November 2, 2020

Massachusetts Department of Environmental Protection
Attn: Emily Lamb
One Winter Street, 6th Floor
Boston, MA 02108
climate.strategies@mass.gov

Re: Public Comments on the Proposed Regulation 310 CMR 7.76 Prohibitions on Use of Certain Hydrofluorocarbons in Refrigeration, Chillers, Aerosol Propellants, and Foam End-Uses

Dear Ms. Emily Lamb,

The Polyisocyanurate Insulation Manufacturers Association (PIMA) appreciates the opportunity to comment on the Massachusetts Department of Environmental Protection’s (MassDEP) proposed regulation for Prohibitions on Use of Certain Hydrofluorocarbons in Refrigeration, Chillers, Aerosol Propellants, and Foam End-Uses (proposed regulation).

PIMA represents North American manufacturers of laminated polyisocyanurate insulation board products (polyiso insulation).1 Our members include Atlas Roofing Corporation, Carlisle Construction Materials, Firestone Building Products, GAF, Johns Manville, IKO Industries, Rmax, and Soprema. These manufacturers account for the majority of polyiso insulation produced for North America, including product sold into Massachusetts. Importantly, PIMA members and the North American polyiso insulation industry do not use high-global warming potential (GWP) hydrofluorocarbons (HFCs) in the manufacture of their foam products.2 Therefore, and in recognition of our industry’s long-standing support for environmental leadership, we generally support MassDEP’s efforts to reduce harmful emissions of these greenhouse gases through the proposed regulation.

1 Additional information on polyiso insulation products is available at: https://www.polyiso.org/.

2 Additional information on the polyiso industry’s use of low-GWP blowing agent solutions is attached and available online at: https://www.polyiso.org/page/Low-GWPBlowingAgentSolution.
However, we have concerns with the proposed regulation’s requirements for disclosure statements (Section 5) and recordkeeping (Section 8) as applicable to manufacturers of polyiso insulation. Our concerns are outlined below.

I. PIMA supports the use prohibitions in Sections 4 and 6 of the proposed regulation and encourages MassDEP to finalize the regulations without modification to the effective dates or HFC use prohibitions for all foam end-uses.

As applicable to the foam end-use category, PIMA supports the use prohibitions as proposed in Sections 4 and 6. We specifically support the effective date of January 1, 2021 for the use prohibitions applicable to “rigid polyurethane and polyisocyanurate laminated boardstock” because the prohibited HFC substances are not used in the manufacture of polyiso insulation. Furthermore, we support the effective date of January 1, 2021 for the use prohibitions applicable to all other foam end-uses.

Importantly, MassDEP’s proposed regulation establishes a uniform playing field for products within the foam end-use category as it relates to the use restrictions for high-GWP HFC substances and blends thereof. This level playing field is imperative for the building foam insulation product sector in which many products are in direct competition with one another. This sector includes products such as polyiso insulation, spray polyurethane foam insulation, and expanded (EPS) and extruded (XPS) polystyrene insulation boardstock products. Low-GWP substitutes are commercially available and viable for all products in the building foam insulation sector, and the proposed regulation creates a uniform transition to more sustainable solutions for this entire sector. Specifically, we encourage MassDEP to reject any request by XPS insulation boardstock manufacturers to either delay the effective date of the use prohibitions or permit the continued use of high-GWP HFC blends in the manufacture of XPS products.

As currently drafted, Sections 4 and 6 of the proposed regulation ensure no manufacturer or foam insulation product type receives a competitive advantage due to unequal use restrictions for HFCs and blends thereof. Therefore, we strongly urge MassDEP to maintain the proposed use restrictions for the foam end-use category in the final rule and to reject any modifications that would permit the continued use of high-GWP substitutes or blends thereof for specific foam end-uses beyond the proposed effective date of January 1, 2021 (with the exception of the military, space and aeronautics exemptions included in Section 7 of the proposed regulation).
II. The proposed disclosure statement requirement in Section 5 of the proposed regulation is unnecessary and unwarranted as applied to polyiso insulation products, and exceeds the regulatory authority granted to MassDEP by Chapter 21N of the General Laws.

