

AIM ACT - EPA REGULATIONS ON HFCs

EPA's Management of Regulated Substances Rule



The American Innovation and Manufacturing (AIM) Act was enacted on December 27, 2020. The AIM Act authorizes EPA to address hydrofluorocarbons (HFCs) in three main ways: phasing down their production and consumption, maximizing reclamation and minimizing releases from equipment, and facilitating the transition to next-generation technologies through sector-based restrictions. EPA's final rule for HFC Management was signed on Sept. 20, 2024.

The Agency is establishing the Emissions Reduction and Reclamation (ER&R) Program to manage certain HFCs and their substitutes, including specific provisions that apply to both new and existing equipment. This rule also establishes regulations on mandatory leak repair of some appliances, automatic leak detection (ALD) requirements on the largest refrigeration systems, and rules regarding when reclaimed HFCs must be used to service existing equipment.

Leak Repair Requirements	Compliance Date
<p>Applicable appliances† and leak rate thresholds:</p> <ul style="list-style-type: none"> Refrigerant-containing appliances with a full charge of 15 pounds or more of a refrigerant that contains an HFC or a substitute for an HFC with a GWP greater than 53 must repair leaks to bring leak rate below applicable threshold Leak rate thresholds <ul style="list-style-type: none"> IPR: 30% Commercial refrigeration: 20% Comfort cooling†, refrigerated transport, and other appliances not covered: 10% 	January 1, 2026

EPA finalized several leak repair requirements related to determining when a leak needs to be repaired, the extent of the repair required, and the timing of such repairs. EPA requires the repair of leaks in refrigerant-containing appliances with a charge size of 15 pounds or more with a refrigerant that contains an HFC or a substitute for an HFC with a GWP greater than 53.

Owners or operators are required to repair an appliance within 30 days (or 120 days if an industrial process shutdown is required) of refrigerant being added to an appliance, if the appliance is leaking above the applicable leak rate—see table above. Leaks must be repaired such that the leak rate of the refrigerant-containing appliance is brought below the applicable leak rate.

Leak Rate Calculation

Leak rate – the rate at which an appliance loses refrigerant, measured between refrigerant charges. The rate must be calculated using one of the following methods. The same method must be used for all appliances subject to the leak repair requirements at an operating facility.

- Annualizing method:**

$$\text{Leak rate (\% per year)} = \frac{\text{pounds of refrigerant added}}{\text{pounds of refrigerant in full charge}} \times \frac{365 \text{ days/year}}{\text{shorter of: days since refrigerant last added or 365 days}} \times 100\%$$

- Rolling average method:**

$$\text{Leak rate (\% per year)} = \frac{\text{pounds of refrigerant added over past 365 days (or since the last successful verification test, if that period is less than one year)}}{\text{pounds of refrigerant in full charge}} \times 100\%$$

† Appliances in the residential and light commercial air conditioning (including rooftop units) and heat pumps sector are not included in these provisions.



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Automatic leak detection (ALD) systems will be required on new systems with 1,500 pounds or more of a refrigerant containing HFCs starting January 1, 2026. For existing equipment, any system with more than 1,500 pounds of a regulated substance installed between January 1, 2017, and January 1, 2026, must have an ALD system installed by January 1, 2027. Indirect-type (e.g., Hussmann's StoreConnect) or direct-type ALDs can be used.

Starting January 1, 2029, reclaimed HFCs will have to be used to service supermarket system equipment* and automatic commercial ice makers. Prior to this, EPA will collect data for the years 2026 and 2027 to determine whether enough refrigerant is being reclaimed to make this compliance date possible. If not, the 100% reclaim for service compliance date may be moved out or the rule modified.

Automatic Leak Detection (ALD) System Requirements	Compliance Date
New commercial and industrial process refrigeration appliances: <ul style="list-style-type: none"> Installation and use of ALD systems for appliances installed with a full charge size of 1,500 pounds or more that contain an HFC or a substitute for an HFC with a GWP above 53 	Within 30 days of appliance installation, starting January 1, 2026
Existing commercial and industrial process refrigeration appliances: <ul style="list-style-type: none"> Installation and use of ALD systems for appliances installed on or after January 1, 2017, and before January 1, 2026, with a full charge size of 1,500 pounds or more that contain an HFC or a substitute for an HFC with a GWP above 53 	January 1, 2027
Reclaimed HFC Requirements	Compliance Date
Reclaimed HFC refrigerants can contain no more than 15%, by weight, of virgin HFCs	January 1, 2026
Servicing and/or repair of certain RACHP equipment with reclaimed HFCs: <ul style="list-style-type: none"> Supermarket systems* Refrigerated transport Automatic commercial ice makers 	January 1, 2029
Refrigerant Removal from Cylinders - Requirements	Compliance Date
Send certain disposable cylinders to either an EPA Clean Air Act (CAA) section 608 certified reclaimer, a fire suppressant recycler, a final processor, such as a landfill operator or scrap metal recycler, or a refrigerant supplier (including, but not limited to distributors and wholesalers) for its remaining contents to be removed	January 1, 2028
Alternative compliance method: <ul style="list-style-type: none"> An EPA CAA section 608 certified technician evacuates a disposable cylinder to a vacuum level of 15 in-Hg and provides a certification statement to the final processor 	
An EPA CAA Section 608 certified or a fire suppressant recycler who receives a disposable cylinder must remove all remaining contents from the disposable cylinder prior to disposal.	

*At this time, it is unclear whether the reclaim mandate for servicing equipment extends to remote condensing unit systems and stand-alone (self-contained) equipment.

