

WSR 21-01-085

PERMANENT RULES

DEPARTMENT OF ECOLOGY

[Order 19-04—Filed December 10, 2020, 2:49 p.m., effective January 10, 2021]

Effective Date of Rule: Thirty-one days after filing.

Purpose: The rule prohibits the use of hydrofluorocarbons (HFCs) and other substitutes in various products and equipment in the air conditioning and refrigeration, aerosol propellant, and foam end-use categories. This will occur in a phased approach, similar to rules adopted under EPA's Significant New Alternatives Policy (SNAP) program and HFC rules adopted or proposed for adoption by other states around the country.

The rule defines requirements for manufacturers, importers, and distributors of covered products and equipment to:

- Notify ecology about the use of HFCs and other prohibited substitutes.
- Disclose HFCs and other substitutes used in an on-product label or other designated format.

Ecology modified the prohibition date for the new and existing vending machine end-use category from January 1, 2020, to January 1, 2022.

Citation of Rules Affected by this Order: New WAC 173-443-010, 173-443-020, 173-443-030, 173-443-040, 173-443-050, 173-443-060, 173-443-070, 173-443-080, 173-443-090, 173-443-100, and 173-443-110.

Statutory Authority for Adoption: Chapter 70A.45 RCW, Limiting greenhouse gas emissions.

Other Authority: Chapter 70A.15 RCW, Washington Clean Air Act.

Adopted under notice filed as WSR 20-13-089 on June 16, 2020.

Changes Other than Editing from Proposed to Adopted Version: See the "concise explanatory statement" for more details.

Throughout Rule: We updated references to ecology RCW that were recodified to implement HB [SHB] 2246, which reorganized environmental health laws without making any substantive or policy changes.

WAC 173-443-030 Definitions and acronyms: We revised the following definitions in the foam end-use category to more closely align the definitions with industry terminology:

"Flexible polyurethane" means a nonrigid synthetic polyurethane foam including, but not limited to, that used in furniture, bedding, and chair cushions containing polymers of urethane radicals including, but not limited to, that used in furniture, bedding, chair cushions, and shoe soles.

"Foam blowing agent" means a product or substance that functions as a source of gas to generate bubbles or cells in the mixture during the formation of foam used to produce the product with a cellular structure formed via a foaming process in a variety of materials that undergo hardening or phase transition.

"Foam system" means a multipart liquid material product that expands when mixed to form a foam solid or flexible substance in which thin films of material separate pockets of gas.

"Integral skin polyurethane" means a synthetic self-skinning polyurethane foam containing polymers of urethane radicals including, but not limited to, that used in shoe soles and car steering wheels and dashboards.

"Rigid polyurethane appliance foam" means polyurethane insulation foam in domestic appliances used for insulation.

"Rigid polyurethane commercial refrigeration and sandwich panels" means polyurethane foam used to provide insulation ~~for use~~ in walls and doors, including that used for commercial refrigeration equipment, and used in doors, including garage doors.

"Rigid polyurethane high-pressure two-component spray foam" means a liquid polyurethane a foam system ~~product that is pressurized~~ 800-1600 psi during manufacture; sold in pressurized containers as two parts (i.e., A-side and B-side) in nonpressurized containers; and is field or factory blown and applied in situ using high-pressure proportioning pumps at 800 - 1600 psi ~~to propel the foam components~~, and an application gun to mix and dispense the chemical components ~~may use liquid blowing agents without an additional propellant~~.

"Rigid polyurethane low-pressure two-component spray foam" means a ~~foam product~~ liquid polyurethane foam system ~~that is pressurized to less than 250 psi during manufacture~~; sold in ~~pressurized containers~~ as two parts (i.e., A-side and B-side) in containers that are pressurized to less than 250 psi during manufacture of the system for application without pumps; and are typically applied in situ relying upon a liquid blowing agent and/or gaseous foam blowing agent that also serves as a propellant ~~so pumps typically are not needed~~.

"Rigid polyurethane marine flotation foam" means buoyancy or flotation polyurethane foam used in boat and ship manufacturing for both structural and flotation purposes.

"Rigid polyurethane one-component foam sealants" means a polyurethane foam generally packaged in aerosol cans that is applied in situ using a gaseous foam-blowing agent that is also the propellant for the aerosol formulation.

"Rigid polyurethane slabstock and other" means a rigid closed-cell polyurethane foam containing polymers of urethane radicals formed into slabstock insulation for panels and fabricated shapes for pipes and vessels.

We added a definition for the term "stationary" to address ambiguity in the definition of "refrigeration equipment."

