

# **Regulatory Alert**

## **Global Environmental and Chemical Regulations, Policies, and Standards**

**Alert 32**



## Restrictions on the Use of Certain Hydrofluorocarbons Under the American Innovation and Manufacturing Act of 2020 (AIM Act)

Region: USA

### WHY IS THIS ALERT IMPORTANT?

This [rulemaking](#) applies to manufacturers, importers, exporters, sellers, distributors, or installers of products and equipment that use or are intended to use hydrofluorocarbons (HFCs) in the United States of America (USA). These entities are legally obligated to adhere to regulations mandated by the U.S. Environmental Protection Agency (EPA) for the implementation of specific provisions outlined in the [American Innovation and Manufacturing Act](#) (AIM Act), enacted on 27 December 2020.

The rulemaking, officially published on 24 October 2023, and in effect since 26 December 2023, restricts the use of HFCs in particular sectors or subsectors, establishes a process for submitting technology transition petitions, outlines recordkeeping and reporting requirements, and addresses various other elements related to the effective implementation of the AIM Act.

The deadlines for these restrictions vary across subsectors, ranging from 1 January 2025 to 1 January 2028. Violations of the restrictions included in this rulemaking are subject to Federal enforcement and the penalties laid out in section 113 of the [Clean Air Act](#), including fines and imprisonment.

### INTENDED AUDIENCE

This Regulatory Alert is intended for IAEG members and their suppliers who manufacture, import, sell, distribute, export, or install products and equipment that include certain HFCs in the USA.

### EXECUTIVE SUMMARY

The AIM Act authorizes EPA to address HFCs in three main ways: 1) phasing down HFC production and consumption through an allowance allocation program, 2) promulgating certain regulations for purposes of maximizing reclamation and minimizing releases of HFCs from equipment, and 3) facilitating sector-based transitions to next-generation technologies. This rulemaking focuses on the third area.

Under these restrictions, the EPA has established the framework for submitting petitions under subsection (i) of the AIM act and has restricted the use of HFCs, whether neat or used in a blend, within refrigeration, air conditioning, heat pump, foam, and aerosol sectors. The manufacture, import, or installation of certain equipment is prohibited across multiple sectors. EPA is also prohibiting the sale, distribution, and export of factory completed products that do not comply with relevant restrictions three years after the prohibition on manufacture and

import. The EPA is not restricting actions with respect to components needed to service or repair existing systems. Finally, the EPA has also finalized the labeling, annual reporting, and recordkeeping requirements for products and specified components that are imported or domestically manufactured that use an HFC.

## BACKGROUND ON REGULATION

The AIM Act, enacted in December 2020, is now part of the Consolidated Appropriations Act, 2021. It aligns with key Clean Air Act (CAA) sections, making it subject to regulations under the CAA. Specifically, the AIM Act is treated as part of the CAA's Title VI<sup>1</sup> and any rules made by the EPA under the AIM Act follow Clean Air Act procedures.

The AIM Act grants the EPA authority to tackle HFCs through the introduction of new powers in three primary areas 1) phasing down the production and consumption of designated HFCs, 2) managing these HFCs and their substitutes, and 3) facilitating the transition to next-generation technologies by limiting the use of these HFCs in specific sectors or subsectors. This rulemaking addresses the third area. The list of substances regulated under the AIM Act is included below.

Subsection (i) of the AIM Act, entitled "Technology Transitions," authorizes EPA to restrict the use of HFCs in sectors or subsectors where the regulated substances are used. The AIM Act also includes provisions for the public to petition EPA to initiate such a rulemaking. On 7 October 2021, and 19 September 2022, EPA granted twelve petitions and partially granted one petition requesting restrictions on the use of HFCs in various sectors and subsectors. The AIM Act directs EPA to promulgate a final rule within two years after the date on which EPA grants a petition. This rulemaking, in part, addresses the granted petitions.

### What are HFCs?

HFCs are synthetic fluorinated chemicals with no discernible natural origins. They are used in the aerospace and defense sector in refrigeration and air conditioning, foam blowing agents, solvents, aerosols, and fire suppression. Notably, HFCs are potent greenhouse gases (GHGs) characterized by their 100-year Global Warming Potentials (GWPs), a measure indicating their relative climatic impact compared to carbon dioxide (CO<sub>2</sub>). The GWPs of HFCs can range from hundreds to thousands of times that of CO<sub>2</sub>.

HFC use and emissions have been growing worldwide due to the global phaseout of ozone depleting substances under the Montreal Protocol, as well as the global increase in the use of refrigeration and air-conditioning equipment. The 2016 Kigali Amendment to the Montreal Protocol, ratified by the United States on 31 October 2022, provided for the global phasedown of the production and consumption of HFCs.

Eighteen HFCs are listed as regulated substances by the AIM Act, as listed below, and are some of the most commonly used HFCs, all of which are saturated and have longer atmospheric lifetimes.

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<sup>1</sup> Title VI is intended to protect stratospheric ozone by phasing out the manufacture of ozone-depleting chemicals and restricting their use and distribution.

