TENTATIVE AGENDA
STATE AIR POLLUTION CONTROL BOARD MEETING

**FRIDAY, APRIL 23, 2021**

ELECTRONIC COMMUNICATION MEETING

**Registration Link:** https://attendee.gotowebinar.com/register/1249122588926952716

**See Page 3 for Additional Information**

**Persons Wishing To Address The Board Are Requested to Register in Advance of the Meeting**

Any Updates To The Details/Final Arrangements
To Be Announced Through the Virginia Regulatory Town Hall

Convene – 10:00 A.M.

| Agenda Item | Presenter | Tab |
|---|---|---|
| Call to Order | Hoagland | |
| Introductions | Board Members | |
| Review and Approve Agenda | Board Members | |
| Review and Approve Minutes (December 3, 2020) | Board Members | A |
| Prohibitions on Use of Certain Hydrofluorocarbons in Specific End-uses. (Rev. D20) - Request for Board Action on Exempt Final Regulation | Graham | B |
| High Priority Violations Report | Nicholas | C |
| Director/Division Director Report/Updates:<br>(i) DEQ Budget<br>(ii) EJ<br>(iii) COVID-19 response<br>(iv) upcoming regulatory actions<br>(v) pending permit applications,<br>(vi) RGGI | Paylor/Dowd | |
| Southern Environmental Law Center Letter and Request to Reopen Chickahominy Power Station Permit | Board Members/Paylor | |
| Public Engagement Committee Update | Hoagland/Kapur | |
| Board Member/Public Communications Discussion | Hoagland | |

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| Public Forum | | |
| Future Meetings (confirm June 25, September 17 and December 3) | Board Members | |
| Discussion of public access at meetings: evening meetings? separate evening meetings for public comment? | | |
| Adjourn | Hoagland | |

NOTE: The Board reserves the right to revise this agenda without notice unless prohibited by law. Revisions to the agenda include, but are not limited to, scheduling changes, additions or deletions. Questions on the latest status of the agenda should be directed to Cindy M. Berndt at (804) 698-4378.

PUBLIC COMMENTS AT STATE AIR POLLUTION CONTROL BOARD MEETINGS: The Board encourages public participation in the performance of its duties and responsibilities. To this end, the Board has adopted public participation procedures for regulatory action and for case decisions. These procedures establish the times for the public to provide appropriate comment to the Board for its consideration.

For REGULATORY ACTIONS (adoption, amendment or repeal of regulations), public participation is governed by the Administrative Process Act and the Board's Public Participation Guidelines. Public comment is accepted during the Notice of Intended Regulatory Action phase (minimum 30-day comment period) and during the Notice of Public Comment Period on Proposed Regulatory Action (minimum 60-day comment period). Notice of these comment periods is announced in the Virginia Register, by posting to the Department of Environmental Quality and Virginia Regulatory Town Hall web sites and by mail to those on the Regulatory Development Mailing List. The comments received during the announced public comment periods are summarized for the Board and considered by the Board when making a decision on the regulatory action.

For CASE DECISIONS (issuance and amendment of permits), the Board adopts public participation procedures in the individual regulations which establish the permit programs. As a general rule, public comment is accepted on a draft permit for a period of 30 days. In some cases a public hearing is held at the conclusion of the public comment period on a draft permit. In other cases there may an additional comment period during which a public hearing is held. In light of these established procedures, the Board accepts public comment on regulatory actions and case decisions, as well as general comments, at Board meetings in accordance with the following:

REGULATORY ACTIONS: Comments on regulatory actions are allowed only when the staff initially presents a regulatory action to the Board for final adoption. At that time, those persons who commented during the public comment period on the proposal are allowed up to 3 minutes to respond to the summary of the comments presented to the Board. Adoption of an emergency regulation is a final adoption for the purposes of this policy. Persons are allowed up to 3 minutes to address the Board on the emergency regulation under consideration.

CASE DECISIONS: Comments on pending case decisions at Board meetings are accepted only when the staff initially presents the pending case decision to the Board for final action. At that time the Board will allow up to 5 minutes for the applicant/owner to make his complete presentation on the pending decision, unless the applicant/owner objects to specific conditions of the decision. In that case, the applicant/owner will be allowed up to 15 minutes to make his complete presentation. The Board will then allow others who commented at the public hearing or during the public comment period up to 3 minutes to exercise their rights to respond to the summary of the prior public comment period presented to the Board. No public comment is allowed on case decisions when a FORMAL HEARING is being held.

POOLING MINUTES: Those persons who commented during the public hearing or public comment period and attend the Board meeting may pool their minutes to allow for a single presentation to the Board that does not exceed the time limitation of 3 minutes times the number of persons pooling minutes, or 15 minutes, whichever is less.

NEW INFORMATION will not be accepted at the meeting. The Board expects comments and information on a regulatory action or pending case decision to be submitted during the established public comment periods. However, the Board recognizes that in rare instances new information may become available after the close of the public comment period. To provide for consideration of and ensure the appropriate review of this new information, persons who commented during the prior public comment period shall submit the new information to the Department of Environmental Quality (Department) staff contact listed below at least 10 days prior to the Board meeting. The Board's decision will be based on the Department-developed official file and discussions at the Board meeting. In the case of a regulatory action, should the Board or Department decide that the new information was not reasonably available during the prior public comment period, is significant to the Board's decision and should be included in the official file,

the Department may announce an additional public comment period in order for all interested persons to have an opportunity to participate.

PUBLIC FORUM: The Board schedules a public forum at each regular meeting to provide an opportunity for citizens to address the Board on matters other than those on the agenda, pending regulatory actions or pending case decisions. Those persons wishing to address the Board during this time should indicate their desire on the sign-in cards/sheet and limit their presentations to 3 minutes or less.

The Board reserves the right to alter the time limitations set forth in this policy without notice and to ensure comments presented at the meeting conform to this policy.

Department of Environmental Quality Staff Contact: Cindy M. Berndt, Director, Regulatory Affairs, Department of Environmental Quality, 1111 East Main Street, Suite 1400, P.O. Box 1105, Richmond, Virginia 23218, phone (804) 698-4378; fax (804) 698-4178; e-mail: cindy.berndt@deq.virginia.gov.

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**Additional Information on Virtual Meeting**

| Mode of Participation | Instructions |
|---|---|
| Watch and Speak Mode - GoToWebinar | • Prior to the meeting, please register at https://attendee.gotowebinar.com/register/1249122588926952716<br>• Participants can join the meeting starting at 9:30 a.m. on April 23, 2021.<br>• To join the meeting access the webinar by using the link, telephone number, access code and audio pin provided with the meeting confirmation.<br>• For audio, it is recommended that you call-in to the webinar. Join the webinar first, select phone audio then dial the phone number and enter the access number and PIN.<br>• If joining from a mobile device, it is recommended you download the app prior to the meeting.<br>• All participants will be automatically muted upon joining the meeting.<br>• When you are called on, you will be un-muted and will be able to provide comments. |
| Watch Only Mode - GoToWebinar | • Register at:https://www.gotomeeting.com/webinar Participants can join the meeting starting at 9:30 a.m. on April 23, 2021.<br>• To join the meeting access the website by using the link, telephone number, access code and audio pin provided with the meeting confirmation<br>Or<br>Access the website https://www.gotomeeting.com/webinar, click "Join" and then enter Webinar ID 872-140-459.<br>• If joining from a mobile device, it is recommended you download the app prior to the meeting. |
| Listen Only Mode | If you prefer to attend the meeting by telephone and do not plan to speak, contact Debra Harris at 804-698-4209 or debra.harris@deq.virginia.gov to obtain a telephone number. |

**COMMONWEALTH OF VIRGINIA**
**STATE AIR POLLUTION CONTROL BOARD MEETING**

**April 23, 2021**

**SUBJECT:** Prohibitions on Use of Certain Hydrofluorocarbons in Specific End-uses. (Rev. D20) - Request for Board Action on Final Regulation

**CONTACT:** Gary Graham
gary.graham@deq.virginia.gov/804-698-4103
Regulatory Analyst, Office of Regulatory Affairs
Department of Environmental Quality

## INTRODUCTION

The 2020 Acts of Assembly Chapter 1289 (Budget Bill), Item 378, subdivision B 2 required the State Air Pollution Control Board to adopt regulations to prohibit the sale, lease, rent, installation or entry into commerce in Virginia of any products or equipment that use or will use hydrofluorocarbons (HFCs) for the applications and end uses restricted by Appendix U and Appendix V of Subpart G of 40 C.F.R. Part 82, as those read on January 3, 2017. Additionally, in subdivision B 3, it provided that regulations adopted by the State Air Pollution Control Board to initially implement the provisions of this item be exempt from Chapter 40 of Title 2.2, Code of Virginia, and also provided that the regulation become effective no later than July 1, 2021.

An amendment to Item 378 was enacted during the subsequent Special Session I of the 2020 General Assembly (Chapter 56 of the 2020 Special Session I Acts of Assembly) requiring that the board not prohibit the use of hydrofluorocarbons in the manufacturing process by extruded polystyrene (XPS) boardstock and billet manufacturers located in Virginia until the Board has solicited input from those manufacturers in order to determine and set a feasible date by which such manufacturers must be required to comply. The amendment also directed the board to solicit input from a workgroup of relevant stakeholders in developing the regulation.

The department is requesting approval of a final regulation that meets these state statutory requirements. Approval of the regulation will ensure that the Commonwealth will be able to meet its obligations under the requirements of the 2020 Acts of Assembly.

## REGULATORY ACTION ADOPTION PROCESS

This state regulation is necessary to conform to the 2020 Acts of Assembly, Chapter 1289, Item 378, subdivision B as amended by the 2020 Special Session I Acts of

Assembly, Chapter 56. Subdivision B 3 of Item 378 specifies that the regulations adopted by the State Air Pollution Control Board to initially implement the provisions of that item shall be exempt from Chapter 40 of Title 2.2, Code of Virginia. Notice of the regulation adoption and the effective date will be published in the Virginia Register after Board adoption.

Notice that the regulation would be considered by the board and that public comment would be accepted at the board meeting in accordance with the board's policy on public comment at board meetings was provided to the public by posting of the board's agenda to the Virginia Regulatory Town Hall and DEQ web site. In addition, email notification was provided to those persons signed up to receive notifications of board meetings through the Town Hall website.

## PUBLIC PARTICIPATION ACTIVITIES

Pursuant to the amendment of Item 378 enacted by Chapter 56 of the 2020 Special Session I Acts of Assembly, a "workgroup of relevant stakeholders" including XPS boardstock and billet manufacturers, other HFC product manufacturers, and non-government environmental organizations was selected to provide input to the Department concerning this regulation. The workgroup met three times and discussed regulation text, feasible compliance dates, and other regulatory compliance issues. The workgroup achieved consensus on all issues, including the proposed regulation text.

## SUMMARY OF AMENDMENTS TO REGULATION

Below is a brief summary of the substantive provisions the department is recommending be adopted.

1. The prohibitions and restricted end uses of 40 CFR Part 82, Subpart G, Appendices U and V are incorporated into the regulation by reference.

2. Exemptions were provided for (i) sell-through of products and equipment manufactured prior to the compliance dates provided in the regulation; (ii) use of products and equipment manufactured prior to the compliance dates provided in the regulation (iii) exemptions required by the federal American Innovation and Manufacturing Act of 2020 (Section 103 of Division S of H.R. 133, Consolidated Appropriations Act, 2021); and (iv) extruded polystyrene boardstock products and equipment manufactured in Virginia intended only for sale and distribution outside of Virginia.

3. Definitions of the terms used in Appendices U and V and the regulation are only those necessary to implement the regulation.

4. Compliance dates begin as of January 1, 2022 and any later compliance dates

provided in Appendices U and V are preserved.

5. A compliance date feasibility study is required from Virginia manufacturers of extruded polystyrene boardstock products so that a feasible compliance date can be determined after the regulation is effective.

## SUPPORTING DOCUMENTATION

1. The agency background document (summary, statement of final agency action, changes made, regulatory flexibility analysis, family impact). This document does not include the statement from the Attorney General's Office, which is issued after the board meeting.

2. The draft final regulation.

3. Item 378 B.2. and B.3. of the Appropriation Act (includes the language as enacted by Chapter 1289 of the 2020 Acts of Assembly and the language enacted by Chapter 56 of the 2020 Special Session I Acts of Assembly.