"Stationary" means the system is (1) installed in a building, structure, or facility; or (2) attached to a foundation, or if not attached, will reside at the same location for more than twelve consecutive months; or (3) located intermittently at the same facility for at least two consecutive years and operates at that facility a total of at least 90 days each year.

We added a definition of "sufficient disclosure" to address ambiguity in the option of using another jurisdiction's label for refrigeration and foam end-uses.

"Sufficient disclosure" means providing the name of the substitute.

WAC 173-443-060 Prohibitions: Subsection (2): We added additional distribution methods in the sell-through provision to align with similar provisions in the HFC law and United States Climate Alliance model rule.

Products and equipment manufactured prior to the applicable effective date of a prohibition in WAC 173-443-040 may be sold, leased, rented, imported, exported, distributed, installed, ~~or used~~, or otherwise introduced into Washington commerce after the date of prohibition.

Subsection (2) (c): We expanded the sell-through provision from "spray foam systems" to "polyurethane foam systems."

Polyurethane Spray foam systems manufactured (blended) before an applicable prohibition date and not yet applied on site may be used after the prohibition date.

WAC 173-443-070 Product labeling and disclosure requirements:

Throughout section: We removed the qualifier "HFC" from all references to "HFC disclosure requirements of another jurisdiction."

Subsection (3) (a): We revised the order in which the two federal agencies appear.

For aerosol products regulated by the U.S. Consumer Product Safety Commission, the U.S. Food and Drug Administration excluding prescription drug products, ~~the U.S. Consumer Product Safety Commission~~, or products that are not covered by (b) of this subsection.

Subsection (4) and (5): We added the option of using another jurisdiction's label and clarified when it must be combined with online disclosure in subsections (4) (a) (iii) and (iv), (4) (c) (iv) and (v), and (5) (a) (iv) and (v).

A label required by another jurisdiction with sufficient HFC disclosure requirements; and online disclosure;

A label required by another jurisdiction that does not disclose the substitute; and online disclosure; or

Subsection (6): We revised subsections (6) (a) (ii) (C) and (D) and (6) (b) (iv) and (v) so that online disclosure is only required with use of another jurisdiction's label if the other jurisdiction's label does not adequately disclose the substitute.

A label required by another jurisdiction with sufficient HFC disclosure requirements; and online disclosure;

A label required by another jurisdiction that does not disclose the substitute; and online disclosure; or

We revised terminology in subsection (6) (c) to align with revisions in subsection (2) (c).

For the foam blowing agent used in polyurethane foam systems, including spray foam systems:

We added two new options in subsection (6) (c) (iv) and (v) to allow use of another jurisdiction's label for polyurethane foam systems.

A label required by another jurisdiction with sufficient disclosure requirements;

A label required by another jurisdiction that does not disclose the substitute; and online disclosure; or

Subsection (7): We removed unnecessary language to improve consistency with other subsections.

Ecology must approve in advance the use of a symbol or code ~~to~~ ~~comply with this section.~~

Subsection (9): We added clarification that online publication of a safety data sheet, owner's manual, or other product document qualifies as "online disclosure."

Online disclosure may occur through online publication of an owner's manual, safety data sheet, or other documentation that provides information about the product to the end-user of the product.

WAC 173-443-080 Manufacturer Notification: Subsection (1): We clarified that notification is only required for manufacturers using HFCs or other prohibited substitutes for an end-use listed in WAC 173-443-040.

A manufacturer of a product or equipment that contains, uses, or will use HFCs or other substitutes prohibited for an end-use listed in WAC 173-443-040 or a representative on behalf of the manufacturer, must report to ecology consistent with WAC 173-443-090 and 173-443-100.

A final cost-benefit analysis is available by contacting Linda Kildahl, Department of Ecology, Air Quality Program, 300 Desmond Drive, Lacey, WA 98503, phone 360-407-7655, for Washington relay service or TTY call 711 or 877-833-6341, email linda.kildahl@ecy.wa.gov, website <https://fortress.wa.gov/ecy/publications/SummaryPages/2002027.html>.

Number of Sections Adopted in Order to Comply with Federal Statute: New 0, Amended 0, Repealed 0; Federal Rules or Standards: New 0, Amended 0, Repealed 0; or Recently Enacted State Statutes: New 11, Amended 0, Repealed 0.

Number of Sections Adopted at the Request of a Nongovernmental Entity: New 0, Amended 0, Repealed 0.

Number of Sections Adopted on the Agency's own Initiative: New 11, Amended 0, Repealed 0.

Number of Sections Adopted in Order to Clarify, Streamline, or Reform Agency Procedures: New 0, Amended 0, Repealed 0.

Number of Sections Adopted using Negotiated Rule Making: New 0, Amended 0, Repealed 0; Pilot Rule Making: New 0, Amended 0, Repealed 0; or Other Alternative Rule Making: New 0, Amended 0, Repealed 0.

