

Submitted Electronically

May 29, 2020

Delaware Natural Resources and Environmental Control
C/o Lisa A. Vest, Hearing Officer
Office of the Secretary
89 Kings Highway
Dover, DE 19901

Submitted to: <https://dnrec.alpha.delaware.gov/public-hearings/comment-form/>

**Re: Proposed Regulation 1151: Prohibitions on Use of Certain
Hydrofluorocarbons in Specific End-Uses
Docket #2020-R-A-0004 (HFCs)**

Dear Ms. Vest,

The Polyisocyanurate Insulation Manufacturers Association¹ (“PIMA”) appreciates the opportunity to comment on the Delaware Natural Resources and Environmental Control’s (“DNREC”) Proposed Regulation 1151: Prohibitions on Use of Certain Hydrofluorocarbons in Specific End-Uses (“Proposed Rule”). PIMA supports Delaware’s efforts to reduce harmful emissions of greenhouse gases through restrictions on hydrofluorocarbons (HFCs) with high global warming potential (GWP).

However, as explained below, we oppose the provision that would require all manufacturers of end-uses referenced in the Proposed Rule to provide disclosure statements to buyers. The disclosure statement requirements are overly broad because they apply to all manufacturers regardless of whether HFCs are currently or commonly used in a specific end-use category. Our rationale and proposed modification to the Proposed Rule are described further in this comment letter.

¹ More information available at www.polyiso.org.

I. Introduction

PIMA represents North American manufacturers of laminated polyisocyanurate insulation board products (“polyiso insulation”). 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 and sold in North America, including Delaware.

Manufacturers in the North American polyiso industry do not use HFC substances in their product formulations. As detailed in our previous comment letters, the polyiso industry has used pentane (or pentane blends) as the blowing agent for more than twenty years.² Pentane is a non-ozone depleting, low-GWP substance. A more complete description of the blowing agent history for polyiso products can be found in the attached bulletin.

II. The disclosure statement requirements are not consistent with DNREC’s regulatory authority or the Proposed Rule’s regulatory intent. The disclosure statement requirements may also create consumer confusion.

Regulatory Authority and Intent:

The authority for the Proposed Rule is Chapter 60. Environmental Control of the Delaware Code. This statute provides the general authority to the DNREC Secretary to promulgate rules intended to protect the environmental and air resources of the State. Therefore, it is logical to conclude that the Secretary has the authority to regulate the *use and manufacture* of high-GWP HFC substances.

The intent of the Proposed Rule as stated in Section 1.0 Purpose is consistent with this authority. This section states that the regulation “establishes the prohibitions and requirements for the **use and manufacture of hydrofluorocarbons** in the State of Delaware” (*emphasis added*). Additionally, this section states clearly that the Proposed Rule’s scope is limited to “support greenhouse gas emission reductions in the State of Delaware.”

However, the Proposed Rule’s disclosure statement requirements apply to end-use categories that do not use the targeted high-GWP HFC substances. There is no relationship between applying the disclosure statement requirements to end-uses like polyiso insulation, where HFCs are not used, and the DNREC’s authority or intent to regulate greenhouse gas

² Pentane offers an economical solution for polyiso insulation products and delivers exceptional thermal resistance that contributes to polyiso insulation’s high R-value – the primary physical property for thermal insulation products. Polyiso insulation manufacturers have made significant capital investments in modifying existing facilities and constructing new plants that allow for the safe use of pentane technology in the manufacturing process.

emissions through restrictions on the use and manufacture of high-GWP HFC substances. Therefore, the disclosure statement provisions are outside the intent of the Proposed Rule and go beyond the apparent regulatory authority granted to DNREC by the above-referenced statute. In order to remedy this issue, Section III of our comment letter provides a proposed modification to limit the scope of the disclosure statement requirements.

Consumer Confusion:

The disclosure statement requirements for foam end-uses require all product manufacturers to select between two labeling options. Both options provide the buyer with general information on a product's compliance status.

Importantly, the Proposed Rule under Section 6.1.2 would allow certain manufacturers of foam insulation products to continue to use HFC substances with a GWP value of 750 or less. An HFC substance with a GWP value of 750 is significantly more potent from an environmental impact standpoint as compared to the low-GWP substitutes the Proposed Rule is intended to incentivize. However, under the Proposed Rule, a product that uses a low-GWP substitute will be labeled in the same manner as a product that uses an HFC substance with a GWP of nearly 750.

Under this scenario, what benefit does the disclosure statement provide a buyer? We argue the answer is "none." Does a buyer require or expect every product he or she buys to be labeled with a statement about its compliance status with state regulations? We argue the answer is "no." As these questions about the utility of a disclosure statement apply to other end-uses, we encourage DNREC to reconsider whether the disclosure statement requirements provide an ultimate benefit to buyers.