HFC	Chemical formula	CAS Number <sup>2</sup>	HFC	Chemical formula	CAS Number <sup>2</sup>
HFC-134	CHF <sub>2</sub> CHF <sub>2</sub>	359-35-3	HFC-245ca	CH <sub>2</sub> FCF <sub>2</sub> CHF <sub>2</sub>	679-86-7
HFC-134a	CH <sub>2</sub> FCF <sub>3</sub>	811-97-2	HFC-43-10mee	CF <sub>3</sub> CHFCHF <sub>2</sub> CF <sub>3</sub>	138495-42-8
HFC-143	CH <sub>2</sub> FCHF <sub>2</sub>	430-66-0	HFC-32	CH <sub>2</sub> F <sub>2</sub>	75-10-5
HFC-245fa	CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	460-73-1	HFC-125	CHF <sub>2</sub> CF <sub>3</sub>	354-33-6
HFC-365mfc	CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub>	406-58-6	HFC-143a	CH <sub>3</sub> CF <sub>3</sub>	420-46-2
HFC-227ea	CF <sub>3</sub> CHF <sub>2</sub> CF <sub>3</sub>	431-89-0	HFC-41	CH <sub>3</sub> F	593-53-3
HFC-236cb	CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	677-56-5	HFC-152	CH <sub>2</sub> FCH <sub>2</sub> F	624-72-6
HFC-236ea	CHF <sub>2</sub> CHF <sub>2</sub> CF <sub>3</sub>	431-63-0	HFC-152a	CH <sub>3</sub> CHF <sub>2</sub>	75-37-6
HFC-236fa	CF <sub>3</sub> CH <sub>2</sub> CF <sub>3</sub>	690-39-1	HFC-23	CHF <sub>3</sub>	75-46-7

EPA continues to promulgate rules under its Significant New Alternatives Policy to replace certain substances with substitutes that 1) reduce the overall risk to human health and the environment, and 2) are currently or potentially available. The rulemaking includes a list of alternatives to certain HFC substances for different uses.

## APPLICABILITY

Those who manufacture, import, export, sell, distribute, or install equipment that use or is intended to use HFCs, for example refrigeration and air-conditioning systems, may be potentially affected by this rule. Entities potentially affected by these regulations include, but are not limited to, the following North American Industry Classification System (NAICS) and description:

NAICS code	NAICS industry description
336400	Aerospace Product and Parts Manufacturing
336411	Aircraft Manufacturing
336992	Military armored vehicles, tanks, and tank component manufacturing
336611	Ship Building and Repairing
423830	Industrial Machinery and Equipment Merchant Wholesalers
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers.
325211	Plastic Material and Resin Manufacturing

<sup>2</sup> CAS numbers were not provided in the Final Rule but have been added here.

238220	Plumbing, Heating, and Air Conditioning Contractors
324191	Petroleum Lubricating Oil and Grease Manufacturing
324199	All Other Petroleum and Coal Products Manufacturing
325199	All Other Basic Organic Chemical Manufacturing
325211	Plastics Material and Resin Manufacturing
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing
541330	Engineering services
541620	Environmental Consulting Services
562111	Solid Waste Collection
562211	Hazardous Waste Treatment and Disposal
922160	Fire Protection

Subsection (i) of the AIM Act provides that the EPA may by rule restrict, fully, partially, or on a graduated schedule, the use of regulated HFCs in sectors in which HFCs are used. This rulemaking restricts the use of HFCs in the manufacture and import of new products, restricts the subsequent sale, distribution, or export of those products, and restricts the installation of new systems and significant modification of existing systems.

This rulemaking is primarily concerned with original equipment manufacturers and importers, and the associated supply chains. As such, this rulemaking allows for the continued manufacture, import, sale, distribution, and export of components for the purpose of servicing and maintaining existing systems that use HFCs.

Original equipment manufacturers based outside of the U.S. must ensure any affected products categories are compliant with this rulemaking. Products using HFCs, or those intended to use HFCs, which are intended for export to the US and for sale on the US market will be impacted by this regulatory action. Affected products that use listed HFCs will no longer be able to be imported after the application date of this regulation to the relevant sector or equipment type.

## RELEVANT DATES

- » Publication: 24 October 2023
- » Entry into effect: 26 December 2023
- » Date of restriction on the manufacture, import, or installation of affected products that use a regulated substance: 1 January 2025 - 1 January 2028 (depending on specific sector)
- » Date of restriction on the sale, distribution, offer for sale, attempt to purchase, or export of affected products that use a regulated substance: 1 January 2028 – 1 January 2031 (depending on specific sector)

## REGULATORY OBLIGATIONS

Sections § 84.54, § 84.56, § 84.58, § 84.60 and § 84.62 provide the restrictions and obligations affecting those who manufacture, import, export, sell, distribute, or install equipment that uses or is intended to use HFCs.