Date Adopted: December 10, 2020.

Laura Watson
Director

OTS-2268.8

**Chapter 173-443 WAC
HYDROFLUOROCARBONS (HFCs)**

NEW SECTION

WAC 173-443-010 Policy and purpose. (1) Ecology's policy under chapters 70A.15 and 43.21A RCW is to provide for the systematic control of air pollution from air contaminant sources. Ecology's policy under chapter 70A.45 RCW is to reduce the emissions of greenhouse gases.

(2) This chapter establishes requirements for the transition to less damaging HFCs or suitable substitutes in the air conditioning and refrigeration, aerosol propellant, and foam end-use categories in Washington in a manner similar to rules adopted under EPA's Significant New Alternative Policy (SNAP) program and HFC rules adopted or proposed for adoption by other states around the country (RCW 70A.45.080).

[]

NEW SECTION

WAC 173-443-020 Applicability. (1) The requirements of this chapter apply to any person who offers for sale, leases, rents, installs, or otherwise causes to enter into Washington commerce any product or equipment that contains, uses, or will use HFCs or other substitutes for an end-use listed in WAC 173-443-040.

(2) Labeling requirements.

(a) The labeling requirements in WAC 173-443-070 apply to manufacturers of products or equipment that contains, uses, or will use HFCs as of July 28, 2019, or to manufacturers that introduce such products or equipment into Washington commerce after that date.

(b) A manufacturer may apply the applicability determination in (a) of this subsection to separate divisions or similar segments of its business based on the end-use that products associated with each division or similar segmentation are intended to serve.

[]

NEW SECTION

WAC 173-443-030 Definitions and acronyms. The definitions in this section apply throughout this chapter unless the text clearly indicates otherwise.

"Aerosol propellant" means a liquid or compressed gas that is used in whole or in part, such as a cosolvent, to expel a liquid or other material from the same self-pressurized container or from a separate container.

"Bunstock" or "bun stock" means a large solid box-like structure formed during the production of polyurethane, polyisocyanurate, phenolic, or polystyrene insulation.

"C" means Centigrade.

"Centrifugal chiller" means air conditioning equipment that utilizes a centrifugal compressor in a vapor-compression refrigeration cycle typically used for commercial comfort air conditioning. Under this definition, a centrifugal chiller is a chiller intended for comfort cooling and does not include chillers for industrial process cooling and refrigeration.

"Code" means a collection of letters, numbers, graphics, or symbols that translates into a form that conveys the information provided by a dedicated or existing product label, or that can convey a user or reader to that information through electronic means (such as a QR code).

"Cold storage warehouse" means a cooled facility designed to store meat, produce, dairy products, and other products that are delivered to other locations for sale to the ultimate consumer.

"Commercial refrigeration equipment" means equipment designed to store and display chilled or frozen goods for commercial sale including, but not limited to, stand-alone units, refrigerated food processing and dispensing equipment, remote condensing units, supermarket systems, and vending machines.

"Component" means a part of a refrigeration system including, but not limited to, condensing units, compressors, evaporators, and receivers; and all of its connections and subassemblies, without which

the refrigeration system will not properly function or will be subject to failures.

"Dedicated label" means a label adhered or attached to a product, or otherwise included with the product, that is designed to convey required information to the end-user of that product on the inclusion or use of substitutes associated with that product.

"EPA" means the U.S. Environmental Protection Agency.

"Ecology" means the department of ecology.

"End-use" means processes or classes of specific applications within industry sectors including, but not limited to, those listed in WAC 173-443-040.

"Equipment" means a collection of components assembled or manufactured to function together that contains at least one product, or that is in and of itself a product.

"Existing product label" means a label adhered or attached to a product, such as a nameplate or sticker, or to the box or packaging enclosing the product that discloses the substitute contained, used, or to be used in the product.

"F" means Fahrenheit.

"Flexible polyurethane" means a nonrigid polyurethane foam including, but not limited to, that used in furniture, bedding, and chair cushions.

"Foam" means a product with a cellular structure formed via a foaming process in a variety of materials that undergo hardening via a chemical reaction or phase transition.

"Foam blowing agent" means a substance that functions as a source of gas to generate bubbles or cells in the mixture during the formation of foam.

"Foam system" means a multipart liquid product that expands when mixed to form a foam.

"HFC" means hydrofluorocarbon as the term is defined in RCW 70A.45.010.

"Household refrigerators and freezers" means refrigerators, refrigerator-freezers, freezers, and miscellaneous household refrigeration appliances intended for residential use. "Household refrigerators and freezers" does not include "household refrigerators and freezers - Compact," or "household refrigerators and freezers - Built-in."

