DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL

DIVISION OF AIR QUALITY

Statutory Authority: 7 Delaware Code, Sections 6001(c) and 6010; (7 **Del.C.** §§6001(c) and 6010)

PROPOSED

REGISTER NOTICE
SAN # 2019-08

1151 Prohibitions on Use of Certain Hydrofluorocarbons in Specific End-Uses

1. TITLE OF THE REGULATIONS:

7 **DE Admin. Code** 1151 Prohibitions on Use of Certain Hydrofluorocarbons in Specific End-Uses

2. BRIEF SYNOPSIS OF THE SUBJECT, SUBSTANCE AND ISSUES:

This proposed new regulation supports the Governor's directive to the Department of Natural Resources and Environmental Control to propose regulations for the use and manufacturing of Hydrofluorocarbons in Delaware.

This proposed new regulation establishes the prohibitions and requirements for the use and manufacture of hydrofluorocarbons in the State of Delaware according to their specific end usage (including air conditioning and refrigeration equipment, aerosol propellants, and foam end-uses) and adopts specific United States Environmental Protection Agency Significant New Alternatives Policy Program prohibitions. This proposed new regulation is designed to support greenhouse gas emission reductions in the State of Delaware.

3. POSSIBLE TERMS OF THE AGENCY ACTION:

None

4. STATUTORY BASIS OR LEGAL AUTHORITY TO ACT:

7 **Del.C.** Chapter 60 Environmental Control §§ 6001(c) & 6010.

5. OTHER REGULATIONS THAT MAY BE AFFECTED BY THE PROPOSAL:

None

6. NOTICE OF PUBLIC COMMENT:

The hearing record on the proposed new regulation 7 **DE Admin. Code** 1151 will open April 1, 2020. Individuals may submit comments regarding the proposed new regulation to the Hearing Officer via the online comment form at https://dnrec.alpha.delaware.gov/public-hearings/comment-form/, via email to DNRECHearingComments@delaware.gov, or via USPS to Lisa Vest, Hearing Officer, DNREC, 89 Kings Highway, Dover, DE, 19901.

A public hearing on the proposed new regulation will be held on April 23, 2020 beginning at 6:00 PM in the Auditorium, located at the Richardson & Robbins Building, 89 Kings Highway, Dover, DE, 19901. Public comments will be received until close of business, Friday, May 8, 2020.

7. PREPARED BY:

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1151 Prohibitions on Use of Certain Hydrofluorocarbons in Specific End-Uses

1.0 Purpose

This regulation establishes the prohibitions and requirements for the use and manufacture of hydrofluorocarbons in the State of Delaware according to their specific end usage (including air conditioning and refrigeration equipment, aerosol propellants, and foam end-uses) and adopts specific United States Environmental Protection Agency Significant New Alternatives Policy Program prohibitions. This regulation is designed to support greenhouse gas emission reductions in the State of Delaware.

2.0 Applicability

2.1 This regulation applies to any person who sells, offers for sale, leases, rents, installs, uses, or manufactures in the State of Delaware, any product or equipment that uses a substance in any of the end-uses listed in Section 6.0.

2.2 Any person who manufactures product or equipment covered in the specific end-uses listed in Section 6.0 is subject to disclosure statement requirements, as detailed in subsection 4.2.

2.3 Substances used in end-uses listed in Section 7.0 are exempt from the prohibitions covered in this regulation.

2.4 Severability. Each section of this regulation shall be deemed severable, and in the event that any provision of this regulation is held to be invalid, the remainder of this regulation shall continue in full force and effect.

3.0 Definitions

The following terms, when used in this regulation, shall have the following meanings unless the context clearly indicates otherwise. Terms used but not defined herein shall have the meanings given to them in 7 **Del.C.** Ch. 60, 7 **DE Admin. Code** 1101 or the Clean Air Act as amended in 1990, in that order of:

"**Aerosol Propellant**" means a compressed gas that serves to dispense the contents of an aerosol container when the pressure is released.

"**Air Conditioning Equipment**" means chillers, both centrifugal chillers and positive displacement chillers, intended for comfort cooling of occupied spaces.

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

"**Capital Cost**" means an expense incurred in the production of goods or in rendering services, including but not limited to the cost of engineering, purchase, and installation of components or systems, and instrumentation, and contractor and construction fees.

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

"**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.

"**Component**" means a part of a refrigeration system, including but not limited to condensing units, compressors, condensers, 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.

"**Cumulative Replacement**" means the addition of or change in multiple components within a three-year period.

"**Department**" means the State of Delaware Department of Natural Resources and Environmental Control.

"**Effective Date**" or "**Effective Date of Prohibition**" means date after which the prohibitions provided in Section 6.0 go into effect.

