

MARYLAND REGISTER

Proposed Action on Regulations

Comparison to Federal Standards Submission and Response

Name: Carolyn A Jones
Agency: Department of the Environment
Address: 1800 Washington Blvd
State: MD
Zip: 21230
Phone: 410-537-4210
Email: carolyna.jones@maryland.gov

In accordance with Executive Order 01.01.1996.03 and memo dated July 26, 1996, the attached document is submitted to the Department of Business and Economic Development for review.

The Proposed Action is not more restrictive or stringent than corresponding federal standards.

COMAR Codification: 26.11.33.01 - .06

Corresponding Federal Standard:

The proposed regulatory action contains prohibitions equivalent to certain sectors of the federal SNAP Rules 20 and 21. The EPA rules are found at 40 CFR, Part 82, Subpart G – Significant New Alternatives Policy Program (SNAP) (Appendices U and V).

Discussion/Justification:

On August 8, 2017 and April 5, 2019, in two separate decisions, the U.S. Court of Appeals for the D.C. Circuit partially vacated the federal SNAP Rules 20 and 21, which provide the basis for this proposed regulatory action. Specifically, the court partially vacated the SNAP final rules “to the extent they require manufacturers to replace HFCs with a substitute substance,” however, the Court upheld EPA’s listing of the HFCs and HFC blends prohibitions in the rule.

Maryland has taken the Court's decisions into account in writing these regulations. The proposed regulatory action will help Maryland meet its requirements under the state's Greenhouse Gas Emissions Reduction Act.

TO BE COMPLETED BY DBED

- Agree
- Disagree

Comments:

Name:
Date:

- Submit to Governor's Office

Governor's Office Response

Comments:

Transmittal Sheet PROPOSED OR REPROPOSED Actions on Regulations	Date Filed with AELR Committee	TO BE COMPLETED BY DSD
		Date Filed with Division of State Documents
		Document Number
		Date of Publication in MD Register

1. Desired date of publication in Maryland Register: 7/17/2020

2. COMAR Codification

Title Subtitle Chapter Regulation

26 11 33 01 - .06

3. Name of Promulgating Authority

Department of the Environment

4. Name of Regulations Coordinator

Carolyn A Jones

Telephone Number

410-537-4210

Mailing Address

1800 Washington Blvd

Name of Authorized Officer

Benjamin H. Grumbles

Title

Secretary

Date

6/3/2020

Telephone No.

410-537-3084

Title 26
DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

26.11.33 Prohibitions on Use of Certain Hydrofluorocarbons in Aerosol Propellants, Chillers, Foam, and Stationary Refrigeration End-Uses

Authority: Environment Article, §§ 1-404, 2-103, 2-301 – 303, 2-1202 and 2-1205
Annotated Code of Maryland

Notice of Proposed Action

□

The Secretary of the Department proposes to adopt new Regulations .01 to .06 under new Chapter 33 Prohibitions on Use of Certain Hydrofluorocarbons in Aerosol Propellants, Chillers, Foam, and Stationary Refrigeration End-Uses.

Statement of Purpose

The purpose of this action is to propose new Regulations .01 to .06 under new chapter COMAR 26.11.33 Prohibitions on Use of Certain Hydrofluorocarbons in Aerosol Propellants, Chillers, Foam, and Stationary Refrigeration End-Uses. This action seeks to reduce hydrofluorocarbon (HFC) emissions by adopting specific United States Significant New Alternatives Policy Programs (SNAP) prohibitions for certain substances in air conditioning and refrigeration equipment, aerosol propellants, and foam end-uses.

Background

The EPA's SNAP program implements section 612 of the Clean Air Act (42 U.S.C.7671(k) , which requires EPA to evaluate substitutes for ozone-depleting substances to reduce overall risk to human health and the environment. Through these evaluations, SNAP generates lists of acceptable and unacceptable substitutes for each of the major industrial use sectors. EPA has modified the SNAP lists many times, most often by expanding the list of acceptable substitutes, but in some cases by prohibiting the use of substitutes previously listed as acceptable.

