1,430 (HFC-134a) and 1,030 (HFC-245fa). Cyclopentane has a GWP of less than 25.²
- When it comes to GWPs, the lower the number, the lower the quantity of GHGs are emitted when converted to CO2 equivalents.

Cyclopentane Makes Positive Impact in Decatur, Ala.

- Using cyclopentane will reduce the GHG emissions from the foam-blowing process by 400,000 metric tons of CO2 equivalent in Decatur, Ala. This represents a 99 percent reduction in GHG emissions compared to the foam-blowing agent that cyclopentane replaces.³
- By using cyclopentane, GE will actually reduce the GHG emissions of the entire Decatur manufacturing facility by more than 80 percent.

GE takes Leadership Role in the U.S.

- GE is the first full-line appliance manufacturer to insulate refrigerators with a foam-blowing agent known as cyclopentane, which has been used in Europe since the early 1990s.

¹ Based on GE's competitive product analysis.

² Environmental Protection Agency. "Transitioning to Low GWP Alternatives in Domestic Refrigeration." http://www.epa.gov/ozone/downloads/EPA_HFC_DomRef.pdf. October 2010.

³ Cyclopentane replaces HFC 134a.

- The cost of retrofitting existing facilities in the U.S. has delayed implementation of cyclopentane during the manufacturing process in the U.S. GE has opted to take this step as a proactive measure for reducing GHG emissions.
- In the spirit of GE's ecomaginationSM initiative, GE will expand the use of cyclopentane to its side-by-side refrigerator Center of Excellence in Bloomington, Ind., and bottom-freezer refrigerator Center of Excellence in Louisville, Ky., by 2014.