4. List of workgroup participants.

## DEPARTMENT RECOMMENDATION

1. It is recommended that the board adopt the attached proposal, with an effective date of June 1, 2021.

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REG\DEV\D20-07BF

VIRGINIA
REGULATORY TOWN HALL

townhall.virginia.gov

# Exempt Action: Final Regulation
# Agency Background Document

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|---|---|
| **Agency name** | State Air Pollution Control Board |
| **Virginia Administrative Code (VAC) Chapter citation(s)** | Primary action: 9VAC5-145 |
| **VAC Chapter title(s)** | Regulations for Control of Greenhouse Gases |
| **Action title** | Prohibitions on Use of Certain Hydrofluorocarbons in Specific End-uses (Rev. D20) |
| **Final agency action date** | April 23, 2021 |
| **Date this document prepared** | March 25, 2021 |

Although a regulatory action may be exempt from executive branch review pursuant to § 2.2-4002 or § 2.2-4006 of the *Code of Virginia*, the agency is still encouraged to provide information to the public on the Regulatory Town Hall using this form. However, the agency may still be required to comply with the Virginia Register Act, Executive Order 14 (as amended, July 16, 2018), the Regulations for Filing and Publishing Agency Regulations (1VAC7-10), and the *Form and Style Requirements for the Virginia Register of Regulations and Virginia Administrative Code.*

## Brief Summary

*Provide a brief summary (preferably no more than 2 or 3 paragraphs) of this regulatory change (i.e., new regulation, amendments to an existing regulation, or repeal of an existing regulation). Alert the reader to all substantive matters. If applicable, generally describe the existing regulation.*

A new regulation (9VAC5-145) has been established in order to meet a legislative mandate, the purpose of which is to control greenhouse gas emissions from the use of HFCs. The prohibitions and restricted end-uses of 40 CFR Part 82, Subpart G, Appendices U and V are incorporated into the regulation by reference. Exemptions are provided for sell-through and use of products and equipment manufactured prior to the compliance dates in the regulation; exemptions required by the federal American Innovation and Manufacturing (AIM) Act of 2020; and extruded polystyrene boardstock products, and equipment manufactured in Virginia intended only for sale and distribution outside of Virginia. Compliance dates begin as of January 1, 2022 and any later compliance dates provided in Appendices U and V are preserved. A compliance date feasibility study is required from Virginia manufacturers of extruded polystyrene boardstock products so that, if possible, a feasible compliance date earlier than January 1, 2036 can be determined after the regulation is effective.

## Mandate and Impetus

*Identify the mandate for this regulatory change and any other impetus that specifically prompted its initiation (e.g., new or modified mandate, internal staff review, petition for rulemaking, periodic review, or board decision). "Mandate" is defined as "a directive from the General Assembly, the federal government, or a court that requires that a regulation be promulgated, amended, or repealed in whole or part."*

The 2020 Acts of Assembly Chapter 1289 (Budget Bill), Item 378, subdivision B 2 required the State Air Pollution Control Board to adopt regulations to prohibit the sale, lease, rent, installation or entry into commerce in Virginia of any products or equipment that use or will use hydrofluorocarbons (HFCs) for the applications and end uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR. Part 82, as those read on January 3, 2017. Additionally, in subdivision B 3, it provided that regulations adopted by the State Air Pollution Control Board to initially implement the provisions of this item be exempt from Chapter 40 of Title 2.2, Code of Virginia, and also provided that the regulation become effective no later than July 1, 2021.

An amendment to Item 378 was enacted during the subsequent Special Session I of the 2020 General Assembly (Chapter 56 of the 2020 Special Session I Acts of Assembly) requiring that the board not prohibit the use of hydrofluorocarbons in the manufacturing process by extruded polystyrene (XPS) boardstock and billet manufacturers located in Virginia until the Board has solicited input from those manufacturers in order to determine and set a feasible date by which such manufacturers must be required to comply. The amendment also directed the board to solicit input from a workgroup of relevant stakeholders in developing the regulation.

## Acronyms and Definitions

*Define all acronyms used in this form, and any technical terms that are not also defined in the "Definitions" section of the regulation.*

AIM – American Innovation and Manufacturing Act

CFR – U. S. Code of Federal Regulations

EPA – U. S. Environmental Protection Agency

H. R. – U. S. House of Representatives bill

HFC – Hydrofluorocarbons

XPS – Extruded polystyrene

## Statement of Final Agency Action

*Provide a statement of the final action taken by the agency including: 1) the date the action was taken; 2) the name of the agency taking the action; and 3) the title of the regulation.*

On April 23, 2021, the State Air Pollution Control Board took final action to adopt the Regulation for Control of Greenhouse Gases (9VAC5-145). The regulatory action is to be effective on June 1, 2021.

The regulation is exempt from the state administrative procedures for adoption of regulations contained in the Administrative Process Act by the provisions of the 2020 Acts of Assembly Chapter 1289 (Budget Bill), Item 378, subdivision B 3.

## Legal Basis

*Identify (1) the agency or other promulgating entity, and (2) the state and/or federal legal authority for the regulatory change, including the most relevant citations to the Code of Virginia or Acts of Assembly chapter number(s), if applicable. Your citation must include a specific provision, if any, authorizing the promulgating entity to regulate this specific subject or program, as well as a reference to the agency or promulgating entity's overall regulatory authority.*

Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare. Written assurance from the Office of the Attorney General that the State Air Pollution Control Board possesses the statutory authority to promulgate the regulation is available upon request.

Promulgating Entity

The promulgating entity for this regulation is the State Air Pollution Control Board.

State Requirements

Chapter 1289 of the 2020 Acts of Assembly (the Budget Bill), Item 376, as amended by Chapter 56 of the 2020 Special Session I Acts of Assembly requires that: (i) the Board adopt regulations to prohibit the sale, lease, rent, installation or entry into commerce in Virginia of any products or equipment that use or will use hydrofluorocarbons for the applications and end uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017; (ii) the regulations adopted by the State Air Pollution Control Board to initially implement the regulation be exempt from Chapter 40 of Title 2.2, Code of Virginia, and (iii) the regulation shall become effective no later than July 1, 2021. As amended, the budget bill also required that the Board (i) solicit input from extruded polystyrene boardstock and billet manufacturers located in Virginia in order to determine and set by regulation a feasible date by which such manufacturers must be required to comply, and (ii) solicit input from a workgroup of relevant stakeholders when developing those regulations.

Federal Requirements

There is no applicable federal law or regulation requiring adoption of this regulation.

## Purpose

*Explain the need for the regulatory change, including a description of: (1) the rationale or justification, (2) the specific reasons the regulatory change is essential to protect the health, safety or welfare of citizens, and (3) the goals of the regulatory change and the problems it's intended to solve.*

This regulation is needed to meet specific requirements of the 2020 Acts of Assembly, as amended.

Greenhouse gases have been identified by the U. S. Environmental Protection Agency (EPA) as contributing to global warming, rise in sea levels, and localized climate changes. HFCs are a potent greenhouse gas. Accordingly, the prohibition of certain hydrofluorocarbons in certain specific end uses in Virginia regulations, such as those promulgated by the EPA in 40CFR Part 82, Subpart G, Appendices U and V will help to protect the health, safety, and welfare of the citizens of the Commonwealth.

This regulation incorporates the prohibitions and restrictions on those certain hydrofluorocarbons and end-uses that are listed in 40 CFR Part 82, Subpart G, Appendices U and V and meets the requirements of state law.

## Substance

*Briefly identify and explain the new substantive provisions, the substantive changes to existing sections, or both. A more detailed discussion is provided in the "Detail of Changes" section below.*

This new regulation incorporates the prohibitions and restricted end-uses of 40 CFR Part 82, Subpart G, Appendices U and V into the regulation by reference.

Exemptions are provided for (i) sell-through of products and equipment manufactured prior to the compliance dates provided in the regulation; (ii) use of products and equipment manufactured prior to the compliance dates provided in the regulation; (iii) exemptions required by the federal American Innovation and Manufacturing (AIM) Act of 2020 (Section 103 of Division S of H.R. 133, Consolidated Appropriations Act, 2021); and (iv) extruded polystyrene boardstock products and equipment manufactured in Virginia intended only for sale and distribution outside of Virginia.

Definitions of the terms used in the Appendices and the regulation are only those necessary to implement the regulation.

Compliance dates that were prescribed in 40 CFR Part 82, Subpart G, Appendices U and V as being before January 1, 2022 were changed in this regulation to require compliance by January 1, 2022. Any compliance dates provided in Appendices that are on or later than January 1, 2022 are preserved in the regulation.

A compliance date of January 1, 2036 has been established for Virginia manufacturers of extruded polystyrene boardstock products and in order to determine if an earlier compliance date is possible, the regulation includes a requirement for a compliance date feasibility study. Only one Virginia manufacturer of extruded polystyrene boardstock products has been identified.

## Issues

*Identify the issues associated with the regulatory change, including: 1) the primary advantages and disadvantages to the public, such as individual private citizens or businesses, of implementing the new or amended provisions; 2) the primary advantages and disadvantages to the agency or the Commonwealth; and 3) other pertinent matters of interest to the regulated community, government officials, and the public. If there are no disadvantages to the public or the Commonwealth, include a specific statement to that effect.*

The primary advantage of this regulation to the public is improved resistance to the effects of climate change resulting from greenhouse gases that would otherwise be worse without these changes. The primary disadvantage to the public is increased cost of any products or equipment using acceptable substitutes for the prohibited HFCs in the specified restricted end uses.

The primary advantage of this regulation to the Commonwealth and the agency is that greenhouse gas emissions are being controlled without the need for additional personnel or funds to administer the program. There are no disadvantages to the Commonwealth or the agency.

A work group of relevant stakeholders was convened to provide input to the department concerning the substance of the regulation and a feasible compliance date for XPS boardstock and billet manufacturers located in Virginia as required by the 2020 Special Session I. The work group was comprised of representatives from XPS boardstock manufacturers located in Virginia, other HFC product and equipment manufacturers, and non-governmental environmental organizations. The work group was able to provide input on a feasible compliance date for XPS boardstock manufacturers of January 1, 2036 and a recommendation that a study be conducted to provide input for any earlier compliance date that might

be possible. The work group also discussed issues associated with the proposed regulation and reached consensus on recommended language and provisions that were used by the agency to develop this regulation.

## Agencies, Localities, and Other Entities Particularly Affected

*Identify any other state agencies, localities, or other entities particularly affected by the regulatory change. "Particularly affected" are those that are likely to bear any identified disproportionate material impact, which would not be experienced by other agencies, localities, or entities. "Locality" can refer to either local governments or the locations in the Commonwealth where the activities relevant to the regulation or regulatory change are most likely to occur. If no agency, locality, or entity is particularly affected, include a specific statement to that effect.*

This regulation applies statewide and affects any entity that manufactures, sells, leases, rents, installs or enters into commerce in Virginia any product or equipment that uses or will use HFCs for the applications and end uses restricted Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, equally.

Other State Agencies Particularly Affected: There are no other state agencies particularly affected.

Localities Particularly Affected: The requirements apply to all localities equally, however, a locality with a tax base or population dependent upon manufacturing, sale, lease, rental, installation, or commerce of products or equipment containing the prohibited HFCs in the regulated end-uses may be affected in various ways, depending on price, production, and competition from manufacturers located outside of Virginia.

Other Entities Particularly Affected: Businesses involved with manufacturing, sale, lease, rental, installation or commerce of regulated products or equipment are likely to be affected by the regulation.

## Detail of All Changes Proposed in this Regulatory Action

*List all changes proposed in this exempt action and the rationale for the changes. Explain the new requirements and what they mean rather than merely quoting the text of the regulation. *Please put an asterisk next to any substantive changes.*

| New chapter-section number | New requirements | Other regulations and law that apply | Intent and likely impact of new requirements |
|---|---|---|---|
| 9VAC5 Chapter 145, Control of Greenhouse Gases. | | | |
| *100. | Applicability, prohibitions, and exemptions. | None. | This section provides the information necessary to determine who must follow the chapter's prohibition and restriction requirements and who is exempt. The impact is likely limited to persons regulated under this chapter |

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| *100 A. | Applicability. The use of certain HFCs in specific end-uses are prohibited by reference by incorporating 40 CFR Part 82, Subpart G, Appendices U and V into the regulation by reference. | None. | This subsection provides the identification of who is subject to the requirements of the chapter and refers the reader to the CFR for particulars about which HFCs are prohibited and which end-uses are restricted. This applicability is intended to include the manufacture, but not the storage and transport, of the prohibited products and equipment in Virginia. The impact is likely limited to persons regulated under this chapter. |
| *100 B. | Exemption for the continued use of products and equipment manufactured before the effective date of the prohibitions and restrictions on those HFCs and end-uses. | None. | This subsection ensures that users of equipment and products manufactured before the applicable effective dates specified in section 120 of this chapter don't have to cease using that equipment or product unless it is retrofitted after the effective date of those prohibitions or restrictions specified in section 120. The impact is likely limited to persons regulated under this chapter. |
| *100 C. | Exemption for sale, lease, rental, installation, or entry into commerce of equipment or products manufactured prior to the effective date of the prohibitions and restrictions on those HFCs and end-uses. | None. | This subsection ensures that equipment and products manufactured before the applicable effective dates specified in section 120 of this chapter are excluded from the prohibitions and restrictions of subsection A. The impact is likely limited to persons regulated under this chapter. |