EPA's SNAP program reviews substitutes within a comparative risk framework in the following industrial sectors: Adhesives, Coatings, and Inks; Foam Blowing Agents; Aerosols; Refrigeration and Air Conditioning; Cleaning Solvents; Sterilants; Fire Suppression and Explosion Protection; and Tobacco Expansion. The SNAP program does not provide a static list of alternatives but instead, evolves the list as EPA makes decisions that are informed by its overall understanding of the environmental and human health impacts as well as its current knowledge about available substitutes. The EPA identifies and evaluates substitutes in end-uses that have historically used ozone-depleting substances (ODS); looks at overall risk to human health and the environment of both existing and new substitutes; publishes lists of acceptable and unacceptable substitutes by end-use; promotes the use of acceptable substitutes; and provides the public with information about the potential environmental and human health impacts of substitutes. To arrive at determinations on the acceptability of substitutes, the Agency performs a cross-media analysis of risks to human health and the environment from the use of various substitutes in different industrial and consumer uses that have historically used ODS. EPA reviews characteristics, including the following, when evaluating each proposed substitute:

- Ozone depletion potential (ODP),
- Global warming potential (GWP),
- Toxicity,
- Flammability,
- Occupational and consumer health/safety,
- Local air quality, and
- Ecosystem effects.

On July 20, 2015, EPA promulgated a final rule entitled, "Protection of Stratospheric Ozone: Change of Listing Status for Certain Substitutes Under the Significant New Alternatives Policy Program," (SNAP Rule 20) 80 Fed. Reg. 42,870. On December 1, 2016, EPA promulgated a final rule entitled, "Protection of Stratospheric Ozone: New Listings of Substitutes; Changes of Listing Status; and Reinterpretation of Unacceptability for Closed Cell Foam Products Under the Significant New Alternatives Policy Program" (SNAP 21) 81 Fed. Reg. 86,778. EPA SNAP Rules 20 and 21 listed, for purposes substitutes for ozone-depleting substances, a variety of HFCs and HFC blends as (1) unacceptable; (2) acceptable, subject to use conditions; or (3) acceptable, subject to narrowed use limits. Under this rule, EPA evaluated HFCs and HFC blends with a higher global warming potential relative to other alternatives in specific end-uses and determined to modify some of the listings. Specifically, the HFCs and HFC blends identified by EPA were changed from acceptable to unacceptable; acceptable, subject to use conditions; or acceptable, subject to narrowed use limits for certain HFCs and HFC blends in various end-uses in the aerosols, foam blowing, and refrigeration and air conditioning sectors where other alternatives are available or potentially available that pose lower overall risk to human health and the environment.

EPA SNAP Rules 20 and 21 were challenged in court and portions of the rules were vacated. *Mexichem Fluor, Inc. v. Env'tl. Prot. Agency*, 866 F.3d 451 (D.C. Cir. 2017)

(Mexichem I). *Mexichem Fluor, Inc. v. Env'tl. Prot. Agency*, 760 Fed. App'x. 6 (D.C. Cir. Apr. 5, 2019) (Mexichem II). EPA has said it will not be enforcing any parts of SNAP Rules 20 or 21 at the current time.

Given the uncertainty of federal implementation of these SNAP rules, Maryland, along with other U.S. Climate Alliance (USCA) states, is proposing action to reduce certain HFCs and HFC blends that have a high-global warming potential and pose a higher overall risk to human health and the environment. The draft regulation proposes to adopt specific SNAP prohibitions for HFCs in air conditioning and refrigeration equipment, aerosol propellants, and foam end-uses. The phase out of HFCs will encourage the use of available alternatives with lower greenhouse gas emissions.

Reducing emissions of HFC's will combat the adverse impacts of climate change in Maryland. In many parts of the state, the impacts are already being felt. Impacts now and into the future may include an increased risk for extreme events such as drought, storms, flooding, and forest fires; more heat-related stress; the spread of existing or new vector-borne disease or shifts in public health challenges due to climate-driven stressors; and increased erosion and inundation of low-lying areas along the state's shoreline and coast. In many cases, Maryland is already experiencing these problems. Climate change raises the stakes in managing these problems by changing their frequency, intensity, extent, and magnitude.

Sources Affected

This proposed action applies to any person who sells, offers for sales, leases, rents, installs, uses, or manufactures in the State, any product or equipment if it consists of, uses, or will use a listed substance for use in an end-use listed in Table 1 in the regulation, unless an exemption is listed in Table 2.

The requirements focus on end-use prohibitions from the EPA's SNAP Program Rules 20 and 21 for the following sectors/categories: Aerosol Propellants; Air Conditioning; Refrigeration; and Foams.