"**End-use**" means processes or classes of specific applications within industry sectors, including but not limited to those listed in Section 6.0.

"**Flexible Polyurethane**" means a non-rigid synthetic foam containing polymers created by the reaction of isocyanate and polyol, 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 used to produce the product with a cellular structure formed via a foaming process in a variety of materials that undergo hardening via chemical reaction or phase transition.

"**Global Warming Potential**" or "**GWP**" means a measure of the radiative efficiency (heat-absorbing ability) of a particular gas relative to that of carbon dioxide (CO_2) after taking into account the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO_2. Global warming potentials used in this regulation are consistent with the values used in the Intergovernmental Panel on Climate Change, Fourth Assessment Report.

"**Household Refrigerators and Freezers**" means refrigerators, refrigerator-freezers, freezers, and miscellaneous household refrigeration appliances intended for residential use. For the purposes of this regulation, "household refrigerators and freezers" does not include "household refrigerators and freezers - built-in" or "household refrigerators and freezers - compact".

"**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 24 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:

(1) Installed totally encased by cabinetry or panels that are attached during installation;

(2) Securely fastened to adjacent cabinetry, walls or floor; and

(3) 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).

"**Hydrofluorocarbons**" means a class of greenhouse gases that are saturated organic compounds containing hydrogen, fluorine, and carbon.

"**Integral Skin Polyurethane**" means a synthetic self-skinning foam containing polyurethane polymers formed by the reaction of an isocyanate and a polyol, including but not limited to that used in car steering wheels and dashboards.

"**MDI**" means a metered dose inhaler or medical dose inhaler or a device that delivers a measured amount of medication as a mist that a patient can inhale, typically used for bronchodilation to treat symptoms of asthma, chronic obstructive pulmonary disease (COPD), chronic bronchitis, emphysema, and other respiratory illnesses. An MDI consists of a pressurized canister of medication in a case with a mouthpiece.

"**Miscellaneous Residential Refrigeration Appliance**" means a residential refrigeration appliance smaller than a refrigerator, refrigerator-freezer, or freezer; and which includes coolers, cooler compartments, and combination cooler refrigeration or cooler freezer products.

"**Motor-bearing**" means refrigeration equipment containing motorized parts, including compressors, condensers, and evaporators.

"**New**" means products or equipment:

(1) That are manufactured after the effective date of this regulation; or

(2) First installed for an intended purpose with new or used components after the effective date of this regulation; or

(3) Expanded after the effective date of this regulation, to handle an expanded cooling load by the addition of components in which the capacity of the system is increased, including refrigerant lines, evaporators, compressors, and condensers; or

(4) Replaced or cumulatively replaced after the effective date of this regulation, such that the capital cost of replacing or cumulatively replacing components exceeds 50% of the capital cost of replacing the whole system.

"**Phenolic Insulation Board**" means phenolic insulation including but not limited to that used for roofing and wall inslation.

"**Polyolefin**" means foam sheets and tubes made of polyolefin.

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

"**Polystyrene Extruded Sheet**" means polystyrene foam including that used for packaging. 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.

"**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 regulation is a chiller intended for comfort cooling and does not include cooling for industrial process cooling and refrigeration.

"**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 compressor or compressors, condenser or condensers, and receiver or 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.

"**Residential use**" means use by a private individual of a substance, or a product or equipment containing the substance, in or around a permanent or temporary household, during recreation, or for any personal use or enjoyment. Use within a household for commercial or medical applications is not included in this definition, nor is use in automobiles, watercraft, or aircraft.

"**Retail Food Refrigeration**" or "**Commercial Refrigeration**" 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.

"**Retrofit**" means to convert a system from one refrigerant to another refrigerant. Retrofitting includes the conversion of the system 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 system components.

"**Rigid Polyurethane and Polyisocyanurate Laminated Boardstock**" means laminated board insulation made with polyurethane or polyisocyanurate foam, including that used for roofing and wall insulation.

"**Rigid Polyurethane Appliance Foam**" means polyurethane insulation foam in household appliances.

"**Rigid Polyurethane Commercial Refrigeration and Sandwich Panels**" means polyurethane 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 foam product that is pressurized 800-1600 pounds per square inch (psi) during manufacture; sold in pressurized containers as two parts (i.e., A-side and B-side); and is blown and applied in situ using high-pressure pumps to propel the foam components, and may use liquid blowing agents without an additional propellant.

"**Rigid Polyurethane Low-pressure Two-component Spray Foam**" means a foam product that is pressurized to less than 250 psi during manufacture; sold in pressurized containers as two parts (i.e., A-side and B-side); and are typically applied in situ relying upon a 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 foam used in boat and ship manufacturing for both structural and flotation purposes.