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| *100 D. | Additional exemptions for two additional sets of products and equipment. | None. | This subsection includes an exemption for certain non-compliant products and equipment manufactured in Virginia that are intended for distribution only outside of Virginia, and an exemption for end uses exempted by the federal AIM Act. In the case of the exemption for products and equipment manufactured in Virginia for distribution only outside of Virginia, storage and transfer of those products in Virginia is also intended to be exempt. The impact is likely limited to persons regulated under this chapter. |
| *110. | Definitions. | None. | This section provides for the definitions of terms used in the regulation. The impact is likely limited to persons regulated under this chapter. |
| *110 A. | Definitions of terms used in the regulation and in the Appendices incorporated by reference that are defined in subsection C. | None. | This subsection clarifies that definitions in subsection C apply for the purposes of implementing this chapter and are intended to take precedence over definitions of the same terms if they are defined differently elsewhere in regulations. The impact is likely limited to persons regulated under this chapter. |
| *110 B. | Definitions of terms used in the regulation but not defined in subsection C. | None. | This subsection clarifies that for terms used in this chapter that are not defined in subsection C, the terms defined in 9VAC5-10 take precedence over definitions found in other sources, except where context requires a different definition. The impact is likely limited to persons regulated under this chapter. |
| *110 C. | Terms defined. | None. | This subsection defines terms used in this regulation or used in Appendices U and V. These terms are only those necessary for implementing this regulation in Virginia and shall take precedence over different definitions that may be found in other sources. The impact is likely limited to persons regulated under this Chapter. |

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| *120. | Compliance. | None. | This section specifies the particulars for demonstrating compliance with the prohibitions in Appendices U and V and the requirements of the regulation. The impact is likely limited to persons regulated under this Chapter. |
| *120 A. | Specification of what constitutes a violation of the prohibitions prescribed. | None. | This subsection clarifies what constitutes a violation of the prohibitions specified in this Chapter. The impact is likely limited to persons regulated under this Chapter. |
| *120 B. | Effective dates of the prohibitions. | None. | This subsection specifies that compliance with the prohibitions listed in the Appendices isn't required back to effective dates specified in Appendices U and V that are before January 1, 2022. Instead of those earlier effective dates, the effective date for those prohibitions is January 1, 2022. Compliance is required with all effective dates specified in Appendices U and V that are on or after January 1, 2022 except as specified in section 130. The impact is likely limited to persons regulated under this Chapter. |
| *120 C. | Use of credible evidence for determining compliance. | None. | This subsection specifies that the department can choose and use any credible evidence for determining compliance with the prohibitions and is not limited to the evidence required in sections 140 and 150. The impact is likely limited to persons regulated under this Chapter. |
| *130. | Special provisions applicable to XPS boardstock and billet manufacturers, | None. | This section provides special compliance provisions applicable to XPS boardstock and billet manufacturers located in Virginia. The impact is likely limited to persons regulated under this Chapter. |

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| *130 A. | Compliance feasibility study. | None. | In 9VAC5-100 D 1, XPS boardstock and billet manufacturers located in Virginia have an exemption from the prohibition in the Appendices that expires on January 1, 2036. This subsection requires that a compliance feasibility study be completed by those manufacturers and submitted to the department with the purpose of determining if there is a compliance date earlier than the January 1, 2036 (specified in subsection B of this section) that is feasible. This subsection allows for a mitigation action plan as a part of that study. The impact is likely limited to persons regulated under this Chapter. |
| *130 B. | Effective date for prohibitions for manufacturers of XPS boardstock and billet products. | None. | This subsection provides a termination date of January 1, 2036 for the exemption for XPS boardstock and billet manufacturers located in Virginia. Thereafter, those manufacturers must comply with the prohibition listed in Appendices U and V. The impact is likely limited to persons regulated under this Chapter. |
| *140. | Labeling and administrative requirements. | None. | This section prescribes certain requirements to ensure that compliance with the prohibitions listed in the Appendices for certain end-uses can be determined. The impact is likely limited to persons regulated under this chapter. |

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| *140 A. | Written disclosure requirements. | None. | In this subsection, specific labeling requirements are specified for each of the following end-uses: motor-bearing refrigeration and air-conditioning equipment that are not precharged, motor-bearing refrigeration and air-conditioning equipment that are precharged with HFCs, foam products, and aerosol propellants. The impact is likely limited to persons regulated under this chapter. |
| *140 B. | Written disclosure certification statements. | None. | This subsection requires a certification statement be provided. Where one is not combined with a certification statement from another jurisdiction, specific wording is required to be used. The impact is likely limited to persons regulated under this chapter. |
| *140 C. | Provisions for using date codes. | None. | This subsection allows manufacturers to substitute a date code representing the date of manufacture for a date of manufacture that is required in subsection A of this section. The impact is likely limited to persons regulated under this chapter. |
| *150. | Records and reporting. | None. | This section specifies the records that must be kept to demonstrate compliance with this chapter, how long they must be kept, and when they must be provided to the department. |
| *150 A. | Record-keeping requirements. | None. | This subsection requires that certain specified information be recorded and kept for five years: the date of manufacture, the HFC the product or equipment is designed to use, the HFC that is in the product or equipment, and such other information as is necessary to demonstrate that the product of equipment is either in compliance or exempt. The impact is likely limited to persons regulated under this chapter. |

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| *150 B. | Availability of records. | None. | This subsection specifies that the required records be made available to the department upon request. The impact is likely limited to persons regulated under this chapter. |
| *150 C. | Requirement for a date code explanation. | None. | This subsection specifies that if a manufacturer uses a date code to label products or equipment, an explanation of the date code must be provided to the department upon request. The impact is likely limited to persons regulated under this chapter. |
| *9999. | Documents incorporated by reference. | None. | Links to Appendices U and V that are incorporated by reference will be provided in this section when the final regulation is published. The impact is likely limited to persons regulated under this chapter. |

## Regulatory Flexibility Analysis

*Pursuant to § 2.2-4007.1B of the Code of Virginia, please describe the agency's analysis of alternative regulatory methods, consistent with health, safety, environmental, and economic welfare, that will accomplish the objectives of applicable law while minimizing the adverse impact on small business. Alternative regulatory methods include, at a minimum: 1) establishing less stringent compliance or reporting requirements; 2) establishing less stringent schedules or deadlines for compliance or reporting requirements; 3) consolidation or simplification of compliance or reporting requirements; 4) establishing performance standards for small businesses to replace design or operational standards required in the proposed regulation; and 5) the exemption of small businesses from all or any part of the requirements contained in the regulatory change.*

This regulation meets the requirements of state law. The compliance requirements are the minimum possible consistent with the requirements of the 2020 Acts of Assembly, Chapter 1289, (Budget Bill) Item 378, as amended. Any delays in adopting the standards would not meet the requirements of subdivision B 3 of that Item. The recordkeeping and reporting requirements were selected to be the minimum necessary to ensure compliance and any further changes would add complexity. Any substitution of performance standards, and any additional exemptions of small businesses from these requirements will not meet the minimum requirements of the 2020 Acts of Assembly.

## Family Impact

*In accordance with § 2.2-606 of the Code of Virginia, please assess the potential impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.*

This regulation may increase or decrease disposable family income since different products or equipment may have to be acquired. There are no other expected impacts upon the institution of the family or family stability expected resulting from this regulation.

COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD
REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9VAC5 CHAPTER 145
REGULATION FOR CONTROL OF GREENHOUSE GASES



9VAC5-145-100. Applicability, prohibitions, and exemptions.

A. The sale, lease, rent, installation or entry into commerce in the Commonwealth of Virginia by any person of any products or equipment that use or will use hydrofluorocarbons for the applications and end-uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, is prohibited after the effective date specified in 9VAC5-145-120.

B. Except where an existing system is retrofitted, nothing in this chapter requires a person that acquired prior to the effective date of the restrictions specified in 9VAC5-145-120, a product or equipment containing a substance prohibited under this chapter, to cease use of that product or equipment.

C. The prohibitions of this chapter do not apply to products or equipment in specific applications and end-uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017 that were manufactured prior to the effective date of the restrictions specified in 9VAC5-145-120.

D. Notwithstanding subsection A of this section, the uses of hydrofluorocarbons specified in subdivisions 1 and 2 of this subsection are exempt from the prohibitions for the applications and end-uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017.

1. This chapter does not restrict the use of hydrofluorocarbons in the manufacturing process by extruded polystyrene boardstock and billet manufacturers located in the Commonwealth of Virginia to produce products for sale and distribution outside of the Commonwealth, as long as the manufacturer and the distributors of that product can demonstrate (i) that the extruded polystyrene boardstock or billet product is intended for distribution and sale, lease, rental, installation, or entry into commerce

outside of the Commonwealth of Virginia, and (ii) that the manufacturer and distributors have taken reasonable precautions to assure that the extruded polystyrene boardstock or billet product is not distributed within the Commonwealth for sale, lease, rental, installation, or entry into commerce. This exemption does not apply to extruded polystyrene boardstock or billet products that are sold, leased, rented, installed, or otherwise entered into commerce by any person to retail outlets within the Commonwealth. This exemption shall expire on the date specified in 9VAC5-145-130 B.

2. This chapter does not restrict the management or use of a regulated substance for which the Administrator of the U. S. Environmental Protection Agency has provided a mandatory allocation of allowances pursuant to subdivision (e)(4)(B)(iv)(I) of the American Innovation and Manufacturing Act of 2020 (Section 103 of Division S of H.R. 133, Consolidated Appropriations Act, 2021) for the exclusive use in applications solely for:

a. A propellant in metered dose inhalers;

b. Defense sprays;

c. Structural composite preformed polyurethane foam for marine use and trailer use;

d. The etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector;

e. Mission-critical military end-uses, such as armored vehicle engine and shipyard fire suppression systems and systems used in deployable and expeditionary applications; and

f. Onboard aerospace fire suppression.

3. The exemption in subdivision 2 of this subsection shall expire on December 28, 2025 or, in the event the Administrator of the U.S. Environmental Protection Agency has extended providing the allocation of allowances for certain essential uses pursuant to subdivision (e)(4)(B)(v)(II) of the American Innovation and Manufacturing Act of 2020 (Section 103 of Division S of H.R. 133, Consolidated Appropriations Act, 2021), to the date that extension ends, whichever is later.

E. The provisions of this chapter apply throughout the Commonwealth of Virginia.

9VAC5-145-110. Definitions.

A. For the purpose of applying this chapter and the prohibitions on hydrofluorocarbons for the applications and end-uses restricted by Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, the

words or terms shall have the meanings given them in subsection C of this section.

B. As used in this chapter, all terms not defined herein shall have the meanings given them in 9VAC5-10 (General Definitions) unless otherwise required by context.

C. Terms defined.

"Application" means a specific use within a major industrial sector end-use.

"Aerosol propellant" means a liquefied or compressed gas, 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.

"Air conditioning equipment" means chillers, both centrifugal chillers and positive displacement chillers, intended for comfort cooling of occupied spaces.

"Bunstock" means a large solid block-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.

"Class I substance" means any ozone-depleting compound defined in the Clean Air Act, as amended, 42 U.S.C. § 7671(3) (effective November 15, 1990).

"Class II substance" means any ozone-depleting compound defined in the Clean Air Act, as amended, 42 U.S.C. § 7671(4) (effective November 15, 1990).

"Centrifugal chiller" means air conditioning equipment that utilizes a centrifugal compressor in a vapor-compression refrigeration cycle typically used for commercial comfort air conditioning, but not for cooling for industrial process cooling and refrigeration.

"Cold storage warehouse" means a cooled facility designed to store meat, produce, dairy products, and other products 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.

"Cumulatively replaced" means the addition of or change in multiple

components within a 3-year period.

"Effective date" means the date after which new or retrofit equipment or products are prohibited, where applicable.

"End-use" means processes or classes of specific applications within industry sectors listed in Appendix U and Appendix V of Subpart G of 40 C.F.R. Part 82, as those read on January 3, 2017.

"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.

"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 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 material that expands when mixed to form a solid or flexible substance in which thin films of material separate pockets of gas.

"Greenhouse gases" means, for the purposes of this chapter, the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

"Household refrigerators and freezers" means refrigerators, refrigerator-freezers, freezers, and miscellaneous household refrigeration appliances intended for residential use. For the purposes of this chapter, the definition of 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 refrigerators, refrigerator-freezers, and freezers 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 that are not finished and not designed to be visible after installation; and designed, intended, and marketed exclusively to be installed totally encased by cabinetry or panels that are attached during installation and securely fastened to adjacent cabinetry, walls or floor; and equipped with an integral factory-finished face or to accept a custom front panel.

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

"Hydrofluorocarbon" or "HFC" 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 those used in car steering wheels and dashboards.

"Manufacturer" means a 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.

"Metered dose inhaler" or "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. An MDI consists of a pressurized canister of medication in a case with a mouthpiece.

"Mixture" means a blend of two or more compounds.

"New" means:

(a) Products or equipment that are manufactured after the effective date of this chapter;

(b) Products or equipment that are first installed for an intended purpose with new or used components;

(c) Products or equipment that are 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 50% of the capital cost of replacing the whole system.