As explained above, the North American polyiso insulation industry does not use the prohibited HFC substances and has never used the substances in the manufacture of its products. More than twenty years ago, PIMA members transitioned to pentane (or pentane blends) as the blowing agent for the manufacture of polyiso insulation and have continued to use the low-GWP technology in the manufacture of products today. Therefore, applying the disclosure statement requirement to the polyiso industry is both unnecessary and unwarranted.

As drafted, the proposed regulation would require polyiso insulation manufacturers to make an affirmative statement about the use, or lack thereof, of substances that have never been used by the industry. There is no legitimate interest in this outcome unless MassDEP assumes that manufacturers may initiate the use of certain prohibited substances after such use becomes illegal. If this is the case, MassDEP has failed to provide any information suggesting that the polyiso insulation industry plans to use high-GWP HFCs in its manufacturing processes.

Second, in both the purpose statement (Section 1) and applicability statement (Section 3) of the proposed regulation, MassDEP clearly states that the regulations are intended to reduce HFC emissions by regulating products that use or will use a prohibited substance. PIMA believes a regulatory scope focused on ongoing or future uses of HFCs is appropriate and legitimately connected to MassDEP’s interest in reducing greenhouse gas emissions. Consistent with this understanding of MassDEP’s regulatory intent, any requirement that requires affirmative action by manufacturers that do not use the prohibited substances is clearly outside the scope of MassDEP’s interest. The fact that a specific product end-use category exists under the U.S. EPA’s SNAP program does not adequately justify the regulation of said end-use. Therefore, PIMA believes that regulating such end-uses like polyiso insulation by requiring affirmative action to provide disclosure statements falls outside of MassDEP’s regulatory authority and is not legitimately connected to MassDEP’s interest in reducing harmful emissions of HFCs.

Third, the statutory authority cited for the proposed regulations is Chapter 21N of the General Laws, which directs MassDEP to regulate the actual emissions of greenhouse gases like HFCs. However, this statutory authority does not extend to the regulation of merely plausible or hypothetical emission sources of greenhouse gases. Therefore, imposing a requirement for affirmative action (disclosure statement) on end-uses that do not use the regulated substances (in this instance, HFCs) would appear to exceed MassDEP’s regulatory authority granted by Chapter 21N of the General Laws.
To remedy this issue, PIMA proposes that MassDEP adopt either of the two modifications suggested below:

1. Under Section 3 Applicability, add a sentence that limits the applicability of the disclosure statement requirements of Section 5 to equipment or products that contain or use a substance listed as prohibited after a specific date (e.g., June 30, 2020 – six months prior to the first use restrictions) or where the use of the substance(s) is initiated or resumed after this date; or

2. Under Section 5(c) Disclosure Statement for foam products, add the following (new text emphasized): “For foam products except polyisocyanurate laminated boardstock, the disclosure or label shall include . . .”

PIMA believes that these proposed modifications are appropriate and do not interfere with MassDEP’s interest in reducing harmful emissions of HFCs, and we appreciate the Department’s consideration of our concerns.

III. Regardless of MassDEP’s acceptance of PIMA’s proposed modifications to limit the applicability of the disclosure statement requirement, MassDEP should clarify that the required disclosure statement or label can be affixed to the foam product or product packaging.

In general, foam products used in the building and construction sector are not specifically manufactured or labeled for a particular jurisdiction. We recognize MassDEP’s effort to align the proposed disclosure statement requirement for foam end-uses with the requirements of other jurisdictions implementing similar HFC restrictions. In furtherance of this alignment and to address unnecessary administrative burdens on the regulated entities, we strongly encourage MassDEP to clarify that the disclosure statement or label required by Section 5(c) for foam products can be affixed to the product or product packaging.

