

# **Polyisocyanurate Insulation Manufacturers Association**

On behalf of the Polyisocyanurate Insulation Manufacturers Association, please see the attached file for our informal comments on the draft HFC rule.

Submitted via: <http://ac.ecology.commentinput.com/?id=Ypx2G>

March 19, 2020

### **PIMA's Informal Public Comments on Draft HFC Rule (version March 17, 2020)**

To: Washington State Department of Ecology

PIMA appreciates the opportunity to provide informal comments on the draft HFC rule. We also appreciate the Department of Ecology's thorough stakeholder engagement process.

#### **General Support for Draft Regulation:**

As previously expressed to the Department, PIMA supports the use prohibitions on HFCs. In particular, we do not object to the use restrictions as applied to polyisocyanurate boardstock products. The effective date of January 1, 2020 is acceptable as the North American polyisocyanurate market does not use HFCs. As described in the attached bulletin, manufacturers of polyisocyanurate have used a low-GWP pentane blowing agent for more than twenty years. The restricted HFCs were never used in polyisocyanurate formulations.

#### **Concerns with Labeling Requirements:**

PIMA has expressed concerns related to the proposed labeling requirements. The addition of subsection (2) under "Applicability" provides a useful clarification as to the applicability of the labeling requirements. We understand that subsection (2) would exempt only those manufacturers that do not use HFCs in the manufacture of *any* products or equipment. While it is true that no polyisocyanurate boardstock products are manufactured using HFCs, certain manufacturers that produce polyisocyanurate boardstock products also manufacture different products that may contain HFCs (e.g., spray foam, foam adhesives). Therefore, under the draft language, these manufacturers (at a company-wide level) would be required to label both their polyisocyanurate boardstock products and those products that use HFCs (until such time that the use is prohibited). The regulation will likely result in some, but not all, polyisocyanurate boardstock products being labeled in accordance with the regulation – this may result in confusion or create a de facto requirement that all polyisocyanurate boardstock products be labeled. This unintended outcome is likely not limited to our industry alone.

Given the outcomes described above, PIMA encourages the Department to adopt language that would focus subsection (2) under "Applicability" on products and equipment, rather than manufacturers more broadly (see Option 1).<sup>1</sup> We also suggest an alternative

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<sup>1</sup> The California Air Resources Board agreed with PIMA's argument to exclude polyiso manufacturers 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.

clarification that would apply specifically to polyisocyanurate boardstock (see Option 2) and could be used for other like-situated end uses where no HFCs are used. We believe these options would eliminate the potential for confusion and achieve the outcome that the Department desires – a narrowly scoped regulation that reduces or eliminates the use of HFCs.

Option 1 – PIMA Proposed Modification for Labeling:

**WAC 173-443-020 Applicability.**

(2) The labeling requirements in WAC 173-443-070 and the notification requirements in WAC 173-443-080, WAC 173-443-090, and WAC 173-443-100 apply only to ~~manufacturers of products or equipment that~~ **products or equipment included in the specific end-use categories in WAC 173-443-040 where the products or equipment** consisted of, or used, HFCs on ~~or after~~ July 28, 2019, or ~~manufacturers of products or equipment~~ **where the use of HFCs has been initiated or resumed** ~~that have initiated producing such products~~ at any time after that date.

Option 2 – PIMA Proposed Modification for Labeling:

**WAC 173-443-070 Product labeling.**

(5) Manufacturers of foam products **except polyisocyanurate laminated boardstock** must disclose the substitutes through one of **the** following methods:

**Alignment of Label Contents:**

Notwithstanding our comments above regarding the exclusion of polyisocyanurate boardstock products, we appreciate the Department's attempts to harmonize the labeling requirements with the proposed or final regulations of other states. As the Department is aware, other states are considering the inclusion of a simple disclosure statement for foam products that does not include the specific requirement to disclose the substitute within the label. Where Washington State's requirements deviate from other state regulations, manufacturers will likely be challenged to develop a single labeling strategy. Foam products are not typically manufactured for a specific state. Therefore, manufacturers (or other entities in the supply chain) may have to adopt the use of multiple labels for a single product. We applaud the Department's willingness to introduce flexibility into the draft regulation in terms of how the label can be displayed or disclosure made. We especially appreciate the options for on-packaging labels and online disclosures.

**Questions:**

Please contact me at [jkoscher@pima.org](mailto:jkoscher@pima.org) or (703) 224-2289 with questions.

Sincerely,

Justin Koscher  
President

# 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.<sup>1</sup> 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.<sup>2</sup> **Pentane is a hydrocarbon with zero ozone depletion potential<sup>3</sup> (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 CO<sub>2</sub>.<sup>4</sup> 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.**<sup>5</sup> Other insulation products still utilize hydrofluorocarbon (HFC) blowing agents, which can have a GWP of 1300 or higher.<sup>6</sup> 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.<sup>7</sup> The U.S. Environmental Protection Agency does not enforce GWP limits for blowing agents used in foam insulation products.<sup>8</sup> 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.<sup>9</sup>

## 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

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### 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](http://www.polyiso.org)



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