"Phenolic insulation board" means boards, blocks or other shapes fabricated with phenolic foam.

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

"Polystyrene extruded boardstock and billet" means a foam formed from predominantly styrene monomer and produced on extruding machines in the form of continuous foam slabs that can be cut and shaped into panels and used for roofing, walls, flooring, and pipes.

"Polystyrene extruded sheet" means polystyrene foam including that used for packaging, buoyancy or floatation and food-service items such as 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, including but not limited to polyisocyanurate (polyiso).

"Positive displacement chiller" means vapor compression cycle chillers that use positive displacement compressors, and are typically used for commercial comfort air conditioning. For the purpose of this chapter, positive displacement chiller 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 and dispense food and beverages 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 and units designed solely to cool and dispense water.

"Refrigeration equipment" means any stationary device that is designed to contain and use refrigerant gas to establish or maintain colder than ambient temperatures in a confined space, including but not limited to retail or commercial refrigeration equipment, household refrigerators and freezers, 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.

"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. Use within a household for commercial or medical applications is not residential use, 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 the replacement of the refrigerant used in refrigeration

equipment with a different refrigerant, and any related changes to the refrigeration equipment required to maintain its operation and reliability following refrigerant replacement.

"Rigid polyurethane and polyisocyanurate laminated boardstock" means laminated board insulation made with polyurethane or polyisocyanurate foam, including that used for roofing and walls but not including rigid polyurethane appliance foam, rigid polyurethane commercial refrigeration and sandwich panels, rigid polyurethane marine flotation foam, rigid polyurethane spray foam, and rigid polyurethane one-component foam sealants.

"Rigid polyurethane appliance foam" means polyurethane insulation foam in household appliances.

"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 non-pressurized containers that is field or factory applied in situ using high-pressure proportioning pumps at 800-1600 pounds per square inch (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 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" 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 the refrigeration circuit may be entirely brazed or welded. These systems are charged with refrigerant at the factory and typically require only an electricity supply to begin operation.

"Substance" means any chemical, product substitute, or alternative manufacturing process, whether new or retrofit, intended for use in the end-uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017.

"Substitute" means a chemical, product replacement, or alternative manufacturing process, whether new or retrofit, that is used to perform a function previously performed by a class I substance or class II substance.

"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 the Commonwealth of Virginia, consumption by the end-user in the Commonwealth, or in intermediate applications in the Commonwealth, such as formulation or packaging for other subsequent applications. For the purposes of this chapter, use excludes residential use, but it does not exclude manufacturing for the purpose of residential use.

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

9VAC5-145-120. Compliance.

A. Unless otherwise specified in this chapter, no owner or other person shall engage in or permit the manufacture, sale, lease, rental, installation, or entry into commerce in Virginia of any equipment or product in violation of prohibitions prescribed under this chapter after the effective date of the prohibition.

B. The effective date of the prohibitions in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, shall be January 1, 2022 unless a later effective date is specified in those appendices or in 9VAC5-145-130.

C. Nothing in this chapter shall preclude the department's use of any credible evidence or information in determining whether a person is in compliance with the

applicable requirements.

9VAC5-145-130. Special provisions applicable to extruded polystyrene boardstock and billet manufacturers.

A. Extruded polystyrene boardstock and billet manufacturers located in the Commonwealth of Virginia that manufacture on and after January 1, 2022 in accordance with 9VAC5-145-100 D using hydrofluorocarbons prohibited in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017 shall comply with the following requirements:

1. Submit a compliance date feasibility study to the department no later than January 1, 2022, that contains a compliance schedule for meeting the prohibition on the use of hydrofluorocarbons prohibited in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, in the manufacturing process for extruded polystyrene boardstock and billet.

2. The compliance date feasibility study shall be prepared in a manner acceptable to the department.

3. The compliance date feasibility study may contain a mitigation action plan for reducing HFC emissions in the Commonwealth of Virginia from January 1, 2022, until the prohibition compliance date recommended in the compliance date feasibility study required in subdivision 1 of this subsection. The mitigation action plan may detail and describe HFC mitigation efforts whether planned or implemented at the manufacturing facility, including dates of completion for any planned efforts.

B. Notwithstanding the requirements of subsection A of this section, extruded polystyrene boardstock and billet manufacturers located in the Commonwealth of Virginia shall be prohibited from using hydrofluorocarbons prohibited in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017 in the manufacturing process for extruded polystyrene boardstock and billet on and after January 1, 2036.

9VAC5-145-140. Labeling and administrative requirements.

A. As of January 1, 2022, except for acceptable uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, any person who manufactures for sale or entry into commerce in the Commonwealth of Virginia, products or equipment in the air-conditioning, refrigeration, foam, or aerosol propellant end-uses listed in those appendices, shall provide a written disclosure to the buyer.

1. For motor-bearing refrigeration and air-conditioning equipment that is neither factory-charged nor pre-charged with refrigerant, the required disclosure or label shall 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 that contain the information required in subsections a and b of this subdivision, for refrigeration and air-conditioning equipment that are factory-charged or pre-charged with a hydrofluorocarbon or hydrofluorocarbon blend the required disclosure or label shall include:

a. The date of manufacture; and

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

3. For foam products, the disclosure or label shall include one of the following alternatives:

a. The date of manufacture; and either:

(1) Identification of the foam blowing agent that the product contains; or

(2) A reference to a Safety Data Sheet (complying with 29 CFR 1910.1200 requirements), provided that the Safety Data Sheet identifies the foam blowing agent the product contains; or

b. The statement "Where sold, compliant with State HFC regulations."

4. For aerosol propellants, the disclosure or label shall include one of the following alternatives:

a. The date of manufacture; and either:

(1) Identification of the aerosol propellant that the product contains; or

(2) A reference to a Safety Data Sheet (complying with 29 CFR 1910.1200 requirements), provided that the Safety Data Sheet identifies the propellant that the product contains; or

b. The statement "Where sold, compliant with State HFC regulations."

B. If not combined with a written disclosure statement required by another jurisdiction, the written disclosure shall include the following statement signed by an

authorized representative of the manufacturer: "I certify under penalty of law that the statements and information submitted in this document are to the best of my knowledge and belief true, accurate, and complete."

C. The manufacturer may substitute a date code representing the date of manufacture for the date of manufacture required in subsection A of this section.

9VAC5-145-150. Records and reporting.

A. As of January 1, 2022, any person who manufactures any product or equipment for the applications and end-uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, for sale, lease, rental, installation, or entry into commerce in the Commonwealth of Virginia shall keep and maintain for five years records of the following information:

1. The date of manufacture of the equipment or product;

2. The refrigerant, aerosol propellant, and foam blowing agent 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. Information sufficient to demonstrate that the product or equipment does not contain any substances prohibited or restricted for the applications and end-uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, or that the product is exempt in accordance with 9VAC5-145-110.

B. As of January 1, 2022, any person who manufactures any product or equipment for the applications and end-uses listed in Appendix U and Appendix V of Subpart G of 40 CFR Part 82, as those read on January 3, 2017, for sale, lease, rental, installation, or entry into commerce in the Commonwealth of Virginia shall make the required records available to the department upon request.

C. If a manufacturer uses a date code to meet disclosure or labeling requirements in 9VAC5-145-140 A, the manufacturer shall provide an explanation of the date code to the department upon request.

9VAC5-145-9999. Documents incorporated by reference.

40 CFR Part 82, Subpart G, Appendix U, as read on January 3, 2017.

40 CFR Part 82, Subpart G, Appendix V, as read on January 3, 2017.

# Subpart G—Significant New Alternatives Policy Program

## Appendix U to Subpart G of Part 82—Unacceptable Substitutes and Substitutes Subject to Use Restrictions Listed in the July 20, 2015 Final Rule, Effective August 19, 2015

### AEROSOLS—UNACCEPTABLE SUBSTITUTES

| End-use | Substitute | Decision | Further information |
|---|---|---|---|
| Propellants | HFC-125 | Unacceptable as of January 1, 2016 | HFC-125 has a Chemical Abstracts Service Registry Number (CAS Reg. No.) of 354-33-6 and it is also known by the name 1,1,1,2,2-pentafluoropropane. HFC-125 has a GWP of 3,500. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| | | | Products using this propellant that are manufactured prior to January 1, 2016 may be sold, imported, exported, distributed and used after that date. |
| Propellants | HFC-134a | Unacceptable as of July 20, 2016, except uses listed as acceptable, subject to use conditions | HFC-134a has a Chemical Abstracts Service Registry Number (CAS Reg. No.) of 811-97-2 and it is also known by the name 1,1,1,2-tetrafluoropropane. HFC-134a has a GWP of 1,430. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| | | | Products using this propellant that are manufactured prior to July 20, 2016 may be sold, imported, exported, distributed and used after that date. |
| Propellants | HFC-227ea and blends of HFC-134a and HFC-227ea | Unacceptable as of July 20, 2016, except uses listed as acceptable, subject to use conditions | HFC-227ea has a Chemical Abstracts Service Registry Number (CAS Reg. No.) of 431-89-0 and it is also known by the name 1,1,1,2,3,3,3-heptafluoropropane. HFC-134a has a Chemical Abstracts Service Registry Number (CAS Reg. No.) of 811-97-2 and it is also known by the name 1,1,1,2-tetrafluoropropane. HFC-227ea and HFC-134a have GWPs of 3,220 and 1,430, respectively. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |

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| | | | Products using these propellants that are manufactured prior to July 20, 2016 may be sold, imported, exported, distributed and used after that date. |
| Propellants | HCFC-22 and HCFC-142b | Unacceptable effective September 18, 2015 | Use or introduction into interstate commerce of virgin HCFC-22 and HCFC-142b for aerosols is prohibited as of January 1, 2010 under EPA's regulations at 40 CFR part 82 subpart A. These propellants have ozone depletion potentials of 0.055 and 0.065, respectively. |
| Solvents | HCFC-141b and blends thereof | Unacceptable effective September 18, 2015 | Use or introduction into interstate commerce of virgin HCFC-141b for aerosols is prohibited as of January 1, 2015 under EPA's regulations at 40 CFR part 82 subpart A. HCFC-141b has an ozone depletion potential of 0.11. |

**SUBSTITUTES ACCEPTABLE SUBJECT TO USE CONDITIONS**

| End-use | Substitute | Decision | Use conditions | Further information |
|---|---|---|---|---|
| Propellants | HFC-134a | Acceptable subject to use conditions | The classes of products listed below are acceptable for use from July 20, 2016 through December 31, 2017 and are unacceptable thereafter<br>• products for functional testing of smoke detectors<br>• products for which new formulations require governmental review, including: EPA pesticide registration, approval for conformance with military or space agency specifications, or FDA approval (other than MDIs)<br>The classes of products listed below are acceptable for use and other uses are | HFC-134a has a Chemical Abstracts Service Registry Number (CAS Reg. No.) of 811-97-2 and it is also known by the name 1,1,1,2-tetrafluoropropane. HFC-134a has a GWP of 1,430. Use is allowed for the specified uses because of the technical and safety demands in these applications.<br>Aerosol products using this propellant that are manufactured prior to July 20, 2016, may be sold, imported, exported, distributed and used after that date. |

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| | | | unacceptable as of July 20, 2016:<br>• metered dose inhalers approved by the U.S. Food and Drug Administration for medical purposes<br>• cleaning products for removal of grease, flux and other soils from electrical equipment or electronics<br>• refrigerant flushes<br>• products for sensitivity testing of smoke detectors<br>• lubricants and freeze sprays for electrical equipment or electronics | |
| | | | • sprays for aircraft maintenance.<br>• sprays containing corrosion preventive compounds used in the maintenance of aircraft, electrical equipment or electronics, or military equipment.<br>• pesticides for use near electrical wires or in aircraft, in total release insecticide foggers, or in certified organic use pesticides for which EPA has specifically disallowed all other lower-GWP propellants.<br>• mold release agents and mold cleaners.<br>• lubricants and cleaners for spinnerettes for synthetic fabrics.<br>• duster sprays specifically for removal of dust from | |

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| | | | photographic negatives, semiconductor chips, specimens under electron microscopes, and energized electrical equipment.<br>• adhesives and sealants in large canisters.<br>• document preservation sprays.<br>• wound care sprays.<br>• topical coolant sprays for pain relief.<br>• products for removing bandage adhesives from skin. | |
| Propellants | HFC-227ea and blends of HFC-227ea and HFC-134a | Acceptable subject to use conditions | Acceptable for use in metered dose inhalers approved by the U.S. Food and Drug Administration for medical purposes and unacceptable for all other uses as of July 20, 2016 | HFC-227ea has a Chemical Abstracts Service Registry Number (CAS Reg. No.) of 431-89-0 and it is also known by the name 1,1,1,2,3,3,3-heptafluoropropane. HFC-227ea has a GWP of 3,220. |
| | | | | Aerosol products using this propellant that are manufactured prior to July 20, 2016 may be sold, imported, exported, distributed and used after that date. |