Product units (e.g., foam insulation board) in the foam sector may not be individually labeled. Such a requirement would impose a significant burden on manufacturers and likely require costly upgrades to manufacturing equipment. However, manufacturers of foam insulation products do affix labels to product packaging in order to satisfy other existing regulatory requirements, including labeling required by the building code. Therefore, the proposed regulations should expressly recognize a foam manufacturers ability to affix the disclosure statement or label to the product or product packaging.
To address this needed clarification, PIMA proposes that MassDEP adopt the following modification to the language in Section 5(c) for foam products (new text emphasized):

“For foam products, the disclosure or label **on the product or product packaging** shall include one of the two alternatives . . .”

PIMA believes that this proposed modification is appropriate and does not interfere with MassDEP’s interest in reducing harmful emissions of HFCs. Additionally, by facilitating the use of on-product packaging labels recognized by other jurisdictions, MassDEP is alleviating the administrative burden on manufacturers and the many small businesses that may be responsible for introducing foam products into the Massachusetts marketplace. We appreciate the Department’s consideration of our concerns.

IV. **The recordkeeping requirement contained in Section 8 of the proposed regulation should be stricken because the requirement will not improve compliance nor facilitate enforcement of the regulation.**

We strongly encourage MassDEP to align its HFC regulation with the rules promulgated by other jurisdictions by removing the recordkeeping requirement. This requirement represents an administrative burden on manufacturers without providing a corresponding benefit to the public interest or MassDEP. If MassDEP is interested in establishing meaningful enforcement mechanisms, the state should consider testing products for the presence of the prohibited substances. This approach to enforcement would immediately alert MassDEP to bad actors, while not penalizing good actors with burdensome paperwork.

Finally, to the extent that the Section 8 recordkeeping requirement applies to end-uses like the polyiso insulation industry that do not use high-GWP HFCs, our arguments in Section II of these comments concerning MassDEP’s regulatory authority also warrant modification to, or deletion of, the recordkeeping requirement.

V. **Conclusion**

We appreciate the opportunity to comment on MassDEP’s proposed regulation. Please contact me at jkoscher@pima.org or (703) 224-2289 should additional information be helpful to your process.

Respectfully submitted,

Justin Koscher, President

Enclosure (1)
Insulation and Blowing Agents

Closed-cell foam insulation products like polyiso are manufactured with captive blowing agents. The blowing agents are primarily used to increase the final product’s thermal resistance or R-value. The substances are also an integral part of the manufacturing process helping to produce the ideal cell structure.

In closed-cell products, the blowing agents are retained within the cell structure to provide long-term thermal performance. And while closed-cell insulation products can exhibit an initial drop in R-value due in large part to the diffusion of air into the foam, all polyiso insulation products are tested to reflect an aged (i.e., long-term) R-value. For more information on polyiso’s R-value and the applicable testing requirements, visit the PIMA website.

Insulation products manufactured without captive blowing agents (e.g., expanded polystyrene, fiberglass, mineral wool) result in lower R-values per inch. Therefore, these products must be installed at greater thicknesses to equal the high R-value of polyiso insulation.

Polyiso + Pentane = Environmental Leadership

Polyiso products are manufactured using pentane or pentane blends. Pentane is a hydrocarbon with zero ozone depletion potential (ODP) and low global warming potential (GWP). GWP is a measure of a substance’s ability to trap heat in the atmosphere and is calculated over a specific period of time (commonly 100 years). Specifically, GWP measures how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of CO₂. A substance that traps more heat will contribute more to global warming (and will be assigned a higher GWP value). Therefore, products that incorporate low-GWP blowing agents provide insulation solutions that offer reduced environmental footprints.

Notes:
1 The U.S. Federal Trade Commission’s R-value Rule requires that tests performed on samples of polyiso insulation reflect the effect of aging on the product’s R-value (Labeling and Advertising of Home Insulation, 16 CFR Part 460).
2 Pentane is used as a general term to describe the different pentane isomers or mixtures of isomers used by polyiso manufacturers. Isomers are molecules with the same molecular formula, but different bonding patterns. In terms of environmental impacts, all pentane isomers have the same GWP.
3 Ozone depletion potential, or ODP, is a relative measure of substance’s contribution to the degradation of the ozone layer. For more information, visit: https://www.epa.gov/ozone-layer-protection/basic-ozone-layer-science.
4 Visit the U.S. EPA’s webpage, Understanding Global Warming Potentials, for more information: https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.
For over 20 years, the polyiso industry has utilized pentane in product formulations. These products replaced formulations using CFCs and HCFCs, which are no longer permitted for use in insulation products in major markets, including the United States and Canada. The transition to pentane blowing agents was preceded by years of research and development. As a result of these efforts, the polyiso industry was recognized by the U.S. Environmental Protection Agency with the Stratospheric Ozone Protection Award for leadership in the phase-out of CFCs and exceptional contributions to global environmental protection. Please refer to PIMA’s Environmental Product Declarations for additional information regarding GWP and polyiso’s overall environmental performance.

