

# SmartNotes

## Is the use of hydrocarbon refrigerants in laboratory refrigerators and freezers safe?

QA

Two refrigerant gases (R290 and R170) are on the SNAP approval list for use in refrigeration applications. Under a proposed update, R-290 use will be amended for use in very low temperature application such as those requiring  $-70^{\circ}\text{C}$  and  $-80^{\circ}\text{C}$  ultra-low freezers\*. While R-290 and R-170 are flammable gases, their use has been reviewed as safe for refrigeration use when the requirements for construction and testing are met as called out by US and Canadian safety standards.

Underwriters Laboratories is an industry leader in safety standards and safety testing. After successfully passing all safety testing, UL authorizes ultra-low freezers to bear the UL safety mark for North America. Safety testing at UL included passing a rigorous hydrocarbon refrigerant leak test to demonstrate the design is safe in the unlikely event of a refrigerant leak.

\* <https://www.regulations.gov/docket?D=EPA-HQ-OAR-2015-0663>. Accessed August 10, 2016.



## Thermo Scientific™ TSX Series ultra-low freezers use natural, hydrocarbon refrigerants

Safety is a priority for all of our products. The new Thermo Scientific TSX Series of ultra-low freezers was specifically designed and engineered for the safe use of hydrocarbon refrigerants R290 and R170. The refrigeration system and overall design were tested and approved by Underwriters Laboratories in accordance to the latest US and Canadian safety standards (UL 61010-1:2010, CSA 22.2 No. 61010-1:2010, UL 471 10th edition, CSA 22.2 No. 120-13).

The US and Canadian standards also call out the US EPA requirements for warning symbols and cautionary text displayed on TSX models. These warnings serve to alert shippers, end users and especially service personnel that flammable refrigerants are used in the TSX Series.



Conclusion: Thermo Fisher Scientific has made a commitment to eliminate the use of hydrofluorocarbon refrigerant gases (HFCs) for hydrocarbon refrigerants (HCs).

Find out more at [thermofisher.com/tsx](http://thermofisher.com/tsx)

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