**REFRIGERATION AND AIR CONDITIONING—UNACCEPTABLE SUBSTITUTES**

| End-use | Substitute | Decision | Further information |
|---|---|---|---|
| Retail food refrigeration (supermarket systems) (new) | HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A | Unacceptable as of January 1, 2017 | These refrigerants have GWPs ranging from 2,729 to 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |

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| Retail food refrigeration (supermarket systems) (retrofit) | R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A | Unacceptable as of July 20, 2016 | These refrigerants have GWPs ranging from 2,729 to 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Retail food refrigeration (remote condensing units) (new) | HFC-227ea, R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A | Unacceptable as of January 1, 2018 | These refrigerants have GWPs ranging from 2,729 to 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Retail food refrigeration (remote condensing units) (retrofit) | R-404A, R-407B, R-421B, R-422A, R-422C, R-422D, R-428A, R-434A, R-507A | Unacceptable as of July 20, 2016 | These refrigerants have GWPs ranging from 2,729 to 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Retail food refrigeration (stand-alone medium-temperature units with a compressor capacity below 2,200 Btu/hr and not containing a flooded evaporator) (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 | Unacceptable as of January 1, 2019 | These refrigerants have GWPs ranging from approximately 900 to 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. "Medium-temperature" refers to equipment that maintains food or beverages at temperatures above 32 °F (0 °C). |
| Retail food refrigeration (stand-alone medium-temperature units with a compressor | 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- | Unacceptable as of January 1, 2020 | These refrigerants have GWPs ranging from approximately 900 to 3,985. Other substitutes will be available for this end-use with lower overall risk to |

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| capacity below 2,200 Btu/hr and containing a flooded evaporator) (new) | 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 | | human health and the environment by the status change date. "Medium-temperature" refers to equipment that maintains food or beverages at temperatures above 32 °F (0 °C). |
| Retail food refrigeration (stand-alone medium-temperature units with a compressor capacity equal to or greater than 2,200 Btu/hr) (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 | Unacceptable as of January 1, 2020 | These refrigerants have GWPs ranging from approximately 900 to 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. "Medium-temperature" refers to equipment that maintains food or beverages at temperatures above 32 °F (0 °C). |
| Retail food refrigeration (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) | Unacceptable as of January 1, 2020 | These refrigerants have GWPs ranging from approximately 1,800 to 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. "Low-temperature" refers to equipment that maintains food or beverages at temperatures at or below 32 °F (0 °C). |
| Retail food refrigeration (stand-alone units only) (retrofit) | R-404A, R-507A | Unacceptable as of July 20, 2016 | These refrigerants have GWPs of approximately 3,922 and 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |

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| Vending machines (new only) | 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 | Unacceptable as of January 1, 2019 | These refrigerants have GWPs ranging from approximately 1,100 to 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Vending machines (retrofit only) | R-404A, R-507A. | Unacceptable as of July 20, 2016 | These refrigerants have GWPs of approximately 3,922 and 3,985. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |

**FOAM BLOWING AGENTS—SUBSTITUTES ACCEPTABLE SUBJECT TO NARROWED USE LIMITS**

| End-use | Substitute | Decision | Narrowed use limits | Further information |
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| Rigid Polyurethane: Appliance | HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6 | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2020, until January 1, 2022, in military applications and until January 1, 2025, in 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 Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety |

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| | | | applications, may be used after those dates | standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |
| Rigid Polyurethane: Commercial Refrigeration and Sandwich Panels | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6 | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2020, until January 1, 2022, in military applications and until January 1, 2025, in 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 Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related applications, may be used after those dates | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |
| Flexible Polyurethane | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2017, until January 1, 2022, in military applications and until January 1, 2025, in space- and aeronautics-related applications where reasonable efforts have been made to ascertain that other alternatives are | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should |

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| | | | not technically feasible due to performance or safety requirements | include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |
| Rigid Polyurethane: Slabstock and Other | HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6 | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2019, until January 1, 2022, in military applications and until January 1, 2025, in 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<br>Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related applications, may be used after those dates | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will |

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| | | | | be available and projected time for switching. |
| Rigid Polyurethane and Polyisocyanurate Laminated Boardstock | HFC-134a, HFC-245fa, HFC-365mfc and blends thereof | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2017, until January 1, 2022, in military applications and until January 1, 2025, in 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 Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related applications, may be used after those dates | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |
| Rigid Polyurethane: Marine Flotation Foam | HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6 | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2020, until January 1, 2022, in military applications and until January 1, 2025, in 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 | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product |

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| | | | Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related applications, may be used after those dates | in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |
| Polystyrene: Extruded Sheet | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6 | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2017, until January 1, 2022, in military applications and until January 1, 2025, in 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<br>Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related applications, may be used after those dates | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |

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| Polystyrene: Extruded Boardstock and Billet | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel B, and Formacel Z-6 | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2021, until January 1, 2022, in military applications and until January 1, 2025, in 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<br>Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related applications, may be used after those dates | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |
| Integral Skin Polyurethane | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6 | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2017, until January 1, 2022, in military applications and until January 1, 2025, in 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 | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes |

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| | | | | examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |
| Polyolefin | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6 | Acceptable Subject to Narrowed Use Limits | Acceptable from January 1, 2020, until January 1, 2022, in military applications and until January 1, 2025, in 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 Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related applications, may be used after those dates | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |
| Phenolic Insulation Board and Bunstock | HFC-143a, HFC-134a, HFC-245fa, | Acceptable Subject to | Acceptable from January 1, 2017, until January 1, 2022, in military | Users are required to document and retain the results of their |

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| | HFC-365mfc, and blends thereof | Narrowed Use Limits | applications and until January 1, 2025, in 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 Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2022, for military applications or on and before January 1, 2025, in space- and aeronautics-related applications, may be used after those dates | technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |

**UNACCEPTABLE SUBSTITUTES**

| End-use | Substitute | Decision | Further information |
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| All Foam Blowing End-uses | HCFC-141b and blends thereof | Unacceptable effective September 18, 2015. Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before December 1, 2017 may be used after that date | HCFC-141b has an ozone depletion potential of 0.11 under the Montreal Protocol. EPA previously found HCFC-141b unacceptable in all foam blowing end-uses (appendix M to subpart G of 40 CFR part 82). HCFC-141b has an ozone depletion potential (ODP) of 0.11. |
| All Foam Blowing end-uses | HCFC-22, HCFC-142b, and blends thereof | Unacceptable effective September 18, 2015. Closed cell foam products and products containing | Use or introduction into interstate commerce of virgin HCFC-22 and HCFC-142b for foam blowing is prohibited |

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| | | closed cell foams manufactured with these substitutes on or before December 1, 2017 may be used after that date | after January 1, 2010 under EPA's regulations at 40 CFR part 82 subpart A unless used, recovered, and recycled. These compounds have ODPs of 0.055 and 0.065, respectively. |
| Flexible Polyurethane | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof | Unacceptable as of January 1, 2017, except where allowed under a narrowed use limit | These foam blowing agents have global warming potentials (GWPs) ranging from 725 to 1,430. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Polystyrene: Extruded Sheet | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6 | Unacceptable as of January 1, 2017, except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before December 1, 2017 may be used after that date | These foam blowing agents have GWPs ranging from higher than 370 to approximately 1,500. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Phenolic Insulation Board and Bunstock | HFC-143a, HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof | Unacceptable as of January 1, 2017, except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before December 1, 2017 may be used after that date | These foam blowing agents have GWPs ranging from 725 to 4,470. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Integral Skin Polyurethane | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6 | Unacceptable as of January 1, 2017, except where allowed under a narrowed use limit | These foam blowing agents have GWPs ranging from higher than 370 to approximately 1,500. Other substitutes will be available for this end-use with lower overall risk to human health and the |

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| | | | environment by the status change date. |
| Rigid Polyurethane: Slabstock and Other | HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6 | Unacceptable as of January 1, 2019, except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2019, may be used after that date | These foam blowing agents have GWPs ranging from higher than 370 to approximately 1,500. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Rigid Polyurethane and Polyisocyanurate Laminated Boardstock | HFC-134a, HFC-245fa, HFC-365mfc and blends thereof | Unacceptable as of January 1, 2017, except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before December 1, 2017 may be used after that date | These foam blowing agents have GWPs ranging from 725 to 1,430. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Rigid Polyurethane: Marine Flotation Foam | HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6 | Unacceptable as of January 1, 2020 except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2020, may be used after that date | These foam blowing agents have GWPs ranging from higher than 370 to approximately 1,500. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Rigid Polyurethane: Commercial Refrigeration and Sandwich Panels | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6 | Unacceptable as of January 1, 2020 except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before | These foam blowing agents have GWPs ranging from higher than 370 to approximately 1,500. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |

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| | | January 1, 2020, may be used after that date | |
| Rigid Polyurethane: Appliance | HFC-134a, HFC-245fa, HFC-365mfc and blends thereof; Formacel TI, and Formacel Z-6 | Unacceptable as of January 1, 2020, except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2020, may be used after that date | These foam blowing agents have GWPs ranging from higher than 370 to approximately 1,500. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Polystyrene: Extruded Boardstock and Billet | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, Formacel B, and Formacel Z-6 | Unacceptable as of January 1, 2021, except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2021, may be used after that date | These foam blowing agents have GWPs ranging from higher than 140 to approximately 1,500. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Polyolefin | HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; Formacel TI, and Formacel Z-6 | Unacceptable as of January 1, 2020, except where allowed under a narrowed use limit Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2020, may be used after that date | These foam blowing agents have GWPs ranging from higher than 370 to approximately 1,500. Other substitutes will be available for this end-use with lower overall risk to human health and the environment by the status change date. |

**FIRE SUPPRESSION AND EXPLOSION PROTECTION AGENTS—UNACCEPTABLE SUBSTITUTES**

| End-use | Substitute | Decision | Further information |
|---|---|---|---|
| Total Flooding | HCFC-22 | Unacceptable effective September 18, 2015 | Use or introduction into interstate commerce of virgin HCFC-22 for total flooding fire suppression and explosion protection is prohibited as of January 1, 2010 under EPA's regulations at 40 CFR part 82 subpart A. |

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| | | | This chemical has an ozone depletion potential of 0.055. |

### STERILANTS—UNACCEPTABLE SUBSTITUTES

| End-use | Substitute | Decision | Further information |
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| Sterilants | Blends containing HCFC-22 | Unacceptable effective September 18, 2015 | Use or introduction into interstate commerce of virgin HCFC-22 for sterilants is prohibited as of January 1, 2010 under EPA's regulations at 40 CFR part 82 subpart A. This chemical has an ozone depletion potential of 0.055. |

### ADHESIVES, COATINGS AND INKS—UNACCEPTABLE SUBSTITUTES

| End-use | Substitute | Decision | Further information |
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| Adhesives, coatings and inks | HCFC-141b and blends thereof | Unacceptable effective September 18, 2015 | Use or introduction into interstate commerce of virgin HCFC-141b for adhesives, coatings and inks is prohibited as of January 1, 2015 under EPA's regulations at 40 CFR part 82 subpart A. This chemical has an ozone depletion potential of 0.11. |

[80 FR 42953, July 20, 2015, as amended at 81 FR 86885, Dec. 1, 2016]

**Appendix V to Subpart G of Part 82—Substitutes Subject to Use Restrictions and Unacceptable Substitutes Listed in the December 1, 2016 Final Rule**

**REFRIGERANTS—ACCEPTABLE SUBJECT TO USE CONDITIONS**

| End-use | Substitute | Decision | Use conditions | Further information |
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| Commercial ice machines (self-contained) (new only) | Propane (R-290) | Acceptable, subject to use conditions | As of January 3, 2017: This refrigerant may be used only in new equipment designed specifically and clearly identified for the refrigerant—*i.e.*, this refrigerant may not be used as a conversion or "retrofit" refrigerant for existing equipment | Applicable OSHA requirements at 29 CFR part 1910 must be followed, including those at 29 CFR 1910.106 (flammable and combustible liquids), 1910.110 (storage and handling of liquefied petroleum gases), 1910.157 (portable fire extinguishers), and 1910.1000 (toxic and hazardous substances). |
| | | | This refrigerant may be used only in self-contained commercial ice machines that meet all requirements listed in Supplement SA to UL 563.[125] In cases where this rule includes requirements more stringent than those in UL 563, the equipment must meet the requirements of the final rule in place of the requirements in the UL Standard | |

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| | | | The charge size must not exceed 150g (5.29 oz) in each refrigerant circuit of a commercial ice machine | Proper ventilation should be maintained 03at 02all 03times 02during |
| | | | As provided in clauses SA6.1.1 and SA6.1.2 of UL 563, the following markings must be attached at the locations provided and must be permanent: | the manufacture and storage of equipment containing hydrocarbon 01refrigerants 01through |
| | | | (a) "DANGER—Risk of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing." This marking must be provided on or near any evaporators that can be contacted by the consumer | adherence to good manufacturing practices as per 29 CFR 1910.106. If refrigerant levels in the air surrounding the equipment 11rise 11above 11one- |
| | | | (b) "DANGER—Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired | fourth of the lower flammability limit, the space should be evacuated and re-entry should occur only after the space has been properly ventilated. |

