



AIM Act Ruling: What it means for INDUSTRIAL customers

What is the AIM Act?

The American Innovation and Manufacturing Act (AIM Act), passed in 2020 directs the U.S. Environmental Protection Agency (EPA) to oversee the phasedown of hydrofluorocarbon (HFC) refrigerant production and consumption and transition to alternative refrigerants. It includes a phasedown schedule that began in 2022 and continues to 2036.

In October 2023, the EPA announced its final ruling on the Technology Transition Rule, affecting several industries.

The new rule:

- Sets a maximum Global Warming Potential (GWP) limit on HFCs or HFC blends that can be used.
- Prohibits the manufacture and import of products that use higher GWP refrigerants after January 1, 2025.
- Prohibits the sale, distribution, and export of these products after January 1, 2028.
- Prohibits the installation of new systems that use higher-GWP HFCs.

What we Know

- A product is a type of appliance with a sealed refrigerant loop that simply needs to be plugged in, mounted, or hooked to a water line. A system is an assemblage of separate components that typically are connected and charged in the field with a regulated substance or substitute to perform a function or task.
- EPA will allow the repair of appliances unless the repair results in a new system.
- Automatic leak detection will be required on certain new and existing equipment.

Benefits

Emission
Reduction

876 Million
metric tons of CO₂

Climate change
mitigation benefits

**\$50.4
Billion**

Cost Savings to
Consumers &
Businesses

\$4.5 Billion

SUBSECTOR	COMPLIANCE DATE ¹	PRODUCTS	GWP LIMIT
Ice Rinks	01/01/2025	Ice Rinks	700
Chillers (as a stand-alone product)	01/01/2026	Industrial process refrigeration with exiting fluid equal to or above -22°F	700
Industrial Process Refrigeration not using chillers	01/01/2026	High temperature side of cascade system and temperature of the refrigerant entering the evaporator equal to or above -22 °F	300
		With less than 200 lb refrigerant charge and temperature of the refrigerant entering the evaporator equal to or above -22 °F	300
		With 200 or more lb refrigerant charge excluding high temperature side of cascade system and temperature of the refrigerant entering the evaporator equal to or above -22 °F	150
	01/01/2028	With refrigerant entering the evaporator equal to or above -58 °F and less than -22 °F	700
Cold Storage Warehouses	01/01/2026	With 200 or more lb refrigerant charge, excluding high temperature side of cascade system	150
	01/01/2026	With less than 200 lb refrigerant charge	300
	01/01/2026	High temperature side of cascade system	300
Data Centers	01/01/2027	Data centers, computer room air conditioning, and information technology equipment cooling	700

1. Systems must be installed and operational to compliance starting on the listed date. Products are available for sale, distribution and export 3 years after the listed date.

Service of Legacy Systems

This rule does not restrict customers from using their existing refrigeration systems. The EPA has allowed for an existing system to continue its operation to the end of their useful life. The systems may be serviced and repaired throughout their use, including replacing components.

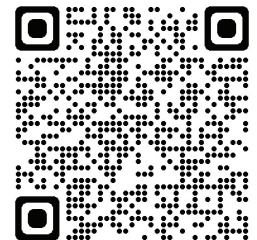
The following actions are considered a new installation:

- Assembling a system for the first time from used or new components
- Increasing the cooling capacity, in BTU per hour, of an existing system
- Replacing 75 percent or more of evaporators (by number) and 100 percent of the compressor racks, condensers, and connected evaporator loads of an existing system.

How does this affect you?

Your current manufacturer, distributor, or installer will not be able to import, export, or sell you HFC refrigeration systems by the compliance date of your applicable subsector. For example, grocery stores will not be able to buy freezers or coolers with R-404A or R-448A.

Allowable low-GWP refrigerants include CO₂, A2L, Ammonia, and Propane.



Read more on the EPA website

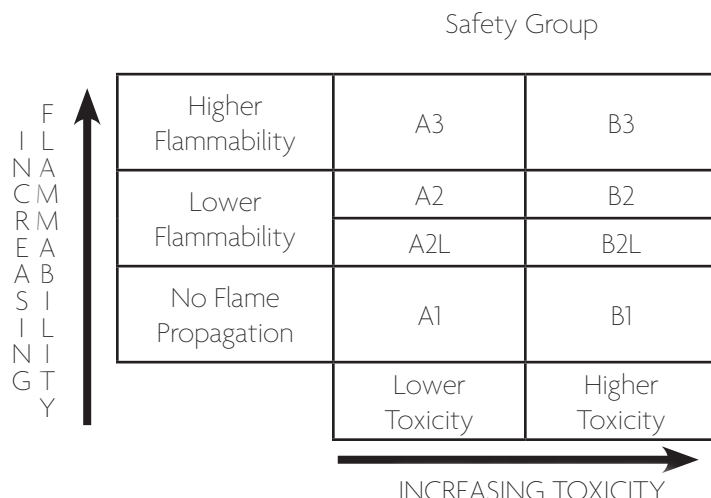


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ASHRAE Safety Designator

The safety designator has two classes: flammability and toxicity (See Figure 1). The toxicity of the refrigerant is designated with the letters "A" or "B". The least toxic refrigerants belong to the "A" group. Flammability is given at four levels: 1, 2L, 2, and 3. The 2L was added recently to indicate that the refrigerant has a low burn velocity. The flammability between 2L and 2 are the same; 2L do not burn as fast as 2.

FIGURE 1: ASHRAE Safety Group Classifications



Refrigerant Data

With the large selection of refrigerants, how do you know which one is the right one for your application? With over 60 years of experience, Zero Zone knows which one is right to solve your challenge. Below is a list of refrigerants Zero Zone uses and their common applications.

REFRIGERANT DATA				
REFRIGERANT	GWP	COMPOSITION	CLASS	TYPICAL USES
R-717	0	Ammonia	B2	Low and medium temperature refrigeration
R-744	1	CO ₂	A1	Low and medium temperature refrigeration, transport refrigeration, compact systems, direct expansion systems, indirect expansion systems, cascade systems
R-455A	145	HFO	A2L	Low and medium temperature refrigeration
R-454C	148	HFO	A2L	Air conditioners, self-contained units, low and medium temperature refrigeration
R-515B	293	HFO	A1	Chillers and heat pumps
R-513A	573	HFO	A1	Low and medium temperature refrigeration
R-449A	1,280	HFO	A1	Low and medium temperature refrigeration, centralized and distributed systems, condensing units, cold stores
R-448A	1,360	HFO	A1	Low and medium temperature refrigeration
R-134a	1,430	HFC	A1	Automotive air conditioners, medium temperature refrigeration
R-407A	2,107	HFC	A1	Low and medium temperature refrigeration
R-404A	3,920	HFC	A1	Low and medium temperature refrigeration
R-507	3,985	HFC	A1	Low and medium temperature refrigeration, flooded systems

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