"Household refrigerators and freezers - Built-in" means any refrigerator, refrigerator-freezer or freezer intended for residential use with 7.75 cubic feet or greater total volume and twenty-four inches or less depth not including doors, handles, and custom front panels; with sides which are not finished and not designed to be visible after installation; and that is designed, intended, and marketed exclusively to be: Installed totally encased by cabinetry or panels that are attached during installation; securely fastened to adjacent cabinetry, walls or floor; and equipped with an integral factory-finished face or accept a custom front panel.

"Household refrigerators and freezers - Compact" means any refrigerator, refrigerator-freezer or freezer intended for residential use with a total refrigerated volume of less than 7.75 cubic feet (220 liters).

"Integral skin polyurethane" means a self-skinning polyurethane foam including, but not limited to, that used in car steering wheels and dashboards.

"MDI" means metered dose inhaler or medical dose inhaler.

"Manufacturer" means any person, firm, association, partnership, corporation, governmental entity, organization, or joint venture that

produces any product that contains or uses HFCs or is an importer or domestic distributor of such a product (RCW 70A.45.010).

"New" means:

- (a) Products or equipment that are manufactured after the effective date of this chapter;
- (b) Products or equipment first installed for an intended purpose with new or used components;
- (c) Products or equipment expanded by the addition of components to increase system capacity after the effective date of this chapter; or
- (d) Products or equipment replaced or cumulatively replaced such that the cumulative capital cost after the effective date of this chapter of replacement exceeds fifty percent of the capital cost of replacing the whole system.

"Nonretail foam products" means products consisting entirely of foam created solely to be an input for another product or manufacturing purpose resulting in another type of product.

"Online disclosure" means disclosing the substitute contained, used, or to be used in products or equipment by ensuring that the information is available on an internet website that is accessible to the public free of charge.

"Owner's manual" means a paper or online instructional book that is available for an end-use product, which provides basic information about the product.

"PSI" means pounds per square inch.

"Person" means an individual, partnership, franchise holder, association, corporation, a state, a city, a county, or any subdivision or instrumentality of the state (RCW 70A.45.010).

"Phenolic insulation board and bunstock" means phenolic insulation including, but not limited to, that used for roofing and wall insulation.

"Polyolefin" means foam sheets and tubes made of polyolefin, a macromolecule formed by the polymerization of olefin monomer units.

"Polystyrene extruded boardstock and Billet (XPS)" means a foam formed from polymers of styrene and produced on extruding machines in the form of continuous foam slabs which can be cut and shaped into panels used for roofing, walls, flooring, and pipes.

"Polystyrene extruded sheet" means polystyrene foam including that used for packaging and buoyancy or floatation. It is also made into food-service items, including hinged polystyrene containers (for "take-out" from restaurants); food trays (meat and poultry) plates, bowls, and retail egg containers.

"Polyurethane" means a polymer formed principally by the reaction of an isocyanate and a polyol.

"Positive displacement chiller" means vapor compression cycle chillers that use positive displacement compressors, typically used for commercial comfort air conditioning. Positive displacement chiller in this definition is a chiller intended for comfort cooling and does not include cooling for industrial process cooling and refrigeration.

"Product" means an article manufactured or refined for sale that contains or uses a substitute.

"Refrigerant" or "refrigerant gas" means any substance, including blends and mixtures, which is used for heat transfer purposes.

"Refrigerated food processing and dispensing equipment" means retail food refrigeration equipment that is designed to process food and beverages dispensed via a nozzle that are intended for immediate or near-immediate consumption including, but not limited to, chilled and

frozen beverages, ice cream, and whipped cream. This end-use excludes water coolers, or units designed solely to cool and dispense water.

"Refrigeration equipment" means any stationary device that is designed to contain and use refrigerant gas including, but not limited to, retail or commercial refrigeration equipment, household refrigeration equipment, and cold storage warehouses.

"Remote condensing units" means retail refrigeration equipment or units that have a central condensing portion and may consist of one or more compressors, condensers, and receivers assembled into a single unit, which may be located external to the sales area. The condensing portion (and often other parts of the system) is located outside the space or area cooled by the evaporator. Remote condensing units are commonly installed in convenience stores, specialty shops (e.g., bakeries, butcher shops), supermarkets, restaurants, and other locations where food is stored, served, or sold.

"Retail foam products" means products consisting entirely of foam that are created for the purpose of selling or otherwise providing that product in a finished state that does not involve any additional manufacturing or refinement.

"Retrofit" means to convert an appliance from one refrigerant to another refrigerant. Retrofitting includes the conversion of the appliance to achieve system compatibility with the new refrigerant and may include, but is not limited to, changes in lubricants, gaskets, filters, driers, valves, o-rings, or appliance components (RCW 70A.45.010).