Requirements

The proposed regulations establish prohibition dates for substances in certain end-uses based on EPA's SNAP Rules 20 and 21 and consultation with other USCA states. The effective prohibition dates range from January 1, 2021 to January 1, 2024, and focus on end-use categories in Table 1. Furthermore, the proposed regulations include a sell-through provision for products and equipment manufactured prior to the prohibition date. The regulation also allows continued use of existing products and equipment that contain banned substances acquired prior to the prohibition dates. Table 2 provides a list of exemptions by end-use category, which align with the SNAP rules. Maryland's proposed regulations do not include all of the end-use restrictions found in SNAP Rules 20 and 21, such as motor vehicle air-conditioning systems (light-duty cars and trucks, buses, trains and other forms of transportation) and residential air conditioning. The proposed end-use categories align with other USCA states' laws and regulations, and are aimed to maintain consistency with other established and upcoming state programs.

Furthermore, the proposed regulations require record-keeping and disclosure statements. Manufacturers are required to keep records of product or equipment manufacture date and information on the refrigerant, propellant, foam blowing agent and any additional HFC or HFC blend used in the product or equipment. Manufacturers are also required to provide a copy of the disclosure statement, label, or sticker issued to the buyer or recipient.

Projected Emission Reductions

HFCs are the fastest growing source of greenhouse gas emissions in the U.S. and globally, and are thousands of times more potent than carbon dioxide. With the proposed action in place, HFC emissions are expected to be reduced by 12 percent from the business as usual projection in 2020, with annual HFC emission reductions increasing to 25 percent in 2030. This translates to a total reduction of 4.95 MMTCO₂E over 10 years.

The California Air Resources Board, in consultation with the USCA, developed a peer-reviewed HFC emissions methodology tool that uses population in conjunction with climatic and other factors that influence the use of HFCs by state. With this emissions tool, all 50 states can quantify potential HFC emissions and reductions under different policy scenarios at a state-specific level. The Department used this emissions tool to evaluate the estimated Maryland HFC reductions.

The Department also evaluated emission projections against the State Greenhouse Gas Inventory developed from the Greenhouse Gas Reduction Act (GGRA) that started with the base year of 2006 and currently has a completed 2017 Inventory. HFC's are accounted for in the Maryland inventory under Industrial Processes - Consumption of substitutes for ozone depleting substances. Maryland uses the EPA State Inventory Tool under the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks reporting to populate the emissions estimates for this category.

Comparison to Federal Standards

There is a corresponding federal standard to this proposed action, but the proposed action is not more restrictive or stringent.

Estimate of Economic Impact

I. Summary of Economic Impact.

The proposed regulatory action contains prohibitions equivalent to certain sectors of the federal SNAP Rules 20 and 21. The EPA rules are found at 40 CFR, Part 82, Subpart G – Significant New Alternatives Policy Program (SNAP) (Appendices U and V). However, on August 8, 2017 and April 5, 2019, in two separate decisions, the U.S. Court of Appeals for the D.C. Circuit partially vacated the federal SNAP Rules 20 and 21.

The EPA estimated the cumulative 20-year total cost of the SNAP Rules 20 and 21 (for the end-use sectors covered by Maryland's proposed regulation) to be \$21.3 million for

the entire nation.

Potentially affected businesses in Maryland are manufacturers and end-users of consumer aerosol products, domestic and commercial refrigerated appliances, polyurethane foams, polystyrene foams, polyolefin foams, polyisocyanurate foams, and vending machines. Maryland consumers and businesses may be affected by the product transition in the market, however EPA estimates that the transition to new equipment and products with lower global warming potential substitutes will have negligible cost to end-users as market forces absorb initial cost increases and annual savings incurred to meet the end-use prohibitions. The proposed regulations do not prescribe that any business transition to a particular refrigerant or alternative, so additional costs are not estimated.