"**Rigid Polyurethane One-component Foam Sealants**" means a foam 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 foam containing urethane polymers produced by the reaction of an isocyanate and a polyol and 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.

"**Substance**" means any chemical intended for use in the end-uses listed in Section 6.0.

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

"**Use**" means any utilization of any substance, including but not limited to utilization in a manufacturing process or product in Delaware, consumption by the end-user in the State of Delaware, or in intermediate applications in the State of Delaware, such as formulation or packaging for other subsequent applications. For the purposes of this regulation, use excludes residential use, but it does not exclude manufacturing for the purpose of residential use.

"**Vending Machines**" means self-contained commercial food refrigeration equipment that dispense goods that must be kept hot, cold or frozen.

4.0 Standards (Requirements)

4.1 Prohibitions

4.1.1 No person may sell, lease, rent, install, use or manufacture in the State of Delaware, any product or equipment using a listed substance for any air conditioning, refrigeration, foam, or aerosol propellant end-use listed as prohibited in Section 6.0, and not exempt by Section 7.0.

4.1.2 Except where an existing system is retrofit, nothing in this regulation requires a person that acquired a product or equipment containing a prohibited substance prior to an effective date of the prohibition in Section 6.0 to cease use of that product or equipment.

4.1.3 This regulation does not prevent the use of a prohibited substance in the servicing, maintenance and repair operations of an existing product or equipment in an end-use listed in Section 6.0, which contains or was designed to contain a prohibited substance, except if the operations constitute a retrofit or reclassifies the system as new.

4.1.4 Products or equipment manufactured prior to the applicable effective date of the restrictions specified in Table 1 of subsection 6.1.1 (including foam systems not yet applied on site) may be sold, imported, exported, distributed, installed, and used after the specified date of prohibition.

4.2 Disclosure Statement

4.2.1 As of the effective date of prohibition, any person who manufactures for sale in the State of Delaware, products or equipment in the air conditioning, refrigeration, foam, or aerosol propellant end-uses listed as prohibited in Section 6.0, must provide a written disclosure to the buyer, as follows:

4.2.1.1 For motor-bearing refrigeration and air-conditioning equipment that is neither factory-charged nor pre-charged with refrigerant, the required disclosure or label must state:

"This equipment is prohibited from using any substance on the "List of Prohibited Substances" for that specific end-use, in accordance with State regulations for hydrofluorocarbons."

4.2.1.2 Except for products and equipment with existing labeling required by state building codes and safety standards which contain the information required in subsections 4.2.1.2.1 and 4.2.1.2.2, the disclosure or label for refrigeration and air-conditioning equipment that are factory-charged or pre-charged with a hydrofluorocarbon or hydrofluorocarbon blend should include:

4.2.1.2.1 The date of manufacture; and

4.2.1.2.2 The refrigerant and foam blowing agent the product or equipment contains.

4.2.1.3 For foam products, the disclosure or label should include one of the two alternatives (Alternative 1 or Alternative 2) detailed below:

4.2.1.3.1 Alternative 1

4.2.1.3.1.1 The date of manufacture; and

4.2.1.3.1.2 The foam blowing agent the product contains, or a reference to a Safety Data Sheet (complying with 29 CFR 1910.1200 requirements), if the latter identifies the foam blowing agent the product contains.

4.2.1.3.2 Alternative 2

4.2.1.3.2.1 *"Where sold, compliant with State HFC regulations."*

4.2.1.4 For aerosol propellants, the disclosure or label should include one of the two alternatives (Alternative 1 or Alternative 2) detailed below:

4.2.1.4.1 Alternative 1

4.2.1.4.1.1 The date of manufacture or a date code representing the date, shall be indicated on the label, lid, or bottom of the container. If the manufacturer uses a date code for any product, the manufacturer shall file an explanation of each code to the Department; and

4.2.1.4.1.2 The aerosol propellant the product contains, or a reference to a Safety Data Sheet (complying with 29 CFR 1910.1200 requirements), if the latter identifies the propellant the product contains.