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| | | | Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing." This marking must be located near the machine compartment | |
| | | | (c) "CAUTION— Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service This Product. All Safety Precautions Must be Followed." This marking must be located near the machine compartment | Technicians and equipment manufacturers should wear appropriate personal protective 23equipment, 23including |
| | | | (d) "CAUTION— Risk of Fire or Explosion. Dispose of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used." This marking must be provided on the exterior of the refrigeration equipment | chemical goggles and protective gloves, when handling propane. Special care should be 01taken 02to 02avoid 01contact 01with |
| | | | (e) "CAUTION— | the skin since propane, like many |

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| | | | Risk of Fire or Explosion Due To Puncture Of Refrigerant Tubing; Follow Handling Instructions Carefully. Flammable Refrigerant Used." This marking must be provided near all exposed refrigerant tubing | refrigerants, can cause freeze burns on the skin. |
| | | | All of these markings must be in letters no less than 6.4 mm ( ¼ inch) high The 05equipment 05must 05have 05red 05Pantone 05Matching 05System | A Class B dry powder type fire extinguisher should be kept nearby. |
| | | | (PMS) #185 marked pipes, hoses, or other devices through which the refrigerant passes, to indicate the use of a flammable refrigerant. This color must be applied at all service ports and other parts of the system where service puncturing or other actions creating an opening from the refrigerant circuit | Technicians should only use spark-proof tools when working on equipment with propane.<br>Any recovery equipment used should be designed for flammable refrigerants.<br>Any refrigerant releases should be in a well-ventilated area, such as outside of a building.<br>Only technicians specifically trained in handling flammable refrigerants should service equipment containing propane.<br>Technicians should gain an understanding of minimizing the risk of fire and the steps to use flammable refrigerants safely.<br>Room occupants should evacuate the space immediately following the accidental release of this refrigerant.<br>If a service port is added then, |

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| | | | to the atmosphere might be expected and must extend a minimum of one (1) inch in both directions from such locations | commercial ice machines or equipment using propane should have service aperture fittings that differ from fittings used in equipment or containers using non-flammable refrigerant. "Differ" means that either the diameter differs by at least 1/16 inch or the thread direction is reversed (*i.e.*, right-handed 06vs. 06left-handed). |
| | | | | These different fittings should be permanently affixed to the unit at the point of service and maintained until the end-of-life of the unit, and should not be accessed with an adaptor. |
| Very low temperature refrigeration equipment (new only) | Propane (R-290) | Acceptable, subject to use conditions | As of January 3, 2017: This refrigerant may be used only in new equipment designed specifically and clearly identified for the refrigerant—*i.e.*, this refrigerant may not be used as a conversion or "retrofit" refrigerant for existing equipment | Applicable OSHA requirements at 29 CFR part 1910 must be followed, including those at 29 CFR 1910.106 (flammable and combustible liquids), 1910.110 (storage and handling of liquefied petroleum gases), 1910.157 (portable fire extinguishers), and 1910.1000 (toxic and hazardous substances). |
| | | | This refrigerant may be used only in self-contained commercial ice machines that meet all requirements listed in Supplement SA to UL 563.[125] In cases where this rule includes requirements more stringent than those | |

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| | | | in UL 563, the equipment must meet the requirements of the final rule in place of the requirements in the UL Standard | |
| | | | The charge size for the equipment must not exceed 150 grams (5.29 ounces) in each refrigerant circuit of the very low temperature refrigeration equipment | Proper ventilation should be maintained at all times during the 05manufacture 05and 05storage |
| | | | As provided in clauses SA6.1.1 and SA6.1.2 of UL 563, the following markings must be attached at the locations provided and must be permanent: | of equipment containing hydrocarbon refrigerants through adherence 06to 05good 05manufac- |
| | | | (a) "DANGER—Risk of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing." This marking must be provided on or near any | turing practices as per 29 CFR 1910.106. If refrigerant levels in the air surrounding the equipment rise above one-fourth of the lower flammability |

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| | | | evaporators that can be contacted by the consumer | |
| | | | (b) "DANGER—Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing." This marking must be located near the machine compartment | limit, the space should be evacuated and re-entry should occur only after the space has been properly ventilated. |
| | | | (c) "CAUTION—Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service This Product. All Safety Precautions Must be Followed." This marking must be located near the machine compartment | Technicians and equipment manufacturers should wear appropriate personal protective equipment, including chemical 03goggles 04and 04protec- |
| | | | (d) "CAUTION—Risk of Fire or Explosion. Dispose of Properly In Accordance With Federal Or Local | tive gloves, when handling propane. Special care should be taken to avoid contact with the skin since propane, like many refrigerants, can cause freeze burns on the skin. |

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| | | | Regulations. Flammable Refrigerant Used." This marking must be provided on the exterior of the refrigeration equipment | |
| | | | (e) "CAUTION— Risk of Fire or Explosion Due To Puncture Of Refrigerant Tubing; Follow Handling Instructions Carefully. Flammable Refrigerant Used." This marking must be provided near all exposed refrigerant tubing | A Class B dry powder type fire extinguisher should be kept nearby. Technicians 13should 12only 13use |
| | | | All of these markings must be in letters no less than 6.4 mm ( ¼ inch) high | spark-proof tools when working 08on 09equipment 08with 08pro- |
| | | | The equipment must have red Pantone Matching System (PMS) #185 marked pipes, hoses, or other devices through which the refrigerant passes, to indicate the use of a flammable refrigerant. This color must be | pane.<br>Any recovery equipment used should be designed for flammable refrigerants. Any refrigerant releases should be in a well-ventilated area, such as outside of a building.<br>Only technicians specifically trained in handling flammable refrigerants should service equipment containing propane. Technicians should gain an understanding of minimizing the risk of fire and the steps to use flammable refrigerants safely. |

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| | | | applied at all service ports and other parts of the system where service puncturing or other actions creating an opening from the refrigerant circuit to the atmosphere might be expected and must extend a minimum of one (1) inch in both directions from such locations | Room occupants should evacuate the space immediately following the accidental release of this refrigerant. |
| | | | | If a service port is added then, commercial ice machines or equipment using propane should have service aperture fittings that differ from fittings used in equipment or containers using non-flammable refrigerant. "Differ" means that either the diameter differs by at least 1/16 inch or the thread direction is reversed (*i.e.*, right-handed 06vs. 06left-handed). |
| | | | | These different fittings should be permanently affixed to the unit at the point of service and maintained until the end-of-life of the unit, and should not be accessed with an adaptor. |
| Water coolers (new only) | Propane (R-290) | Acceptable, subject to use conditions | As of January 3, 2017: This refrigerant may be used only in new equipment designed specifically and clearly identified for the refrigerant—*i.e.*, this refrigerant may not be used as | Applicable OSHA requirements at 29 CFR part 1910 must be followed, including those at 29 CFR 1910.94 (ventilation) and 1910.106 (flammable and combustible liquids), 1910.110 (storage and handling of liquefied petroleum gases), 1910.157 (portable fire extin-guishers),05and031910.100004(toxic and hazardous substances). |

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| | | | a conversion or "retrofit" refrigerant for existing equipment This refrigerant may be used only in water coolers that meet all requirements listed in Supplement SB to UL 399[1 2 3] In cases where the rule includes requirements more stringent than those of the UL 399, the appliance must meet the requirements of the final rule in place of the requirements in the UL Standard | |
| | | | The charge size must not exceed 60 grams (2.12 ounces) per refrigerant circuit in the water cooler The equipment must have red PMS #185 marked pipes, hoses, or other devices through which the refrigerant passes, to indicate the use of a flammable refrigerant. This color must be applied at all service ports and other parts of the system where service puncturing | Proper ventilation should be maintained at all times during the manufacture and storage of equipment containing hydrocarbon refrigerants through adherence to good manufacturing practices as per 29 CFR 1910.106. If refrigerant levels in the air surrounding the equipment rise above one-fourth of the lower flammability limit, the space should be evacuated and re-entry should occur only after the space has been properly ventilated. |

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| | | | or other actions creating an opening from the refrigerant circuit to the atmosphere might be expected and must extend a minimum of one (1) inch in both directions from such locations As provided in clauses SB6.1.2 to SB6.1.5 of UL 399, the following markings must be attached at the locations provided and must be permanent: (a) "DANGER— Risk of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. 04Do 04Not 04Puncture 04Refrigerant 04Tubing." 04This | |
| | | | marking must be provided on or near any evaporators that can be contacted by the consumer (b) "DANGER— Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired | Technicians and equipment manufacturers should wear appropriate personal protective equipment, including chemical goggles and protective gloves, when handling propane. Special care should be taken to avoid contact with the skin since propane, like many refrigerants, can cause freeze burns on the skin. |

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| | | | Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing." This marking must be located near the machine compartment | |
| | | | (c) "CAUTION— Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service This Product. All Safety Precautions Must be Followed." This marking must be located near the machine compartment | A Class B dry powder type fire extinguisher should be kept nearby. Technicians should only use spark-proof 05tools 05when 05work- |
| | | | (d) "CAUTION— Risk of Fire or Explosion. Dispose of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used." This marking must be provided on the exterior of the refrigeration equipment | ing on equipment with flammable refrigerants. Any recovery equipment used should 03be 03designed 03for 03flam- |
| | | | (e) "CAUTION— | mable refrigerants. |

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| | | | Risk of Fire or Explosion Due To Puncture Of Refrigerant Tubing; Follow Handling Instructions Carefully. Flammable Refrigerant Used." This marking must be provided near all exposed refrigerant tubing | Any refrigerant releases should be in a well-ventilated area, such as outside of a building.<br>Only technicians specifically trained in handling flammable refrigerants should service equipment containing propane.<br>Technicians should gain an understanding of minimizing the risk of fire and the steps to use flammable refrigerants safely.<br>Room occupants should evacuate the space immediately following the accidental release of this refrigerant.<br>If a service port is added, then water coolers or equipment using propane should have service aperture fittings that differ from fittings used in equipment or containers using non-flammable refrigerant. "Differ" means that either the diameter differs by at least 1/16 inch or the thread direction is reversed (*i.e.*, right-handed vs. left-handed). 10These 10different |
| | | | | fittings should be permanently affixed to the unit at the point of service and maintained until the end-of-life of the unit, and should not be accessed with an adaptor. |

[1]The Director of the Federal Register approves this incorporation by reference (5 U.S.C. 552(a) and 1 CFR part 51). You may inspect a copy at U.S. EPA's Air and Radiation Docket; EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC or at the National Archives and Records Administration (NARA). For questions regarding access to these standards, the telephone number of EPA's Air and Radiation Docket is 202-566-1742. For information on the availability of this material at NARA, call 202-741-6030, or go to: *http://www.archives.gov/ federal__register/ code__ of__ federal__ regulations/ ibr__locations. ht ml.*

[2]You may obtain the material from: Underwriters Laboratories Inc. (UL) COMM 2000; 151 Eastern Avenue, Bensenville, IL 60106; *orders@comm-2000.com*; 1- 888-853-3503 in the U.S. or Canada (other countries dial +1-415- 352-2168); *http://ulstandards.ul.com/* or *www.comm-2000.com.*

[3]UL 399, Standard for Safety: DrinkingWater Coolers.—Supplement SB: Requirements for Drinking Water Coolers Employing a Flammable Refrigerant in the Refrigerating System, 7th edition, Dated August 22, 2008, including revisions through October 17, 2013.

[4]UL 471, Standard for Safety: Commercial Refrigerators and Freezers—Supplement SB: Requirements for Refrigerators and Freezers Employing a Flammable Refrigerant in the Refrigerating System, 10th edition, Dated November 24, 2010.

[5]UL 563, Standard for Safety: Ice Makers.—Supplement SA: Requirements for Ice Makers Employing a Flammable Refrigerant in the Refrigerating System, 8th edition, Dated July 31, 2009, including revisions through November 29, 2013.