Comparing Polyiso to Other Insulation Products

Not all closed-cell foam insulation products are created equal when it comes to the environmental impacts of their blowing agents. **Pentane has a GWP of less than 10.** Other insulation products still utilize hydrofluorocarbon (HFC) blowing agents, which can have a GWP of 1300 or higher. This is more than 100 times the global warming impact of pentane used in polyiso insulation.

As a category, other closed-cell insulation products are transitioning to blowing agents with lower GWP in part as a response to international and domestic regulations. However, not all blowing agent substitutes are equivalent. In Canada, regulations prohibit the manufacture, import or sale of foam plastic insulation products that contain a blowing agent with a GWP greater than 150. The U.S. Environmental Protection Agency does not enforce GWP limits for blowing agents used in foam insulation products. However, several states have, or are in the process of, enacting prohibitions on the use of certain HFC blowing agents in foam insulation products manufactured or sold within their jurisdictions.

Environmental Product Declarations

GWP is an important measure of a product’s impact on the environment, but there is a larger story to tell for insulation products like polyiso. The polyiso insulation industry provides stakeholders with information on the environmental impacts of its products through the publication of Environmental Product Declarations (EPDs). An EPD is an internationally recognized and standardized tool that

Notes:


6 For example, XPS insulation is typically manufactured with HFC-134a. This compound has a GWP of 1430. Source: The Intergovernmental Panel on Climate Change, Fourth Assessment Report, Chapter 2 - Changes in Atmospheric Constituents and in Radiative Force (available at: https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf).

7 Effective on January 1, 2021 for plastic foam or rigid foam products. More information is available at: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2016-137/FullText.html.

8 U.S. EPA SNAP Rules 20 and 21 were partially vacated by a decision of the Court of Appeals for the District of Columbia Circuit (Mexichem Fluor, Inc. v. EPA). As a result, EPA has issued interim guidance to stakeholders that the Agency will not enforce certain prohibitions that limit the use of blowing agents based solely on GWP (available at: https://www.govinfo.gov/content/pkg/FR-2018-04-27/pdf/2018-08310.pdf).

9 Information on state-level activities is available via the United States Climate Alliance: http://www.usclimatealliance.org/slcpschallenge. Under certain state laws or regulations, replacement substitutes may still have a GWP of nearly 750.
reports the environmental impacts of products. EPDs report data on environmental metrics across a product’s life cycle, including GWP, primary energy, resource depletion, and water use. Importantly, EPDs also provide an opportunity to disclose the environmental benefits of products. For example, the net return on environmental metrics like embodied energy, where polyiso’s long-term energy savings benefits far exceed the energy used to manufacture the product.

The polyiso industry’s third-party verified, ISO-compliant EPDs are available for download on the PIMA website.

PIMA

For more than 30 years, the Polyisocyanurate Insulation Manufacturers Association (PIMA) has served as the voice of the rigid polyiso industry, proactively advocating for safe, cost-effective, sustainable, and energy-efficient construction. Organized in 1987, PIMA is an association of polyiso manufacturers and industry suppliers. Polyiso is one of North America’s most widely-used and cost-effective insulation products.

PIMA produces performance bulletins to provide technical and industry information on key topics related to insulation performance. The resources provide the public with information that can be used to evaluate polyiso insulation products and compare their performance to other common insulation types. Industry professionals should review individual polyiso manufacturer resources for product-specific information.

For more information on polyisocyanurate insulation, visit www.polyiso.org