"Rigid polyurethane and polyisocyanurate laminated boardstock" means laminated board insulation made with polyurethane or polyisocyanurate foam, including that used for roofing and walls.

"Rigid polyurethane appliance foam" means polyurethane foam in domestic appliances used for insulation.

"Rigid polyurethane commercial refrigeration and sandwich panels" means polyurethane foam used to provide insulation in walls and doors, including that used for commercial refrigeration equipment, and used in doors, including garage doors.

"Rigid polyurethane high-pressure two-component spray foam" means a liquid polyurethane foam system sold as two parts (i.e., A-side and B-side) in nonpressurized containers; and is field or factory applied in situ using high-pressure proportioning pumps at 800 - 1600 psi and an application gun to mix and dispense the chemical components.

"Rigid polyurethane low-pressure two-component spray foam" means a liquid polyurethane foam system sold as two parts (i.e., A-side and B-side) in containers that are pressurized to less than 250 psi during manufacture of the system for application without pumps; and are typically applied in situ relying upon a liquid blowing agent and/or gaseous foam blowing agent that also serves as a propellant.

"Rigid polyurethane marine flotation foam" means buoyancy or flotation polyurethane foam used in boat and ship manufacturing for both structural and flotation purposes.

"Rigid polyurethane one-component foam sealants" means a polyurethane foam generally packaged in aerosol cans that is applied in situ using a gaseous foam blowing agent that is also the propellant for the aerosol formulation.

"Rigid polyurethane slabstock and other" means a rigid closed-cell polyurethane foam formed into slabstock insulation for panels and fabricated shapes for pipes and vessels.

"Stand-alone low-temperature unit" means a stand-alone unit that maintains food or beverages at temperatures at or below 32°F (0°C).

"Stand-alone medium-temperature unit" means a stand-alone unit that maintains food or beverages at temperatures above 32°F (0°C).

"Stand-alone unit" means retail refrigerators, freezers, and reach-in coolers (either open or with doors) where all refrigeration components are integrated and, for the smallest types, the refrigeration circuit is entirely brazed or welded. These systems are fully charged with refrigerant at the factory and typically require only an electricity supply to begin operation.

"Stationary" means the system is:

- (a) Installed in a building, structure, or facility;
- (b) Attached to a foundation, or if not attached, will reside at the same location for more than twelve consecutive months; or
- (c) Located intermittently at the same facility for at least two consecutive years and operates at that facility a total of at least ninety days each year.

"Substitute" means a chemical, product substitute, or alternative manufacturing process, whether existing or new, that is used to perform a function previously performed by a class I substance or class II substance and any substitute subsequently adopted to perform that function including, but not limited to, hydrofluorocarbons. "Substitute" does not include 2-BTP or any compound as applied to its use in aerospace fire extinguishing systems (RCW 70A.45.010).

"Sufficient disclosure" means providing the name of the substitute.

"Supermarket systems" means multiplex or centralized retail food refrigeration equipment systems designed to cool or refrigerate, which operate with racks of compressors installed in a machinery room and which includes both direct and indirect systems.

"Symbol" means a graphical or hybrid word-graphical symbol for the purposes of conveying the types of substitutes used in the product or equipment and signaling that further information on the use of substitutes is available through online disclosure.

"Unit" means a collection of like products bundled together for purposes of commerce.

"Unit label" means a label adhered or attached, or capable of being adhered or attached, to a collection of like products bundled together for purposes of commerce.

"Vending machine" means a self-contained unit that dispenses goods that must be kept cold or frozen.

[]

NEW SECTION

WAC 173-443-040 List of prohibited substitutes. (1) The tables in this section list substitutes prohibited in specific end-uses and the effective date of prohibition, unless an exemption is provided for in WAC 173-443-050.

(2) Prohibitions for the aerosol propellants end-use category.

End-Use Category: Aerosol Propellants		
End-Use	Prohibited Substitutes	Effective Date
Aerosol propellants	HFC-125, HFC-134a, HFC-227ea and blends of HFC-227ea and HFC-134a	January 1, 2020

(3) Prohibitions for the air conditioning end-use category.

End-Use Category: Air Conditioning		
End-Use	Prohibited Substitutes	Effective Date
Centrifugal chillers (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, HFC-236fa, HFC-245fa, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-423A, R-424A, R-434A, R-438A, R-507A, RS-44 (2003 composition), THR-03	January 1, 2024
Positive displacement chillers (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/134a/600a (28.1/70/1.9), R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-424A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 composition), SP34E, THR-03	January 1, 2024

(4) Prohibitions for the refrigeration end-use category.