EPA support documents for SNAP Rules 20 and 21 quote “The majority of potentially affected businesses are in the commercial refrigeration sector, but it is important to note that these businesses will not be affected in a single year; instead, a small proportion of businesses are expected to be affected in each year over a 15 to 20 year period, as existing retail food equipment reaches end-of-life and businesses make choices about which alternative refrigerant to use in new systems or retrofits”. The total estimated statewide costs of the proposed regulation could be estimated by scaling the national cost to Maryland’s population percentage. Maryland is 1.87 percent of the U.S. population. Using this methodology, the proposed regulation is estimated to impact Maryland manufacturing business cumulatively by approximately \$20,000 a year over a 20 year span. The estimated costs are likely to be inflated as some refrigerant equipment manufacturers and foam and aerosol propellant end-use manufacturers have already complied with SNAP rule prohibition effective dates of January 1, 2017 or prior, and with other state regulations like California.

Maryland research found no small business manufacturers of stand-alone refrigeration or vending machine equipment, foams or aerosol propellants in the State at this time. Large foam manufacturers in the State are not known to produce products in the prohibited end-use tables or they have reported that their products do not use a prohibited substance in the tables. Additionally, EPA support documents for SNAP Rules 20 and 21 quote “This analysis finds that the final rulemaking can be presumed to have no significant economic impact on a substantial number of small entities” nationally. The Department estimates that a proposed regulation will not have a significant small business impact.

The proposed regulation is expected to have minimal impacts on local agencies, or State government agencies. Existing air compliance inspector staff will enforce these regulations.

The proposed regulation will have a positive effect on public health and the environment. Short-lived climate pollutants (SLCPs) are harmful air pollutants and potent climate forcers with a much shorter lifespan in the atmosphere than carbon dioxide. For example, just one pound of HFC-134a warms the planet as much as 1,400

pounds of carbon dioxide. Because HFCs are potent and short-lived, action taken today to reduce these pollutants can achieve significant climate benefits within a couple of decades. Furthermore, effectively designed measures to reduce SLCP emissions will make U.S. businesses and states more competitive globally (usclimatealliance.org).

II. Types of Economic Impact.	Revenue (R+/R-)	Magnitude
	Expenditure (E+/E-)	
A. On issuing agency:	NONE	
B. On other State agencies:	NONE	
C. On local governments:	NONE	
	Benefit (+) Cost (-)	Magnitude
D. On regulated industries or trade groups:		
Consumers and manufacturers	(-)	indeterminate
E. On other industries or trade groups:	NONE	
F. Direct and indirect effects on public:		
Public Health and Environmental Mitigation	(+)	indeterminate

III. Assumptions. (Identified by Impact Letter and Number from Section II.)

D. Impact costs are estimated as \$20,000 a year over 20 years

F. The proposed regulation will have a positive effect on public health and the environment. Short-lived climate pollutants (SLCPs) are harmful air pollutants and potent climate forcers with a much shorter lifespan in the atmosphere than carbon dioxide. Reducing emissions of HFC’s will combat the adverse impacts of climate change in Maryland.

Economic Impact on Small Businesses

The proposed action has minimal or no economic impact on small businesses.

Impact on Individuals with Disabilities

The proposed action has no impact on individuals with disabilities.

Opportunity for Public Comment

Comments may be sent to , , , or call , or email to , or fax to . Comments will be accepted through . A public hearing will be held, The Department of the Environment will hold a virtual public hearing on the proposed action on August 17, 2020 at 10a.m. See the Department’s website for virtual hearing information.<https://mde.maryland.gov/programs/Regulations/air/Pages/reqcomments.as>

px. Interested persons are invited to attend and express their views. Comments may be sent to Mr. Randy Mosier, Chief of the Regulation Division, Air and Radiation Administration, Department of the Environment, 1800 Washington Boulevard, Suite 730, Baltimore, MD 21230 or email to randy.mosier@maryland.gov. Comments must be received by no later than 5p.m. on August 21, 2020, or be submitted at the hearing. For more information, call Randy Mosier at 410-537-4488.

Economic Impact Statement Part C

A. Fiscal Year in which regulations will become effective: FY 2021

B. Does the budget for the fiscal year in which regulations become effective contain funds to implement the regulations?

Yes

C. If 'yes', state whether general, special (exact name), or federal funds will be used:

A combination of Maryland Clean Air Funds (Special) and Air Pollution Control Program Grant Funds (Federal) will be used.

D. If 'no', identify the source(s) of funds necessary for implementation of these regulations:

E. If these regulations have no economic impact under Part A, indicate reason briefly:

F. If these regulations have minimal or no economic impact on small businesses under Part B, indicate the reason and attach small business worksheet.