III. The scope of the disclosure statement requirements should be modified to apply only to current and ongoing uses of HFCs.

In order to scope the applicability of the disclosure statement requirements to be consistent with DNREC's regulatory authority and the stated intent of the Proposed Rule, Section 2.2 Applicability should be modified as follows:

2.2 Any person who manufactures a product or equipment covered in the specific end-uses listed in Section 6.0 where the equipment or product contained or used a substance listed as prohibited in Section 6.0 as of [Effective Date of Regulation 1151] is subject to disclosure statement requirements, as detailed in subsection 4.2.

This proposed modification would limit the disclosure statement requirements to apply only to current and ongoing uses of HFCs. This scope is legitimately related to the State's goal of reducing greenhouse gas emissions resulting from the use of high-GWP HFC substances. To require all foam products to comply with the disclosure statement requirements merely because the products are included within an existing end-use category created by the U.S. Environmental Protection Agency's Significant New Alternatives Policy Program is not a sufficient justification for the requirements under the cited statutory basis for the Proposed Rule.

This proposed modification would also bring the State's regulatory approach into alignment with other states. For example, the California Air Resources Board (CARB) agreed with PIMA's argument to exclude manufacturers like polyiso producers when it eliminated a proposed labeling requirement for end-uses that categorically do not use HFC substances. **CARB concluded that labeling was unnecessary for end-uses that "have already transitioned out of using HFCs . . . [where] the risk that these end-uses revert to prohibited HFCs is low."**³ Additionally, Washington State's draft rule has evolved to include a clear statement that the labeling requirements do not apply to all end-uses. The draft rule uses the effective date of the enabling legislation to create a cutoff date for those end-uses (products and equipment) subject to the labeling requirements.⁴

Finally, notwithstanding our objections and proposed modification described above, we encourage DNREC to maintain flexibility in the manner in which the manufacturer provides any required disclosure to the buyer. For example, labeling product packing may be necessary where it is not feasible or practical to label individual product units. The option to use a product's Safety Data Sheet to make any required disclosure also provides useful flexibility.

IV. Conclusion

PIMA appreciates the opportunity to comment on DNREC's Proposed Rule. Please contact me at jkoscher@pima.org should additional information be helpful to your regulatory process.

Respectfully submitted,



Justin Koscher
President

³ California Air Resources Board, Notice of Public Availability of Modified Text, Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration and Foam End-Uses (*dated June 15, 2018*). Text available at: <https://www.arb.ca.gov/regact/2018/casnapp/15daynotice.pdf>.

⁴ See Washington State draft rule (version January 28, 2020), Section WAC 173-443-020 Applicability.

Polyiso Insulation's Low-GWP Blowing Agent Solution



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.

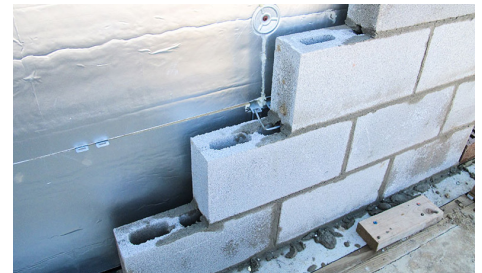
In closed-cell products, the blowing agents are retained within the cell structure to provide long-term thermal performance. And while closed-cell insulation products can exhibit an initial drop in R-value due in large part to the diffusion of air into the foam, all polyiso insulation products are tested to reflect an aged (i.e., long-term) R-value.¹ 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.² **Pentane is a hydrocarbon with zero ozone depletion potential³ (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 CO₂.⁴ 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.

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.



Polyiso wall insulation on a commercial building.



Polyiso roof insulation on a commercial building.

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>.



Surround yourself with the best.

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.**⁵ Other insulation products still utilize hydrofluorocarbon (HFC) blowing agents, which can have a GWP of 1300 or higher.⁶ 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 150.⁷ The U.S. Environmental Protection Agency does not enforce GWP limits for blowing agents used in foam insulation products.⁸ 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.⁹

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:

- 5 U.S. EPA assigns pentane (isopentane) a GWP value of < 10. See EPA SNAP approved substitute list for polyisocyanurate (available at: <https://www.epa.gov/snap/substitutes-rigid-polyurethane-and-polyisocyanurate-laminated-boardstock#self>). EPA estimates the GWP for isopentane based on the GWP of butane from a 2007 assessment by The Intergovernmental Panel on Climate Change, *Safeguarding the Ozone Layer and the Global Climate System* (available at: <https://www.ipcc.ch/report/safeguarding-the-ozone-layer-and-the-global-climate-system/>).
 - 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/sicpcchallenge>. Under certain state laws or regulations, replacement substitutes may still have a GWP of nearly 750.
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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



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