End-Use Category: Refrigeration		
End-Use	Prohibited Substitutes	Effective Date
Cold storage warehouses (new)	HFC-227ea, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-423A, R-424A, R-428A, R-434A, R-438A, R-507A, RS-44 (2003 composition)	January 1, 2023
Household refrigerators and freezers (new)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2022
Household refrigerators and freezers - Compact (new)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2021
Household refrigerators and freezers - Built-in appliances (new)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2023
Supermarket systems (retrofit)	R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2020
Supermarket systems (new)	HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2020
Remote condensing units (retrofit)	R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2020
Remote condensing units (new)	HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A	January 1, 2020
Stand-alone units (retrofit)	R-404A, R-507A	January 1, 2020
Stand-alone medium-temperature units (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03	January 1, 2020

End-Use Category: Refrigeration		
End-Use	Prohibited Substitutes	Effective Date
Stand-alone low-temperature units (new)	HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation)	January 1, 2020
Refrigerated food processing and dispensing equipment (new)	HFC-227ea, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407A, R-407B, R-407C, R-407F, R-410A, R-410B, R-417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-428A, R-434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation)	January 1, 2021
Vending machines (retrofit)	R-404A, R-507A	January 1, 2022
Vending machines (new)	FOR12A, FOR12B, HFC-134a, KDD6, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R-407C, R-410A, R-410B, R-417A, R-421A, R-422B, R-422C, R-422D, R-426A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), SP34E	January 1, 2022

(5) Prohibitions for the foams end-use category.

End-Use Category: Foams		
End-Use	Prohibited Substitutes	Effective Date
Rigid polyurethane and polyisocyanurate laminated boardstock	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof	January 1, 2020
Flexible polyurethane	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof	January 1, 2020
Integral skin polyurethane	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Polystyrene extruded sheet	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Phenolic insulation board and bunstock	HFC-143a, HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof	January 1, 2020
Rigid polyurethane slabstock and other	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Rigid polyurethane appliance foam	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Rigid polyurethane commercial refrigeration and sandwich panels	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Polyolefin	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Rigid polyurethane marine flotation foam	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6	January 1, 2020
Polystyrene extruded boardstock and billet (XPS)	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel B, Formacel Z-6	January 1, 2021
Rigid polyurethane high-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least 4 percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; Formacel TI	January 1, 2020
Rigid polyurethane low-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least 4 percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; Formacel TI	January 1, 2021
Rigid polyurethane one-component foam sealants	HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least 4 percent HFC-245fa, and commercial blends of HFC-365mfc with 7 to 13 percent HFC-227ea and the remainder HFC-365mfc; Formacel TI	January 1, 2020

[]

NEW SECTION

WAC 173-443-050 Exemptions. The following table lists exemptions to the prohibitions in WAC 173-443-040.

End-Use Category	Prohibited Substitutes	Acceptable Uses
Aerosol propellants	HFC-134a	Cleaning products for removal of grease, flux and other soils from electrical equipment; refrigerant flushes; products for sensitivity testing of smoke detectors; lubricants and freeze sprays for electrical equipment or electronics; sprays for aircraft maintenance; sprays containing corrosion preventive compounds used in the maintenance of aircraft, electrical equipment or electronics, or military equipment; pesticides for use near electrical wires, in aircraft, in total release insecticide foggers, or in certified organic use pesticides for which EPA has specifically disallowed all other lower-GWP propellants; mold release agents and mold cleaners; lubricants and cleaners for spinnerettes for synthetic fabrics; duster sprays specifically for removal of dust from photographic negatives, semiconductor chips, specimens under electron microscopes, and energized electrical equipment; adhesives and sealants in large canisters; document preservation sprays; FDA-approved MDIs for medical purposes; wound care sprays; topical coolant sprays for pain relief; products for removing bandage adhesives from skin; bear spray; and pepper spray.
Aerosol propellants	HFC-227ea and blends of HFC-227ea and HFC-134a	FDA-approved MDIs for medical purposes.
Air conditioning	HFC-134a	Military marine vessels where reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements.
Air conditioning	HFC-134a and R-404A	Human-rated spacecraft and related support equipment where reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements.
Foams - Except rigid polyurethane spray foam	All substitutes	Military applications where reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements until January 1, 2022.
Foams - Except rigid polyurethane spray foam	All substitutes	Space- and aeronautics-related applications where reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements until January 1, 2025.
Rigid polyurethane two-component spray foam	All substitutes	Military or space- and aeronautics-related applications where reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements until January 1, 2025.

[]

NEW SECTION

WAC 173-443-060 Prohibitions. (1) No person may offer for sale, lease, rent, install, or otherwise cause to enter into Washington commerce any product or equipment that contains, uses, or will use HFCs

or other substitutes prohibited for an end-use in WAC 173-443-040 unless an exemption is provided for in WAC 173-443-050.