G. Small Business Worksheet:

Attached Document:

Draft 02/07/2020

Revised 04/17/2020

Title 26

DEPARTMENT OF THE ENVIRONMENT

Subtitle 11 AIR QUALITY

Chapter 33 Prohibitions on Use of Certain Hydrofluorocarbons in Aerosol Propellants, Chillers, Foam, and Stationary Refrigeration End-Uses

Authority: Environment Article, §§ 1-404, 2-103, 2-301 – 303, 2-1202 and 2-1205 Annotated Code of Maryland

All New Text

.01 Applicability

This chapter applies to any person who sells, offers for sale, leases, rents, installs, uses, or manufactures in the State, any substance for use in an end-use listed in Regulation .03 of this chapter or any product or equipment using such a substance.

.02 Definitions

A. In this chapter, the following terms have the meaning indicated.

B. Terms Defined.

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

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

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

(4) "Capital Cost" means an expense incurred in the production of goods or in rendering services, including the cost of engineering, purchase, and installation of components or systems, and instrumentation, and contractor and construction fees.

(5) Centrifugal Chiller.

(a) "Centrifugal chiller" means air conditioning equipment that utilizes a centrifugal compressor in a vapor-compression refrigeration cycle typically used for commercial comfort air conditioning.

(b) "Centrifugal chiller" does not include cooling for industrial process cooling and refrigeration.

(6) "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.

(7) "Component" means:

(a) A part of a refrigeration system, including condensing units, compressors, condensers, evaporators, and receivers; and

(b) All of a refrigeration system's connections and subassemblies, without which the refrigeration system will not properly function or will be subject to failures.

(8) "Cumulatively Replaced" means the addition of or change in multiple components within a three-year period.

(9) "Effective Date" or "Effective Date of Prohibition" means the date of manufacture after which the prohibitions provided in Table 1 of this chapter go into effect.

(10) "End-use" means processes or classes of specific applications within industry sectors, including those listed in Table 1 of this chapter.

(11) "Flexible Polyurethane" means a non-rigid synthetic foam containing polymers created by the reaction of isocyanate and polyol, including, that used in furniture, bedding, and chair cushions.

(12) "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.

(13) "Foam Blowing Agent" means a substance used to produce foam.

(14) "Household Refrigerators and Freezers.

(a) "Household Refrigerators and Freezers" means refrigerators, refrigerator-freezers, freezers, and miscellaneous household refrigeration appliances intended for residential use.

(b) "Household Refrigerators and Freezers" does not include "household refrigerators and freezers - compact", or "household refrigerators and freezers - built-in."

(15) "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).

(16) Household Refrigerators and Freezers – Built-in.

(a) "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,

(b) "Household Refrigerators and Freezers - Built-in" contain sides which are not finished and not designed to be visible after installation, and

(c) "Household Refrigerators and Freezers - Built-in" are designed, intended, and marketed exclusively to be:

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

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

(iii) Equipped with an integral factory-finished face or accept a custom front panel.

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

(18) "Integral Skin Polyurethane" means a synthetic self-skinning foam containing polyurethane polymers formed by the reaction of an isocyanate and a polyol, such as that used in car steering wheels and dashboards.

(19) "Manufacturer" means any person, firm, association, partnership, corporation, governmental entity, organization, or joint venture that produces any product that contains or uses hydrofluorocarbons or is an importer or domestic distributor of such a product.

(20) MDI.

(a) "MDI" means 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,

(b) "MDI" consists of a pressurized canister of medication in a case with a mouthpiece; and

(c) "MDI" means "Metered Dose Inhaler" or "Medical Dose Inhaler."

(21) "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.

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

(23) "New" means products or equipment:

(a) That are manufactured after the effective date of this chapter;

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

(c) 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

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

(24) "Person" means any individual, firm, association, organization, manufacturer, distributor, partnership, business trust, corporation, limited liability company, company, state, or local governmental agency or public district.

(25) "Phenolic Insulation Board" means phenolic insulation including that used for roofing and wall insulation.

(26) "Polyolefin" means foam sheets and tubes made of polyolefin.

(27) "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, flooring, and pipes.

(28) Polystyrene Extruded Sheet.

(a) "Polystyrene Extruded Sheet" means polystyrene foam including that used for packaging.

(b) "Polystyrene Extruded Sheet" 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.

(29) Positive Displacement Chiller.