### § 84.54, Restrictions on the use of HFCs

Paragraph (a) prohibits the manufacture or import of any product in several sectors, such as chillers for industrial purposes, industrial process refrigeration products, foam and aerosol products, and others, with effective dates varying dependent on the sector:

- » as per paragraph (b), three years after the effective date of the prohibition of manufacture or import relevant to each sector, no person may sell, distribute, make available for sale or distribution, purchase or export any product that uses a substance regulated by paragraph (a)
- » under paragraph (c), no person may install any system that uses a substance in a sector listed in paragraph (c) after the date specified

§ 84.56, **Exemptions**, specifies that these regulations do not apply to equipment already in existence prior to 27 December 2020, and that:

- » the prohibitions on manufacture, import, export, sale, and making available do not apply to components that use any regulated substance
- » the prohibitions on the sale, distribution, offer for sale or distribution, or export of products does not apply to products after a period of ordinary utilization or products within the disposal or recycling chain
- » the prohibition on the import of used products in paragraph (a) of § 84.54 does not apply to systems in use by a conveyance in trade traveling into U.S. jurisdiction aboard ships, planes, motor vehicles and intermodal containers; to products in the possession of a consumer for personal use; or products imported solely for recycling or disposal

### § 84.58, Labeling

The section states that any product, specified component, or system using any regulated substance within the refrigeration, air-conditioning, and heat pump sector, effective upon the relevant dates listed in paragraph (a) and (c) of § 84.54, must have a permanent label stating:

- » the chemical name(s) or American Society of Heating, Refrigerating and Air-Conditioning Engineers (a.k.a. ASHRAE) designation of the regulated substance(s)
- » the full date, or at minimum the four-digit year, of manufacture
- » an indication of the full refrigerant charge capacity, either as the specific charge size of the system, or the charge size as it relates to the threshold for the relevant subsector
- » an indication of the charge size of the equipment or the charge size as it relates to the threshold for self-contained refrigerated food processing and dispensing products
- » an indication of the harvest rate, either as the specific harvest rate of the equipment, or the harvest rate as it relates to the threshold for self-contained automatic commercial ice machines, and the type of ice machine (either batch or continuous)
- » an indication of the designed exiting fluid temperature range for industrial process refrigeration chillers and the designed refrigerant temperature range when it enters the evaporator for industrial process refrigeration systems without chillers

From the date listed for each sector in paragraph (c) of § 84.54, any specified component manufactured or imported and intended for use in those subsectors that uses any regulated substance must have a permanent label compliant with the above requirements. The permanent label must be 1) in English, durable, and printed or affixed to an external surface of the product, 2) readily visible and legible on a background of contrasting color, and 3) able to withstand open weather exposure, if applicable.

## **§ 84.60, Reporting & Recordkeeping**

Effective 1 January 2025, any person who imports or manufactures a product or specified component within a sector listed in § 84.54 that uses a regulated substance must meet the following reporting and recordkeeping obligations:<sup>3</sup>

- » reports must be submitted electronically within 90 days of the end of the reporting period
- » reports must include 1) the reporting entity's name, address, contact person, email address and phone number; 2) the year covered under the report and date of submission; 3) all applicable NAICS code(s); and 4) a statement that the data is accurate and that products containing regulated substances meet the requirements of § 84.54, and are labeled in accordance with § 84.58
- » reporting for products and specified components in the refrigeration, air-conditioning and heat pump sectors must also include the subsector, identity of the regulated substance, the charge size and the number of units manufactured, imported, or exported for each set of products or specified components with the same combination of charge size and regulated substance(s)
- » for products and specified components in the refrigeration, air-conditioning and heat pump sectors, the total mass in metric tons of each regulated substance contained in all products or specified components manufactured, imported, and exported annually

Each domestic manufacturer or importer of a product or specified component within a sector or subsector listed in § 84.54 that uses or intends to use a regulated substance must retain the following records for a minimum of three years from the date of creation of the record and must make them available to the EPA on request:

- » the basis of any reporting required by this rulemaking
- » The entity to whom the product or specified component using a regulated substance were sold, distributed, or in any way conveyed to

In addition to the above requirements, importers of products and specified components that use a regulated substance must retain the following records for each import for a minimum of three years from the date of creation:

- » a copy of the bill of lading
- » the invoice
- » the U.S. Customs and Border Protection entry documentation
- » port of entry
- » country of origin and the country of shipment to the U.S.

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<sup>3</sup> Similar reporting requirements apply to both the foam and aerosol sectors.

## § 84.62, Technology transition petition requirements

Section § 84.62 lists the GWP for regulated substances and provides the specific requirements for a party to petition the EPA to promulgate a rulemaking restricting the use of regulated substances in a certain sector or subsector.

## § 84.64, Global warming potential

This section lists the 100-year GWP for regulated substances.

## RISKS TO AEROSPACE AND DEFENSE

Penalties for non-compliance with this rulemaking fall under Section 113 of the [Clean Air Act](#), and include fines and imprisonment depending on the violation.

## AFFECTED REGULATION

[40 CFR Part 84](#)

## USEFUL LINKS

[Phasedown of Hydrofluorocarbons](#)

[The AIM Act \(42 U.S. Code section 7675\)](#)

[The Clean Air Act](#)

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