(2) Products and equipment manufactured prior to the applicable effective date of a prohibition in WAC 173-443-040 may be sold, leased, rented, imported, exported, distributed, installed, used, or otherwise introduced into Washington commerce after the date of prohibition.

(a) For products and equipment imported from outside the United States, the date of import may be considered the date of manufacture.

(b) For refrigeration equipment and chillers, the date the manufacturer affixed an equipment label indicating the equipment's date of manufacture is the date of manufacture.

(c) Polyurethane foam systems manufactured (blended) before an applicable prohibition date and not yet applied on site may be used after the prohibition date.

(3) Except where an existing system is retrofit, nothing in this chapter requires a person that acquired a product or equipment containing or using a prohibited substitute prior to the effective date of a prohibition in WAC 173-443-040 to cease use of that product or equipment.

[]

NEW SECTION

WAC 173-443-070 Product labeling and disclosure requirements.

(1) Except for products and equipment that use prohibited substitutes for an acceptable use listed in WAC 173-443-050, a manufacturer must disclose the substitutes contained, used, or to be used in its products or equipment applicable to the end-uses listed in WAC 173-443-040.

(2) This disclosure must occur no later than one year following an applicable prohibition date, or no later than one year following the effective date of this chapter.

(3) A manufacturer of aerosol propellant products must disclose the substitutes through one of following methods:

(a) For aerosol products regulated by the U.S. Consumer Product Safety Commission, the U.S. Food and Drug Administration excluding prescription drug products, or products that are not covered by (b) of this subsection:

(i) New dedicated label;

(ii) Existing product label;

(iii) On-packaging label;

(iv) On-product symbol or code; and online disclosure; or

(v) On-packaging symbol or code; and online disclosure.

(b) For aerosol products regulated by EPA under the Federal Insecticide Fungicide and Rodenticide Act, aerosol products regulated by the Occupational Safety and Health Administration, or aerosol prescription drug products regulated by the U.S. Food and Drug Administration:

(i) Any option in (a) (i) through (v) of this subsection; or

(ii) A product document, such as a Safety Data Sheet (SDS), that complies with the 29 C.F.R. 1910.1200; and online disclosure if the SDS is not posted online.

(4) A manufacturer of refrigeration products and equipment (including refrigeration products and equipment that contain foam) must disclose the substitutes through one of following methods:

(a) For the refrigerant used in household refrigerators and freezers, household refrigerators and freezers - Compact, and household refrigerators and freezers - Built-in:

- (i) New dedicated label;
- (ii) Underwriters Laboratories or equivalent safety label;
- (iii) A label required by another jurisdiction with sufficient disclosure requirements;
- (iv) A label required by another jurisdiction that does not disclose the substitute; and online disclosure; or
- (v) On-product or on-equipment symbol or code; and online disclosure.

(b) For the foam blown in or installed by the manufacturer of household refrigerators and freezers, household refrigerators and freezers - Compact, and household refrigerators and freezers - Built-in:

- (i) New dedicated label;
- (ii) Underwriters Laboratories or equivalent safety label;
- (iii) Owner's manual; or
- (iv) On-product or on-equipment symbol or code; and online disclosure.

(c) For the refrigerant used in commercial refrigeration equipment:

- (i) New dedicated label;
- (ii) Existing product label;
- (iii) Underwriters Laboratories or equivalent safety label;
- (iv) A label required by another jurisdiction with sufficient disclosure requirements;
- (v) A label required by another jurisdiction that does not disclose the substitute; and online disclosure; or
- (vi) On-product or on-equipment symbol or code; and online disclosure.

(d) For the foam blown in or installed by the manufacturer of commercial refrigeration equipment:

- (i) New dedicated label;
- (ii) Existing product label;
- (iii) Underwriters Laboratories or equivalent safety label;
- (iv) Owner's manual; or
- (v) On-product or on-equipment symbol or code; and online disclosure.

(5) A manufacturer of centrifugal or positive displacement chillers must disclose the substitutes through one of following methods:

(a) For the refrigerant used in centrifugal and positive displacement chillers:

- (i) New dedicated label;
- (ii) Existing product label;
- (iii) Underwriters Laboratories or equivalent safety label;
- (iv) A label required by another jurisdiction with sufficient disclosure requirements;
- (v) A label required by another jurisdiction that does not disclose the substitute; and online disclosure; or
- (vi) On-product or on-equipment symbol or code; and online disclosure.

