

THE COLD CHAIN with Opteon™ Refrigerants

At every step along food's journey to the dinner table, refrigerants play a vital role in preserving its safety and freshness.

1

MANUFACTURING

Opteon™ XP40, XP10, XL40, XL20, and XL10 can be used in a variety of food processing and blast freezing applications to increase performance and sustainability.



REFRIGERATED TRANSPORT

Opteon™ XP44 and XP10 are trusted by leading industry OEMs for global transport of frozen and refrigerated foods.

2

3

COLD STORAGE WAREHOUSING AND DISTRIBUTION CENTERS

The full Opteon™ refrigerant portfolio enables cold storage warehouse operations to select the optimal refrigerant for applications ranging from -20°F blast freezer cells and 0°F freezer rooms to 30°F+ cooler and refrigerated rooms.



4

REFRIGERATED TRANSPORT

Refrigerated trucks, trailers and containers use Opteon™ XP44 and XP10



6

PERSONAL TRANSPORT

Opteon™ YF, the global standard for mobile air conditioning, allows for a comfortable commute.



RETAILERS AND RESTAURANTS

The Opteon™ XP and XL portfolio of products are ideal for retrofitting or installing new low and medium temperature refrigeration systems in supermarkets, convenience stores, and restaurants.

5

7



HOME

Homeowners have been relying on Freon™ refrigerant for decades to keep their homes comfortable. Opteon™ XL41 provides the optimal solution for the future of residential air conditioning.



1

Manufacturing

Refrigeration plays a crucial role in the preparation and processing of food; it is required for a variety of applications including produce ripening, dairies, wineries, breweries and bakeries.



2

Refrigerated Transport

Raw and prepared foods are often imported or exported using temperature-controlled containers. Frozen and refrigerated goods are picked up at warehouses and ports and are transported to their next destination in refrigerated trailers and trucks that maintain the appropriate temperature to keep food fresh and safe.



4

Opteon™ Success Stories:

- Opteon™ XP44 (R-452A) selected by Carrier Transicold¹ and Thermo King²
- Opteon™ XP10 (R-513A) selected by Carrier Transicold³ and Maersk⁴



3

Cold Storage Warehousing and Distribution Centers

Refrigerated warehouses are used for short-term holding of frozen or refrigerated products between their source and their destination.

Opteon™ Success Stories:

- Opteon™ XP40 (R-449A) has been successfully used as a retrofit replacement for R-22 in numerous cold storage facilities
- Opteon™ XL40 (R-454A) selected by Dawsongroup for fleet of portable cold rooms⁵



5

Retailers and Restaurants

Supermarkets, convenience stores and restaurants receive food products from a refrigerated truck and store them in display cases or walk-in refrigerators/freezers. These buildings also utilize refrigerants in air conditioning systems to provide comfort cooling to customers.

Opteon™ Success Stories:

- Opteon™ XP40 (R-449A) has enabled reliable conversion away from R-22 and higher GWP HFCs like R-404A/507 and R-407A, improving system energy efficiency up to 12%
- Opteon™ XP10 provides low GWP solutions for new refrigeration equipment design including cascade systems, micro booster technology and self-contained refrigeration cases
- Opteon™ XL portfolio delivers a significantly lower climate-change impact than other alternative technologies, including CO₂ and hydrocarbons⁶



6

Personal Transport

Transporting their goods via personal vehicle or public transit, consumers enjoy the luxury of mobile air conditioning.

Opteon™ Success Stories:

- Nearly 62 million cars on the road in the US alone use R-1234yf refrigerant (sold by Chemours as Opteon™ YF)



7

Home

Consumers feel comfortable in their air conditioned homes, while their groceries stay fresh in their refrigerators and freezers, all thanks to refrigerants!

Opteon™ Success Stories:

- Carrier selects R-454B, sold by Chemours as Opteon™ XL41, to replace R-410A in their North American ducted residential and light commercial packaged solutions⁷

¹ https://www.carrier.com/carrier/en/worldwide/news/news-article/carrier_transicold_to_offer_new_epa_approved_refrigerant_for_north_america_truck_and_trailer_systems.html

² <https://www.thermoking.com/pl/new-r-452a-refrigerant>

³ https://www.carrier.com/container-refrigeration/en/worldwide/news/news-article/carrier_transicold_offers_lower_gwp_refrigerant_option_for_primeline_container_units.html

⁴ https://www.chemours.com/en/news-media-center/all-news/press-releases/2017/opteon-xp10-chosen-to-cool-1000-star-cool-units-from-maersk-container-industry?_ga=2.161982975.212605214.8.1579898153-696656713.1571770496

⁵ https://www.chemours.com/en/news-media-center/all-news/press-releases/2017/dawsongroup-expands-use-of-opteon-xl40-in-their-fleet-of-portable-cold-rooms-after-success?_ga=2.199180524.2126052148.1579898153-696656713.1571770496

⁶ "The Path to Reducing Climate Change Emissions from Commercial Refrigeration Application," Chemours white paper, featuring results of a third-party study conducted by WAVE Refrigeration.

⁷ https://www.carrier.com/residential/en/us/news/news-article/carrier_introduces_puron_advance_the_next_generation_refrigerant.html