4.2.1.4.2 Alternative 2

4.2.1.4.2.1 *"Where sold, compliant with State HFC regulations."*

5.0 [RESERVED]

6.0 List of Prohibited Substances

6.1 End-use and prohibited substances

6.1.1 The following table lists prohibited substance in specific end-uses and the effective date of prohibition, unless an exemption is provided for in Section 7.0:

Table 1. End-use and Prohibited substances

End-use Category: Aerosol Propellants		
End-use	Prohibited Substances	Effective Date
Aerosol Propellants	HFC-125, HFC-134a, HFC-227ea and blends of HFC-227ea and HFC 134a.	January 1, 2021
End-use Category: Air Conditioning		
End-use	Prohibited Substances	Effective Date
Centrifugal chillers (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, HFC-236fa, HFC245fa, 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, R438A, R-507A, RS-44 (2003 composition), THR-03.	January 1, 2024
Positive displacement chillers (new)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R125/ 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, R438A, R-507A, RS-44 (2003 composition), SP34E, THR-03.	January 1, 2024
End-use Category: Refrigeration		
End-use	Prohibited Substances	Effective Date
Cold storage warehouses (new)	HFC-227ea, R-125/290/134a/600a (55.0/1.0/42.5/1.5), R404A, R-407A, R-407B, R-410A, R-410B, R-417A, R-421A, R421B, R-422A, R-422B, R-422C, R-422D, R-423A, R-424A, R428A, 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, R424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS24 (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, R424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS24 (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, R424A, R-426A, R-428A, R-434A, R-437A, R-438A, R-507A, RS24 (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, R428A, R-434A, R-507A	January 1, 2021
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, 2021
Remote Condensing Units (Retrofit)	R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R428A, R-434A, R-507A.	January 1, 2021

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, 2021
Stand-Alone Units (Retrofit)	R-404A, R-507A.	January 1, 2021
Stand-Alone Medium-Temperature Units (New)	FOR12A, FOR12B, HFC-134a, HFC-227ea, KDD6, R125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R407A, R-407B, R-407C, R-407F, R-410A, R-410B, R417A, R-421A, R-421B, R-422A, R-422B, R-422C, R422D, R-424A, R-426A, R-428A, R-434A, R-437A, R438A, R-507A, RS-24 (2002 formulation), RS-44 (2003 formulation), SP34E, THR-03.	January 1, 2021
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, R422A, R-422B, R-422C, R-422D, R-424A, R-428A, R434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation).	January 1, 2021
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, R417A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R424A, 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, 2021
Vending Machines (New)	FOR12A, FOR12B, HFC-134a, KDD6, R125/290/134a/600a (55.0/1.0/42.5/1.5), R-404A, R407C, R-410A, R-410B, R-417A, R-421A, R-422B, R422C, R-422D, R-426A, R-437A, R-438A, R-507A, RS-24 (2002 formulation), SP34E.	January 1, 2022
End-use Category: Foams		
End-use	Prohibited Substances	Effective Date
Rigid Polyurethane and Polyisocyanurate Laminated Boardstock	HFC 134a, HFC 245fa, HFC 365mfc, and blends thereof.	January 1, 2021
Flexible Polyurethane	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof.	January 1, 2021
Integral Skin Polyurethane	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6.	January 1, 2021
Polystyrene Extruded Sheet	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6.	January 1, 2021
Phenolic Insulation Board and Bunstock	HFC-143a, HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof.	January 1, 2021
Rigid Polyurethane Slabstock and Other	HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, Formacel Z-6.	January 1, 2021
Rigid Polyurethane Appliance Foam	HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, Formacel Z-6.	January 1, 2021
Rigid Polyurethane Commercial Refrigeration and Sandwich Panels	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6.	January 1, 2021
Polyolefin	HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel Z-6.	January 1, 2021
Rigid Polyurethane Marine Flotation Foam	HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, Formacel Z-6.	January 1, 2021

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 (PU) high-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC365mfc 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 PU low-pressure two-component spray foam	HFC-134a, HFC-245fa, and blends thereof; blends of HFC365mfc 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 PU one-component foam sealants	HFC-134a, HFC-245fa, and blends thereof; blends of HFC365mfc 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

6.1.2 Proposed Modifications to List of Prohibited Substances

6.1.2.1 A person subject to the list of prohibited substances in Section 6.0 may request that the Department modify the regulation to exempt hydrofluorocarbon blends with a global-warming-potential of 750 or less in rigid polyurethane low-pressure two-component spray foam and polystyrene extruded boardstock and billet (XPS) from the list of prohibited substances in Section 6.0. The request shall contain the following information:

6.1.2.1.1 A detailed description of the end-use category for which the modification is requested; and

6.1.2.1.2 A demonstration that the U.S. EPA has approved the hydrofluorocarbon blend under the Significant New Alternatives Policy under section 7671(k) of the Clean Air Act.

7.0 End-use and prohibited substances exemptions

The following table lists exemptions to the prohibitions in Section 6.0:

Table 2. End-use and Prohibited Substances exemptions

End-use category	Prohibited Substances	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; and products for removing bandage adhesives from skin.
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 (PU) spray foam	All substances.	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 (PU) spray foam	All substances.	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 (PU) two-component spray foam	All substances.	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.