(b) For the foam blown in or installed by the manufacturer of centrifugal and positive displacement chillers:

- (i) New dedicated label;
 - (ii) Existing product label;
 - (iii) Underwriters Laboratories or equivalent safety label;
 - (iv) Owner's manual; or
 - (v) On-product or on-equipment symbol or code; and online disclosure.
- (6) A manufacturer of foam products must disclose the substitutes through one of following methods:
- (a) For nonretail foam products:
 - (i) Unit label; or
 - (ii) One of the following methods for each individual product within a unit:
 - (A) New dedicated label;
 - (B) Existing product label;
 - (C) A label required by another jurisdiction with sufficient disclosure requirements;
 - (D) A label required by another jurisdiction that does not disclose the substitute; and online disclosure; or
 - (E) On-product symbol or code; and online disclosure.
 - (b) For retail foam products:
 - (i) New dedicated label;
 - (ii) Existing product label;
 - (iii) On-packaging label;
 - (iv) A label required by another jurisdiction with sufficient disclosure requirements;
 - (v) A label required by another jurisdiction that does not disclose the substitute; and online disclosure;
 - (vi) On-product symbol or code; and online disclosure; or
 - (vii) On-packaging symbol or code; and online disclosure.
 - (c) For the foam blowing agent used in polyurethane foam systems, including spray foam systems:
 - (i) New dedicated label on the canister or cylinders;
 - (ii) Existing product label on the canister or cylinders;
 - (iii) On-packaging label;
 - (iv) A label required by another jurisdiction with sufficient disclosure requirements;
 - (v) A label required by another jurisdiction that does not disclose the substitute; and online disclosure; or
 - (vi) On-packaging symbol or code; and online disclosure.
- (7) Ecology must approve in advance the use of a symbol or code.
- (8) Ecology must approve in advance the use of another jurisdiction's disclosure label.
- (9) Online disclosure may occur through online publication of an owner's manual, safety data sheet, or other documentation that provides information about the product to the end-user of the product.
- (10) The requirements of this section do not apply to aircraft and aircraft components subject to certification requirements of the Federal Aviation Administration.

[]

NEW SECTION

WAC 173-443-080 Manufacturer notification. (1) A manufacturer of a product or equipment that contains, uses, or will use HFCs or

other substitutes prohibited for an end-use listed in WAC 173-443-040 or a representative on behalf of the manufacturer, must report to ecology consistent with WAC 173-443-090 and 173-443-100.

(2) It is only necessary for one person or entity to report with respect to a particular product or equipment.

(3) In the event of a failure by at least one person to provide a complete, accurate, and timely report for a product or equipment within a specific end-use, ecology will require information from the manufacturer associated with the product or equipment in the following order of precedence:

(a) The person or entity that manufactured, produced, or assembled the product or equipment, unless it has no presence in the United States.

(b) The person or entity that marketed the product or equipment under its name or trademark, unless it has no presence in the United States.

(c) The first person or entity, whether an importer or a distributor, that owned the product or equipment in the United States.

(4) This section in no way limits the liability of any manufacturer as defined in WAC 173-443-030 associated with a product or equipment from enforcement under chapter 70A.15 RCW.

[]

NEW SECTION

WAC 173-443-090 Initial notification. (1) By December 31, 2019, a manufacturer or its representative must provide ecology an initial status notification of the status of all products and equipment within each applicable end-use that contains, uses, or will use HFCs or other substitutes prohibited in WAC 173-443-040.

(2) An initial status notification must include all covered products and equipment that the manufacturer offers for sale, leases, rents, installs, or otherwise causes to enter into Washington commerce.

(3) A manufacturer must submit an initial status notification using ecology's notification form. The current form is available on ecology's website. This initial status notification must provide:

(a) Contact information on the manufacturer.

(b) The name of the party authorized to represent the manufacturer for purposes of providing initial status notifications and status updates.

(c) All products and equipment within an end-use that are applicable to the manufacturer.

(d) Which HFCs or other prohibited substitutes are being used by products or equipment within each applicable end-use.

(e) Signature and certification by the authorized representative for the manufacturer.

[]

NEW SECTION

WAC 173-443-100 Status update notification. Within one hundred twenty days after the date of a prohibition in WAC 173-443-040, a manufacturer affected by the prohibition or its representative must provide ecology with an updated status notification using ecology's form. This updated status notification must include:

- (1) Whether the manufacturer has ceased the use of HFCs or other substitutes prohibited in WAC 173-443-040 within each applicable end-use.
- (2) What, if any, HFCs other prohibited substitutes remain in use.
- (3) Updated responses on all information requested in the initial status notification required in WAC 173-443-090.

[]

NEW SECTION

WAC 173-443-110 Severability. If any provision of this chapter or its application is held invalid, the remainder of the chapter or application of the provision is not affected.

[]