(a) "Positive Displacement Chiller" means vapor compression cycle chillers that use positive displacement compressors, typically used for commercial comfort air conditioning.

(b) "Positive Displacement Chiller" does not include cooling for industrial process cooling and refrigeration.

(30) "Refrigerant" or "Refrigerant Gas" means any substance, including blends and mixtures, which is used for heat transfer purposes.

(31) Refrigerated Food Processing and Dispensing Equipment.

(a) "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 chilled and frozen beverages, ice cream, and whipped cream.

(b) "Refrigerated Food Processing and Dispensing Equipment" does not include water coolers, or units designed solely to cool and dispense water.

(32) "Refrigeration Equipment" means any stationary device that is designed to contain and use refrigerant gas, including commercial refrigeration equipment, household refrigeration equipment, and cold storage warehouses.

(33) "Remote Condensing Units" means retail refrigeration equipment or units that:

(a) Have a central condensing portion, and other parts of the system, located outside the space or area cooled by an evaporator;

(b) May consist of compressor(s), condenser(s), and receiver(s) assembled into a single unit, which may be located external to the sales area; and

(c) 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.

(34) Residential use.

(a) "Residential use" means use by a private individual of a substance, or a product containing the substance, in or around a permanent or temporary household, during recreation, or for any personal use or enjoyment.

(b) "Residential use" does not include use within a household for commercial or medical application.

(c) "Residential use" does not include use in automobiles, watercraft, or aircraft.

(35) "Retail Food Refrigeration" or "Commercial Refrigeration" means equipment designed to store and display chilled or frozen goods for commercial sale including stand-alone units, refrigerated food processing and dispensing equipment, remote condensing units, supermarket systems, and vending machines.

(36) Retrofit.

- (a) "Retrofit" means to convert an appliance from one refrigerant to another refrigerant.
- (b) "Retrofit" includes the conversion of the appliance to achieve system compatibility with the new refrigerant and may include changes in lubricants, gaskets, filters, driers, valves, o-rings, or appliance components.
- (37) "Rigid Polyurethane and Polyisocyanurate Laminated Boardstock" means laminated board insulation made with polyurethane or polyisocyanurate foam, including that used for roofing and wall insulation.
- (38) "Rigid Polyurethane Appliance Foam" means polyurethane insulation foam in household appliances.
- (39) "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.
- (40) "Rigid Polyurethane High-pressure Two-component Spray Foam" means a foam product that:
- (a) Is pressurized 800-1600 pounds per square inch (psi) during manufacture;
 - (b) Is sold in pressurized containers as two parts (i.e., A-side and B-side);
 - (c) Is blown and applied in situ using high-pressure pumps to propel the foam components; and
 - (d) May use liquid blowing agents without an additional propellant.
- (41) "Rigid Polyurethane Low-pressure Two-component Spray Foam" means a foam product that:
- (a) Is pressurized to less than 250 psi during manufacture;
 - (b) Is sold in pressurized containers as two parts (i.e., A-side and B-side); and
 - (c) Is typically applied in situ relying upon a gaseous foam blowing agent that also serves as a propellant so pumps typically are not needed.
- (42) "Rigid Polyurethane Marine Flotation Foam" means buoyancy or flotation foam used in boat and ship manufacturing for both structural and flotation purposes.
- (43) "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.
- (44) "Rigid Polyurethane Slabstock and Other" means a rigid closed-cell foam containing urethane polymers produced by the reaction of an isocyanate and a polymer and formed into slabstock insulation for panels and fabricated shapes for pipes and vessels.
- (45) "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; and all are fully charged with refrigerant at the factory and typically requires only an electricity supply to begin operation.
- (46) "Stand-alone Low-Temperature Unit" means a stand-alone unit that maintains food or beverages at temperatures at or below 32°F (0 °C).
- (47) "Stand-alone Medium-Temperature Unit" means a stand-alone unit that maintains food or beverages at temperatures above 32°F (0 °C).
- (48) "Substance" means any chemical intended for use in the end-uses listed in Table 1 of this chapter.
- (49) "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.
- (50) Use.
- (a) "Use" means any utilization of a compound or any substance, including utilization in a manufacturing process or product in the State, consumption by the end-user in the State, or in intermediate applications in the State, such as formulation or packaging for other subsequent applications.
 - (b) "Use" excludes residential use.
 - (c) "Use" includes manufacturing for the purpose of residential use.
- (51) "Vending Machines" means self-contained commercial food refrigeration equipment that dispense goods that must be kept hot, cold or frozen.

