

Regulations for the Manufacture of Insulation with Low-GWP Blowing Agents

Regulations in Canada and the U.S.

Canada, the United States, and twelve states have adopted regulations that prohibit the manufacture and use of common building insulation products produced with blowing agents characterized as having high-global warming potential (GWP). These high-GWP blowing agents belong to a class of chemicals known as hydrofluorocarbons (HFCs), which have greater contributions to global warming than alternatives. Construction professionals should be familiar with the regulations that restrict HFCs in order to ensure that materials specified for projects are compliant with the restrictions.

Impacts to Building Insulation

For jurisdictions with effective regulations, foam building insulation products that are sold and installed within the jurisdiction must be manufactured with low-GWP blowing agent technology. Several product types like polyisocyanurate (polyiso) and expanded polystyrene (EPS) insulation already comply with these restrictions based on existing formulations as manufacturers adopted low-GWP solutions decades ago. For other foam insulation product types like extruded polystyrene (XPS) and spray polyurethane foam (SPF), manufacturers are required to implement new formulations in order to comply with the applicable restrictions.

Compliance Checklist

- ☐ Install products manufactured with low-GWP alternatives.
- ☐ Understand *low-GWP* versus *reduced-GWP*. Products sold as “reduced-GWP” may still contain HFCs or blends thereof.
- ☐ Be familiar with applicable restrictions and review sell-through provisions that may allow products manufactured prior to the restriction date to remain in commerce until installed.
- ☐ Do not “import” non-compliant products into jurisdictions where their import and use are restricted.

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Global Warming Potential (GWP):






















GWP is a measure of a substance’s ability to trap heat in the atmosphere. A substance that traps more heat will be assigned a higher GWP value and contribute more to global warming.

Effective Dates of Restrictions

The table below summarizes by jurisdiction the dates on which the use restrictions (final or proposed) become effective for commonly-installed foam building insulation products. The installation of products manufactured with high-GWP blowing agents is prohibited after the dates listed below within the specified jurisdictions.

Table 1: Effective Dates for HFC Restrictions by Jurisdiction and Insulation Product Type

(Last Updated October 2023)

	Polyisocyanurate (Polyiso)	Expanded Polystyrene (EPS)	Extruded Polystyrene (XPS)	Spray Polyurethane Foam (High-Pressure)
Jurisdiction	COMPLIANCE STATUS			
Canada			Prohibited January 1, 2021 (*GWP > 150)	Prohibited January 1, 2021 (*GWP > 150)
United States**			Prohibited January 1, 2025 (GWP > 150)	Prohibited January 1, 2025 (GWP > 150)
California			Prohibited January 1, 2021 (*HFCs)	Prohibited January 1, 2020 (#HFCs)
Colorado			Prohibited January 1, 2021 (*HFCs)	Prohibited January 1, 2021 (#HFCs)
Delaware			Prohibited September 1, 2021 (*HFCs)	Prohibited September 1, 2021 (#HFCs)
Maine			Prohibited January 1, 2022 (*HFCs)	Prohibited January 1, 2022 (#HFCs)
Maryland			Prohibited July 1, 2021 (*HFCs)	Prohibited July 1, 2021 (#HFCs)
Massachusetts			Prohibited July 1, 2021 (*HFCs)	Prohibited January 1, 2021 (#HFCs)
New Jersey			Prohibited July 1, 2021 (*HFCs)	Prohibited July 1, 2020 (#HFCs)
New York			Prohibited January 1, 2021 (*HFCs)	Prohibited January 1, 2021 (#HFCs)
Rhode Island			Prohibited January 1, 2022 (*HFCs)	Prohibited January 1, 2022 (#HFCs)
Vermont			Prohibited January 1, 2021 (*HFCs)	Prohibited January 1, 2021 (#HFCs)
Virginia			Prohibited January 1, 2022 (*HFCs)	Prohibited January 1, 2022 (#HFCs)
Washington			Prohibited January 1, 2021 (*HFCs)	Prohibited January 1, 2020 (#HFCs)

Notes to Table 1:

- + As of January 1, 2021, it is prohibited for any person to manufacture a plastic foam or a rigid foam product in which an HFC set out in Table 4 of Schedule 1 is used as a foaming agent if the global warming potential of the foaming agent is greater than 150. The Canadian Ozone-depleting Substances and Halocarbon Alternatives Regulations are available at: <https://laws-lois.justice.gc.ca/eng/regulations/SOR-2016-137/>.
 - ++ The U.S. Environmental Protection Agency (EPA) issued a final rule in October 2023 that restricts the use of high-GWP HFC blends (>150) in foam end uses. The EPA rule establishes a nation-wide prohibition on the use of high-GWP HFC blends effective January 1, 2025. The EPA rule does not pre-empt the state restrictions listed above. More information on the EPA rule is available at: <https://www.epa.gov/climate-hfcs-reduction/regulatory-actions-technology-transitions>.
 - ★ The use of the following substances is prohibited: HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; and Formacel TI, B and Z-6.
 - # The use of the following substances is prohibited: HFC-134a, HFC-245fa, HFC-365mfc, and blends thereof; and Formacel TI.
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About PIMA

Since 1987, PIMA has served as the voice of the North American rigid polyiso insulation industry. PIMA is a leading advocate for safe, cost-effective, sustainable, and energy-efficient construction. The Association is comprised of polyiso manufacturers and industry suppliers, and represents the public policy interests of its membership at the local, national, and international levels to advance high-performance building practices.

PIMA produces technical bulletins to address key topics related to polyiso insulation. These publications inform architects, specifiers, and contractors about the performance characteristics of polyiso insulation. Always consult individual manufacturers for product specific information, including product data sheets and installation instructions.

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