**REFRIGERANTS—SUBSTITUTES ACCEPTABLE SUBJECT TO NARROWED USE LIMITS**

| End-use | Substitutes | Decision | Narrowed use limits | Further information |
|---|---|---|---|---|
| Centrifugal chillers (new only) | HFC-134a | Acceptable subject to narrowed use limits | Acceptable after January 1, 2024, only in military marine vessels where reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Application in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and qualified and projected time for switching. |
| Centrifugal chillers (new only) | HFC-134a and R-404A | Acceptable subject to narrowed use limits | Acceptable after January 1, 2024, only in 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 | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Application in which the substitute is needed;<br>• Substitutes examined and rejected; |

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| | | | | • Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and qualified and projected time for switching. |
| Positive displacement chillers (new only) | HFC-134a | Acceptable subject to narrowed use limits | Acceptable after January 1, 2024, only in military marine vessels where reasonable efforts have been made to ascertain that other alternatives are not technically feasible due to performance or safety requirements | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Application in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and qualified and projected time for switching. |
| Positive displacement chillers (new only) | HFC-134a and R-404A | Acceptable subject to narrowed use limits | Acceptable after January 1, 2024, only in 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 | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Application in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of |

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| | | | | other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and qualified and projected time for switching. |

**REFRIGERANTS—UNACCEPTABLE SUBSTITUTES**

| End-use | Substitutes | Decision | Further information |
|---|---|---|---|
| Centrifugal chillers (new only) | 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), and THR-03 | Unacceptable as of January 1, 2024 except where allowed under a narrowed use limit | These refrigerants have GWPs ranging from approximately 900 to 9,810. Other alternatives will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Centrifugal chillers (new only) | Propylene (R-1270) and R-443A | Unacceptable as of January 3, 2017 | These refrigerants are highly photochemically reactive in the lower atmosphere and may deteriorate local air quality (that is, may increase ground level ozone). Other alternatives are available for this end-use with lower overall risk to human health and the environment. |
| Cold storage warehouses (new only) | 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- | Unacceptable as of January 1, 2023 | These refrigerants have GWPs ranging from approximately 2,090 to 3,990. Other alternatives will be available for this end-use with lower overall risk to human health and |

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| | 438A, R-507A, and RS-44 (2003 composition) | | the environment by the status change date. |
| Cold storage warehouses (new only) | Propylene (R-1270) and R-443A | Unacceptable as of January 3, 2017 | These refrigerants are highly photochemically reactive in the lower atmosphere and may deteriorate local air quality (that is, may increase ground level ozone). Other alternatives are available for this end-use with lower overall risk to human health and the environment. |
| Household refrigerators and freezers (new only) | 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, and THR-03 | Unacceptable as of January 1, 2021 | These refrigerants have GWPs ranging from approximately 900 to 3,985. Other alternatives will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Positive displacement chillers (new only) | 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, and THR-03 | Unacceptable as of January 1, 2024 except where allowed under a narrowed use limit | These refrigerants have GWPs ranging from approximately 900 to 3,985. Other alternatives will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Positive displacement chillers (new only) | Propylene (R-1270) and R-443A | Unacceptable as of January 3, 2017 | These refrigerants are highly photochemically reactive in the lower atmosphere and may deteriorate local air quality (that is, may increase |

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| | | | ground level ozone). Other alternatives are available for this end-use with lower overall risk to human health and the environment. |
| Residential and light commercial air conditioning and heat pumps (new only) | Propylene (R-1270) and R-443A | Unacceptable as of January 3, 2017 | These refrigerants are highly photochemically reactive in the lower atmosphere and may deteriorate local air quality (that is, may increase ground level ozone). Other alternatives are available for this end-use with lower overall risk to human health and the environment. |
| Residential and light commercial air conditioning—unitary split AC systems and heat pumps (retrofit only) | All refrigerants identified as flammability Class 3 in ANSI/ASHRAE Standard 34-2013[1 2 3]<br>All refrigerants meeting the criteria for flammability Class 3 in ANSI/ASHRAE Standard 34-2013. This includes, but is not limited to, refrigerant products sold under the names R-22a, 22a, Blue Sky 22a refrigerant, Coolant Express 22a, DURACOOL-22a, EC-22, Ecofreeez EF-22a, Envirosafe 22a, ES-22a, Frost 22a, HC-22a, Maxi-Fridge, MX-22a, Oz-Chill 22a, Priority Cool, and RED TEK 22a | Unacceptable as of January 3, 2017 | These refrigerants are highly flammable and present a flammability risk when used in equipment designed for nonflammable refrigerants. Other alternatives are available for this end-use with lower overall risk to human health and the environment. |
| Retail food refrigeration (refrigerated food processing and dispensing equipment) (new only) | 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- | Unacceptable as of January 1, 2021 | These refrigerants have GWPs ranging from approximately 1,770 to 3,990. Other alternatives will be available for this end-use with lower overall risk to human health and |

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| | 434A, R-437A, R-438A, R-507A, RS-44 (2003 formulation) | | the environment by the status change date. |

[1]The Director of the Federal Register approves this incorporation by reference (5 U.S.C. 552(a) and 1 CFR part 51). You may inspect a copy at U.S. EPA's Air and Radiation Docket; EPA West Building, Room 3334, 1301 Constitution Ave. NW., Washington, DC or at the National Archives and Records Administration (NARA). For questions regarding access to this standard, the telephone number of EPA's Air and Radiation Docket is 202-566-1742. For information on the availability of this material at NARA, call 202-741-6030, or go to: *http://www.archives.gov/federal__register/code__of__federal__regulations/ibr__locations.html.*

[2]You may obtain this material from: American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 6300 Interfirst Drive, Ann Arbor, MI 48108; 1-800-527-4723 in the U.S. or Canada; *http://www.techstreet.com/ashrae/ashrae__standards.html?ashrae__auth__token=.*

[3]ANSI/ASHRAE Standard 34-2013, Designation and Safety Classification of Refrigerants, 2013.

**FOAM BLOWING AGENTS—SUBSTITUTES ACCEPTABLE SUBJECT TO NARROWED USE LIMITS**

| End-use | Substitutes | Decision | Narrowed use limits | Further information |
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| Rigid PU: Spray foam—high-pressure two-component | HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with seven to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI | Acceptable subject to narrowed use limits | Acceptable from January 1, 2020, until January 1, 2025, only in 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<br>Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2025, may be used after that date | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or |

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| | | | | • Anticipated date other substitutes will be available and projected time for switching. |
| Rigid PU: Spray foam—low-pressure two-component | HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with seven to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI | Acceptable subject to narrowed use limits | Acceptable from January 1, 2021, until January 1, 2025, only in 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<br>Low pressure two-component spray foam kits manufactured with these substitutes on or before January 1, 2025, for military or space- and aeronautics-related applications may be used after that date | Users are required to document and retain the results of their technical investigation of alternatives for the purpose of demonstrating compliance. Information should include descriptions of:<br>• Process or product in which the substitute is needed;<br>• Substitutes examined and rejected;<br>• Reason for rejection of other alternatives, e.g., performance, technical or safety standards; and/or<br>• Anticipated date other substitutes will be available and projected time for switching. |

**FOAM BLOWING AGENTS—UNACCEPTABLE SUBSTITUTES**

| End-use | Substitutes | Decision | Further information |
|---|---|---|---|
| Flexible PU | Methylene chloride | Unacceptable as of January 3, 2017 | Methylene chloride is a carcinogen and may present a toxicity risk. Other alternatives are available for this end-use with lower overall risk to human health and the environment. |

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| Rigid PU: Spray foam—one component foam sealants | HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with seven to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI | Unacceptable as of January 1, 2020<br>One-component foam sealant cans manufactured with these substitutes on or before January 1, 2020, may be used after that date | These foam blowing agents have GWPs ranging from higher than 730 to approximately 1,500. Other alternatives will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Rigid PU: Spray foam—high-pressure two-component | HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with seven to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI | Unacceptable as of January 1, 2020, except where allowed under a narrowed use limit. Closed cell foam products and products containing closed cell foams manufactured with these substitutes on or before January 1, 2020, may be used after that date | These foam blowing agents have GWPs ranging from higher than 730 to approximately 1,500. Other alternatives will be available for this end-use with lower overall risk to human health and the environment by the status change date. |
| Rigid PU: Spray foam—low-pressure two-component | HFC-134a, HFC-245fa, and blends thereof; blends of HFC-365mfc with at least four percent HFC-245fa, and commercial blends of HFC-365mfc with seven to 13 percent HFC-227ea and the remainder HFC-365mfc; and Formacel TI | Unacceptable as of January 1, 2021, except where allowed under a narrowed use limit<br>Low pressure two-component spray foam kits manufactured with these substitutes on or before January 1, 2025, may be used after that date | These foam blowing agents have GWPs ranging from higher than 730 to approximately 1,500. Other alternatives will be available for this end-use with lower overall risk to human health and the environment by the status change date. |

**FIRE SUPPRESSION AND EXPLOSION PROTECTION AGENTS—ACCEPTABLE SUBJECT TO USE CONDITIONS**

| End-use | Substitute | Decision | Use conditions | Further information |
|---|---|---|---|---|
| Streaming | 2-BTP | Acceptable, subject to use conditions | As of January 3, 2017, acceptable only for use in handheld extinguishers in aircraft | This fire suppressant has a relatively low GWP of 0.23-0.26 and a short atmospheric lifetime of approximately seven days.<br>This agent is subject to requirements contained in a Toxic Substance Control Act (TSCA) section 5(e) Consent Order and any subsequent TSCA section 5(a)(2) Significant New Use Rule |

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| | | | | (SNUR).<br>For establishments manufacturing, installing and maintaining handheld extinguishers using this agent:<br>(1) Use of this agent should be used in accordance with the latest edition of NFPA Standard 10 for Portable Fire Extinguishers;<br>(2) In the case that 2-BTP is inhaled, person(s) should be immediately removed and exposed to fresh air; if breathing is difficult, person(s) should seek medical attention;<br>(3) Eye wash and quick drench facilities should be available. In case of ocular exposure, person(s) should immediately flush the eyes, including under the eyelids, with fresh water and move to a non-contaminated area;<br>(4) Exposed person(s) should remove all contaminated clothing and footwear to avoid irritation, and medical attention should be sought if irritation develops or persists;<br>(5) Although unlikely, in case of ingestion of 2-BTP, the person(s) should consult a physician immediately;<br>(6) Manufacturing space should be equipped with specialized engineering controls and well ventilated with a local exhaust system and low-lying source ventilation to effectively mitigate potential occupational exposure; regular testing and monitoring of the workplace atmosphere should be conducted;<br>(7) Employees responsible for chemical processing should wear the appropriate PPE, such as protective gloves, tightly sealed goggles, protective work clothing, and suitable respiratory protection in case of accidental release or insufficient ventilation;<br>(8) All spills should be cleaned up immediately in accordance with good |

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| | | | | industrial hygiene practices; and<br>(9) Training for safe handling procedures should be provided to all employees that would be likely to handle containers of the agent or extinguishing units filled with the agent. |
| Total flooding | 2-BTP | Acceptable, subject to use conditions | As of January 3, 2017, acceptable only for use in engine nacelles and auxiliary power units on aircraft | This fire suppressant has a relatively low GWP of 0.23-0.26 and a short atmospheric lifetime of approximately seven days.<br>This agent is subject to requirements contained in a TSCA section 5(e) Consent Order and any subsequent TSCA section 5(a)(2) SNUR.<br>For establishments manufacturing, installing, and servicing engine nacelles and auxiliary power units on aircraft using this agent:<br>(1) This agent should be used in accordance with the safety guidelines in the latest edition of the National Fire Protection Association (NFPA) 2001 Standard for Clean Agent Fire Extinguishing Systems;<br>(2) In the case that 2-BTP is inhaled, person(s) should be immediately removed and exposed to fresh air; if breathing is difficult, person(s) should seek medical attention;<br>(3) Eye wash and quick drench facilities should be available. In case of ocular exposure, person(s) should immediately flush the eyes, including under the eyelids, with fresh water and move to a non-contaminated area.<br>(4) Exposed person(s) should remove all contaminated clothing and footwear to avoid irritation, and medical attention should be sought if irritation develops or persists;<br>(5) Although unlikely, in case of ingestion of 2-BTP, the person(s) should consult a physician immediately; |

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| | | | | (6) Manufacturing space should be equipped with specialized engineering controls and well ventilated with a local exhaust system and low-lying source ventilation to effectively mitigate potential occupational exposure; regular testing and monitoring of the workplace atmosphere should be conducted;<br>(7) Employees responsible for chemical processing should wear the appropriate PPE, such as protective gloves, tightly sealed goggles, protective work clothing, and suitable respiratory protection in case of accidental release or insufficient ventilation;<br>(8) All spills should be cleaned up immediately in accordance with good industrial hygiene practices;<br>(9) Training for safe handling procedures should be provided to all employees that would be likely to handle containers of the agent or extinguishing units filled with the agent;<br>(10) Safety features that are typical of total flooding systems such as pre-discharge alarms, time delays, and system abort switches should be provided, as directed by applicable OSHA regulations and NFPA standards; use of this agent should also conform to relevant OSHA requirements, including 29 CFR 1910, subpart L, sections 1910.160 and 1910.162. |

[81 FR 86889, Dec. 1, 2016]

**Excerpt of Item 378 as it reads in Chapter 56 of the 2020 Special Session I Acts of Assembly** (Note, the non-italicized language is the language as enacted by Chapter 1289 of the 2020 Acts of Assembly and the italicized language is that enacted by Chapter 56 of the 2020 Special Session I Acts of Assembly)

Item 378 B.2. The State Air Pollution Control Board shall adopt regulations to prohibit the sale, lease, rent, installation or entry into commerce in Virginia of any products or equipment that use or will use hydrofluorocarbons for the applications and end uses restricted by Appendix U and Appendix V of Subpart G of 40 C.F.R. Part 82, as those read on January 3, 2017. *Notwithstanding the foregoing, such regulations shall not prohibit the use of hydrofluorocarbons in the manufacturing process by extruded polystyrene boardstock and billet manufacturers located in Virginia to produce products for sale and distribution outside of the Commonwealth, until the Board has solicited input from such manufacturers in order to determine and set by regulation a feasible date by which such manufacturers must be required to comply. In developing regulations, the Board shall solicit input from a workgroup of relevant stakeholders assembled by the Department.*

3. The regulations adopted by the State Air Pollution Control Board to initially implement the provisions of this item shall be exempt from Chapter 40 of Title 2.2, Code of Virginia, and shall become effective no later than July 1, 2021. Thereafter, any amendments to the fee schedule described by these acts shall not be exempted from Chapter 40 of Title 2.2, Code of Virginia.