.03 List of Prohibited Substances.

A. The following table lists prohibited substances in specific end-uses and the applicable effective date of prohibition, unless an exemption is provided for in §C of this regulation. The prohibitions do not apply to products or equipment manufactured for listed end-uses prior to an applicable effective date.

B. Table 1.

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	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,	January 1, 2021

dispensing equipment (New)	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)	
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	July 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	July 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	July 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	July 1, 2021

C. The following table lists exemptions to the prohibitions in §B of this regulation.

Table 2. HFC Prohibition 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.

.04 General Requirements.

A. No person may sell, lease, rent, install, use, or manufacture in the State, any product or equipment if it consists of, uses, or will use a listed substance for use in an end-use listed in Regulation .03B of this chapter, unless an exemption is listed in Regulation .03C.

B. Existing Products and Equipment.

(1) Except where an existing system is retrofitted, nothing in this chapter requires a person that acquired a product or equipment containing a prohibited substance prior to the effective date of the prohibition in Table 1 of this chapter to cease use of that product or equipment.

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

C. Disclosure Statement. Except for acceptable uses as listed in Table 2 of this chapter, as of the effective date listed in Table 1 of this chapter, any person who manufactures for sale, lease, rent, install, or use products or equipment in the air-conditioning, refrigeration, foam, or aerosol propellant end-uses listed in Regulation .03 of this chapter, must provide a written disclosure to the buyer.

(1) For motor-bearing refrigeration and air-conditioning equipment that is not factory-charged or pre-charged with a refrigerant, the 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.”

(2) Except for products and equipment with existing labeling required by state building codes and safety standards which contain the information required in §C(2)(a) and (b) of this regulation, the disclosure or label for refrigeration and air-conditioning equipment that are factory-charged or pre-charged with a refrigerant should include:

(a) The date of manufacture; and

(b) The refrigerant and foam blowing agent the product or equipment contains.

(3) For foam products, the disclosure should be a label or sticker applied to product packaging that states: “Where sold, compliant with State HFC regulations.”

(4) For aerosol products:

(a) Each aerosol propellant product must comply with the product-dating requirements in COMAR 26.11.32.13; and

(b) The propellant must be listed in a Safety Data Sheet that complies with the requirements of 29 CFR 1910.1200.

.05 Reporting.

A. Any person who manufactures for sale, lease, rent, install, or use products or equipment that contain or use a substance listed in Table 1 of this chapter for specific end-uses listed in Table 1 of this chapter, shall follow the reporting requirements as specified in §§B and C of this regulation.

B. Initial Notification.

(1) Within 90 days of the effective date of this chapter, each manufacturer shall provide the Department an initial status notification of the status of products or equipment within each end-use listed in Table 1 of this chapter that uses or is designed to use substances listed in Table 1 of this chapter.

(2) The initial status notification according to §B(1) of this section shall include:

(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 end-use categories that are applicable to the manufacturer;

(d) Which refrigerant, aerosol propellant, or foam blowing agent is being used by products within each end-use applicable to the manufacturer; and

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

C. Status Update Notification.

(1) Manufacturers shall follow the requirements in §B annually until products or equipment within each end-use listed in Table 1 of this chapter cease use of substances listed in Table 1 of this chapter.

(2) Manufacturers subject to this regulation shall notify the Department in writing when products or equipment within each end-use listed in Table 1 of this chapter cease use of substances listed in Table 1 of this chapter.

.06 Recordkeeping.

A. As of the effective date of this chapter, any person who manufactures any product or equipment in the end uses listed in Table 1 of this chapter, for sale, lease, rent, install, or use, must maintain for three years a copy of the following records, where applicable:

(1). Date of manufacture of the equipment or product;

(2). The refrigerant, aerosol propellant, and foam blowing agent(s) blend that the equipment or product is designed to use;

(3). The refrigerant, aerosol propellant, and foam blowing agent(s) in the equipment or product; and

(4). A copy of the disclosure statement, label, or sticker issued to the buyer or recipient.

B. Any person who manufactures any product or equipment in the end uses listed in Table 1 of this chapter, shall make available, upon request, a copy of the records in §A of this regulation.

