

Secon Sold HC Chillers and HPs in 2024 that Avoided the Lifetime Release of 1.04 million mt of CO₂e and 5.5t of TFA

The calculation was based on a 20-year GWP and done as part of the process for reapproving Secon for the ATMO Approved Natural Refrigerants Label.

BRUSSELS, BELGIUM, July 31, 2025 /EINPresswire.com/ -- [Secon](https://www.secon.com), a German hydrocarbon chiller and commercial heat pump manufacturer, sold natural refrigerant products in 2024 that avoided the lifetime release of 1.04 million metric tons of CO₂e (GWP 20) and 5.5 metric tons of TFA (trifluoroacetic acid), according to estimations by ATMOSphere, the publisher of NaturalRefrigerants.com.



The calculation was done as part of the process for reapproving Secon for the ATMO Approved Natural Refrigerants Label. That process is underpinned by a model that considers numerous

factors, including avoided CO₂ and TFA emissions. The model assumes that every natural refrigerant-based product sold prevents the sale of an alternative using f-gases, thus avoiding that product's lifetime refrigerant-related CO₂ and TFA emissions.

This is the third time Secon has been reapproved for the ATMOSphere label, having first received the label when it was launched in 2022.

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Joachim Schadt, General Manager at Secon

“Secon was one of the first companies to apply for and

receive the ATMO label,” said Joachim Schadt, General Manager at Secon. “Since our founding in 2010, we have used only natural refrigerants and see ourselves as pioneers in the exclusive implementation of sustainable refrigeration technology. The continuous renewal of the ATMO

label is a matter of course for us and an important building block in creating trust in us and our products.”

The focus on avoiding PFAS (per- and polyfluoroalkyl substances), which includes TFA, a byproduct of the atmospheric degradation of some HFO and HFC refrigerants, is a new addition to the label criteria for 2025. Recent research has deemed TFA a “planetary boundary threat” due to its potential risks to human and environmental health.

“The label criteria around PFAS acknowledges what companies are doing to ensure they are PFAS-free,” said Marc Chasserot, the CEO and Founder of ATMOsphere. “ATMO Approved companies have the vision and leadership required to navigate the market today and help [organizations] move away from PFAS and global-warming synthetic alternatives.”

Emissions avoided

The propane (R290)/propylene (R1270) chillers and propane/isobutane (R600a) heat pumps Secon placed in the market in 2024 avoided CO₂ emissions equivalent to the energy use of 140,000 homes per year in the United States or to taking 242,000 cars permanently off the road, based on data from the U.S. Environmental Protection Agency (EPA). Expanding the timeline from 2021 to 2024 increases those figures to 290,000 homes and 505,000 cars.

The avoided TFA emissions of 5.5 tons were calculated using an annual leak rate of comparable products using synthetic refrigerants. TFA has been [found in human blood](#), usually at levels higher than that of longer-chain PFAS, and a study published last year called TFA a “planetary boundary threat.” Longer-chain PFAS with a similar chemical architecture (known as perfluoroalkyl carboxylic acids), such as eight-carbon PFOA, have been tied to harmful health impacts, including reproductive toxicity, ulcerative colitis and cancer.

In addition to hydrocarbon chillers and heat pumps, Secon also produces subcritical CO₂ (R744) freezer units and dry and adiabatic recoolers. The company is also the German sales partner for Mirai Intex’s low-temperature chillers that use air (R729) as their refrigerant.

A ‘perfect’ collaboration

Customer feedback is also essential in supporting a company’s approval or reapproval for the ATMO label. Simon Schneider, Managing Director at Germany-based HVAC&R installer Frank Schlittenhardt, described his company’s partnership with Secon on a project involving a refrigeration machine/chiller as “perfect.”

“The quality of the machine and the components used is outstanding,” said Schneider. “The system provides 300kW [85TR] of cooling capacity through several modular chillers with redundancy. The experience has been very positive, and the collaboration works perfectly.”

Secon also recently provided an air-cooled chiller for a new data center in Hamburg built by Penta Infra, which specializes in edge data centers. Given the flammability of hydrocarbons, manufacturers place an extra emphasis on safety, and Harmen Laan, Head of Engineering at Penta, said Secon fully fulfilled expectations on this front.

“They have provided a lot of documentation and explanation on the safety aspect of the system/product,” Laan said. “The understanding of the component and its controls has been outstanding. They deliver as promised and provide reliable service.”

Best-in-class certification

The ATMOsphere label is designed to help qualified manufacturers and contractors market products and services to new customers and regions in the natural refrigerants marketplace. Certified organizations can display the label on products, marketing materials, email signatures and trade show booths, boosting their visibility and helping end users identify best-in-class suppliers.

To qualify, companies must demonstrate excellence across four pillars:

- Company vision – a commitment to natural refrigerants as a core business.
- Customer satisfaction – positive end-user testimonials confirming reliability and performance.
- Measurable impact – mitigation of CO₂ and TFA emissions.
- Proactive training – investment in employee and stakeholder education.

Additional information on the 2025 label and the registration form can be found below.

Secon is the 14th company to be approved for the ATMO Approved label in 2025, joining Güntner, Ceptek, RefPlus, Novum, OLAB, Nihon Netsugen Systems, Equans Kältetechnik, Refra, GTS, Fenagy, ENNS Industrial Refrigeration, Zudek and SURE Solutions.

About Secon

Secon specialises in integral systems for environmentally friendly and energy efficient refrigeration. Chillers employing natural refrigerants are the main focus, especially hydrocarbons. Secon was founded in 2010 aiming to manufacture chillers solely on the basis of natural refrigerants and pioneered the use of hydrocarbons. Throughout the German-speaking region, Secon has proven to be an innovating force of this expanding market segment.

About ATMOsphere

For the past 20 years, market accelerator ATMOsphere (formerly shecco) has been active in helping bring climate-friendly technologies faster to market. ATMOsphere supports over 100

partners worldwide in the HVAC&R sector, where the focus is on sustainable refrigeration, heating and cooling technologies using natural refrigerants.

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