**COMMONWEALTH OF VIRGINIA**
**STATE AIR POLLUTION CONTROL BOARD**

**WORK GROUP**
**CONCERNING**

# A HYDROFLUOROCARBON EXTRUDED POLYSTYRENE (XPS) BOARDSTOCK COMPLIANCE DATE

## Panel Facilitator

Michael Dowd, DEQ

## Relevant Stakeholders

Jessica Olsen, Honeywell (Alternate: John Szymanski)
Ming Xie, Kingspan Insulation LLC
Lisa Massaro, Dupont
Schuyler Pulleyn, The Chemours Company
Paul Lewandowski, Owens Corning
Frank Rambo, Southern Environmental Law Center
Walton Shepard, National Resources Defense Council (Alternate: Christina Theodoridi)

## DEQ Staff

Gary Graham, DEQ, Agency Contact
Amy Kasper, DEQ, Staff Support

# COMMONWEALTH of VIRGINIA

*DEPARTMENT OF ENVIRONMENTAL QUALITY*

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Matthew J. Strickler
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482


**MEMORANDUM**

TO: Members of the State Air Pollution Control Board

FROM: Cindy M. Berndt Cindy Berndt

DATE: March 22, 2021

SUBJECT: Minutes

Attached are the minutes from your meeting on December 3, 2020. Staff will seek your approval of the minutes at your next regular meeting.

If you have any questions, please contact me at (804) 698-4378 or cindy.berndt@deq.virginia.gov.

**MINUTES**
STATE AIR POLLUTION CONTROL BOARD MEETING

THURSDAY, DECEMBER 3, 2020

ELECTRONIC COMMUNICATION MEETING

**Board Members Present:**

Roy A. Hoagland, Chair
Kajal B. Kapur, Vice-Chair
Richard D. Langford
Staci F. Rijal
Dr. Lornel G. Tompkins
Hope F. Cupit
Gail Bush (Ms. Bush left the meeting for the duration of the permit agenda item)

**Board Members Absent:** None

**Department of Environmental Quality:**

David K. Paylor, Director
Cindy M. Berndt
Debra A. Harris

**Attorney General's Office:**

Paul Kugelman, Senior Assistant Attorney General/Section Chief

These minutes summarize activities that took place at this Board meeting. The meeting was convened at 10:00 a.m., recessed at 1:12 p.m., reconvened at 1:45 p.m., recessed at 1:47 p.m. (office closure), reconvened at 3:04 p.m., and adjourned at 6:35 p.m.

The Board convened the meeting electronically consistent with Governor Ralph Northam's Executive Order No. 51 (2020), Item 4-0.01 g of Chapter 1289 of the 2020 Acts of Assembly and the applicable provisions of § 2.2-3708.2 of the Freedom of Information Act. Further, the Board stated that a meeting was necessary for the Board to discharge its lawful purposes, duties, and responsibility; but impracticable or unsafe for the Board to assemble in a single location due to the declaration of a state of emergency for COVID-19.

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**Minute No. 1 - Review and Approval of Agenda**: The Board, on a motion by Mr. Langford and seconded by Ms. Tompkins, unanimously approved the agenda as announced. The vote, taken by roll call was 7 - 0.

**Minute No. 2 - September 17, 2020, Minutes**: The Board, on a motion by Ms. Cupit and seconded by Ms. Kapur, approved the minutes from the Board's meeting on September 17, 2020. The vote, taken by roll call, was 7-0.

**Minute No. 3 - U.S. Navy Norfolk Naval Shipyard Draft Prevention of Significant Deterioration Permit and Stationary Source Permit to Construct and Operate - Registration # 60326**: Mr. Michael G. Dowd, Director of the Division of Air and Renewable Energy, and Mr. Patrick Corbett presented the draft Prevention of Significant Deterioration Permit and Stationary Source Permit to Construct and Operate for the U.S. Navy Norfolk Naval Shipyard (Shipyard) Registration # 60326 for the Board's consideration.

The staff presentation included information on Board permit review processes, a summary of the project, an overview of the applicable permitting law and regulation, detailed information on the Department's preliminary determination on the permit (proposed emission limits, air quality analyses, BACT), and a summary of public comments and response. The staff presentation also included information on factors considered under § 10.1-1307 E of the Code of Virginia and environmental justice.

In summary, Mr. Dowd advised the Board that (i) the draft permit requires state of the art air pollution control technology, (ii) environmental risks faced by residents of area will not be worsened by proposed CHP plant and area's air quality will remain substantially cleaner than that of state as a whole, (iii) air modeling indicates emissions from the proposed CHP plant will not result in a statistically significant negative effect to existing air quality, and (iv) no data indicate CHP plant would impose any disproportionate adverse environmental or health impacts on surrounding area.

The Board then heard from Captain Butler and other representatives of the Shipyard who made brief comments on the draft permit and responded to questions from the Board. The Board then received comments from Narissa Turner, Lauren Landis, Darya Minovi, Bob Albertini, Ariel Solaski, Tess Amoruso, Mary Finley-Brook, Ralph Grove and Lynn Godfrey. Captain Butler returned to make additional comments; and he and other representatives of the Shipyard answered additional questions from the Board.

After hearing public comment and asking additional questions, the Board requested staff recommendations on the draft permit.

Staff Recommendations: Mr. Dowd informed the Board that the staff based its recommendation to the Board on public comments received during the public comment period, explanations of the previously received comments, and information contained in the agency files; and presented the following staff recommendation:

The staff recommends that the Board, based on

(1) the Board book material that contains a memorandum to the Board, a copy of the draft final permit, a track change copy of the permit engineering analysis, a list of commenters and a sampling of all written comments received; and a summary of and response to public comments;
(2) the public comments made available to the Board;
(3) the agency files on the draft permit, including the application for a permit;
(4) public comments made at the Board meeting;
(5) the staff presentation; and
(6) Board discussions,

and based on consideration of the reasonableness of the activity involved and the regulations proposed to control it pursuant to § 10.1-1307E,

(1) find that:
(a) the permit has been prepared in conformance with all applicable statutes, regulations and agency practices;
(b) the limits and conditions in the permit have been established to protect public health and the environment; and
(c) all public comments relevant to the permit have been considered;

2. approve the permit and conditions as presented today; and
3. authorize the Director to issue the permit as approved by the Board.

The staff further recommends that the Board incorporate the above-referenced memorandum, permit engineering analysis, and response to comments into its decision to approve the permit.

Board Decisions: The Board then discussed and acted on the following motions regarding the draft permit:

Motion by Ms. Kapur, and seconded by Ms. Cupit, that the Board determine that the community impacted by the facility is an environmental justice community. The vote, recorded by roll call, was 6 - 0.

Motion by Ms. Rijal, and seconded by Mr. Langford, that the Board conclude, after considering the competing evidence received from the applicant, the Department, and the public comment and resolving the conflicts by vote, that particulate matter emitted from the facility does not have a disproportionate impact on the environmental justice community. The vote, recorded by roll call, was 5 - 0 with Ms. Cupit abstaining

Motion by Mr. Langford, and seconded by Ms. Kapur, that based on competing evidence received from the applicant and agency and public comment, conclude that air emissions from the facility will have no disproportionate impact on an environmental justice community. The vote, recorded by roll call, was 6 - 0.

Motion by Mr. Langford, and seconded by Ms. Rijal, that the Board conclude, in light of the facts presented to the Board, that the provisions of § 10.1-1307 E of the Code of Virginia have been met and complied with. The vote, recorded by roll call, was 4 - 2 with Mr. Langford, Ms. Tompkins, Ms. Kapur, and Ms. Rijal voting aye and Mr. Hoagland and Ms. Cupit voting no.

The Board then, on a motion made by Mr. Langford and seconded by Ms. Tompkins, approved the staff recommendations. The vote, recorded by roll call, was 5 - 1 with Ms. Cupit voting no.

**Minute No. 4 - Future Meetings:** The Board confirmed April 23, June 25, September 27 and December 3, 2021, as the dates of their future meetings.

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Cindy M. Berndt

(Note: Due to the length of time spent on the permit action, the following items on the agenda were not brought up: High Priority Violators Report, Director/Division Director Report, Public Engagement Committee Update, Board Member/Public Communications Discussion, and Public Forum.)

# REPORT TO THE STATE AIR POLLUTION CONTROL BOARD CONCERNING HIGH PRIORITY VIOLATIONS (HPVs) FOR THE FIRST QUARTER 2021

## NOVs Issued from October through December 2020

None to Report.

## Consent Orders issued from October through December 2020

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| **BRRO** | **Southern Finishing Company, Inc.**<br>Martinsville, Virginia<br>Registration No. 30515 | **Discovery Date:** 10/2/2019<br>**Alleged Violation:**<br>Excess opacity observed during VEE; missing MACT DDDDD compliance reporting; missing required MACT JJ certification for how facility complies with formaldehyde usage. | **NOV:** Issued 11/13/2019<br>**Consent Order executed 12/22/2020 including a civil charge of $23,985.** |

## Consent Orders in Development – Previously Reported NOVs

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| **BRRO** | **Dynax America Corp USA**<br>Roanoke, Virginia<br>Registration No. 21279 | **Discovery Dates:** 3/31/2020<br>**Alleged Violations:**<br>Exceeded limit for total annual HCL throughput and failed to report the deviation. | **NOV:** Issued 6/2/2020 |
| **BRRO** | **Lhoist North America – Kimballton Plant**<br>Ripplemead. Virginia<br>Registration No. 20225 | **Discovery Date:** 4/23/2020<br>**Alleged Violations:**<br>Continuous Opacity Monitoring System not calibrated in accordance with MACT AAAAA requirements. | **NOV:** Issued 5/27/2020 |
| **BRRO** | **U.S. Army – Radford Army Ammunition Plant**<br>Radford, Virginia<br>Registration No. 20656 | **Discovery Date:** 4/30/2020<br>**Alleged Violations:**<br>Failed to conduct twelve weekly Method 22 visible emissions observations and failed to report these deviations in Semi-Annual Monitoring Report. | **NOV:** Issued 5/13/2020 |
| **NRO** | **Buckeye Terminals LLC – Fairfax Terminal** | **Discovery Date**: 9/1/2020 | **NOV**: Issued 9/22/2020 |

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| | Fairfax, Virginia<br><br>Registration No. 70220 | **Alleged Violations**:<br><br>Exceeded VOCmg/liter loading loss limit during stack test; failure to complete required stack test; late submittal of stack test report and late reporting of exceedance. | |
| **PRO** | **AMPAC Fine Chemicals Virginia, LLC**<br><br>Petersburg, Virginia<br><br>Registration No. 50856 | **Discovery Date:** 5/8/2019<br><br>**Alleged Violations:**<br><br>Late submittal of Title V application, late submittal of notification of use of methelyne chloride, improper leak testing of chemical manufacturing process unit, missing or incomplete records and inspection plans. | **NOV:** Issued 8/12/2019 |
| **PRO** | **INGENCO – Amelia**<br><br>Jetersville, Virginia<br><br>Registration No. 31047 | **Discovery Date:** 5/10/2018<br><br>**Alleged Violations:**<br><br>Failed to maintain records as required by permit or regulation, exceeded inlet charge air temperature. | **NOV:** Issued 8/13/2018 |
| **PRO** | **INGENCO – Rockville Plant**<br><br>Rockville, Virginia<br><br>Registration No. 51201 | **Discovery Date:** 2/12/2020<br><br>**Alleged Violations:**<br><br>Failed to maintain records and failed to report deviations in Semi-Annual Monitoring Reports. | **NOV:** Issued 5/6/2020 |
| **PRO** | **Richmond Energy LLC**<br><br>Henrico, Virginia<br><br>Registration No. 52198 | **Discovery Date:** 8/12/2019<br><br>**Alleged Violation:**<br><br>Exceeded maximum sulfur content in landfill gas analysis; exceeded short term VOC and SO2 emissions limits during stack test | **NOV:** Issued 10/31/2019 |
| **VRO** | **Valley Proteins, Inc. - Linville**<br><br>Linville, Virginia<br><br>Registration No. 80144 | **Discovery Date:** 5/1/2020<br><br>**Alleged Violations:**<br><br>Failed stack test –exceeded the exemption emission rate for formaldehyde emissions. | **NOV:** Issued 6/15/2020 |