American Chemistry Council North American Flame Retardant Alliance

Ms. Morley:

Please see the attached comments from the North American Flame Retardant Alliance regarding the "Draft Identification of Priority Products Report to the Legislature: Safer Products for Washington Cycle 2 Implementation Phase 2" regarding Organohalogen Flame Retardants in Insulation Materials. Thank you for the opportunity to provide comment; We look forward to additional opportunities during the regulatory process to discuss with Ecology the characteristics of specific flame retardants contained within insulation products.

Respectfully submitted,

December 26, 2024

Submitted via email

Ms. Kim Morley
Safer Products for Washington Project Manager
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504

Re: Draft Identification of Priority Products Report to the Legislature: Safer Products for Washington Cycle 2 Implementation Phase 2

To Whom It May Concern:

The American Chemistry Council's (ACC) North American Flame Retardant Alliance ("NAFRA")[1] submits the following comments regarding the Washington Department of Ecology's ("Department" or "Ecology") Draft Identification of Priority Products Report to the Legislature: Safer Products for Washington Cycle 2. NAFRA's comments focus specifically on the proposal to regulate insulation materials containing organohalogen flame retardants (OFRs) and urges Ecology to consider traits of specific flame retardants in their application, rather than treating them as a broad group or class.

The inherit complexity and low volatility of polymeric and reactive flame retardants should differentiate them from other flame retardant technologies in their application. The draft report argues that people can be exposed to OFRs from insulation through ingestion, inhalation, or skin contact with dust. However, polymeric and reactive forms of these chemicals in building insulation materials, are designed to minimize potential exposure. Their large size and complex chemical structure significantly reduce the potential for migration, making them less likely to be inhaled or ingested and unable to penetrate cell membranes, reducing the risk of toxicity and bioaccumulation in the food chain[2]. Reactive flame retardants are designed to be chemically bonded/reacted to the insulating foam, preventing their release to the environment and maintain their effectiveness and safety throughout the lifespan of the foam

[1] The American Chemistry Council's North American Flame Retardant Alliance represents the leading producers of flame retardants used in a wide variety of industrial and consumer applications. NAFRA members represent cutting edge fire-safety chemistry and technology and are dedicated to improving fire safety performance in key product applications. NAFRA members are Albemarle Corporation, ICL Industrial Products, and Lanxess. For more information on NAFRA, visit https://www.americanchemistry.com/industry-groups/north-american-flame-retardant-alliance-nafra.

[2] Levchik SV, Wilkie CA. Char formation. In: Grand AF, Wilkie CA (eds) Fire retardancy of polymeric materials. New York: Marcel Dekker, 2000, pp. 171–215.

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products[2]. Further, studies have shown that these compounds do not easily volatilize or degrade into harmful byproducts, making them a more sustainable choice for flame retardancy in insulating foams.[2,3,4,5]

Authoritative assessments differentiate polymeric and reactive flame retardants from other flame retardant technologies. A 2014 EPA Design for the Environment Alternatives Assessment report highlighted that butadiene styrene brominated copolymer, with a molecular weight greater than 10,000 daltons, exhibits low bioavailability, meaning it is unlikely to be taken up by the body or the environment in harmful ways[6]. The EPA report further notes that these polymeric FRs do not pose significant health hazards associated with acute toxicity, carcinogenicity, genotoxicity, reproductive effects, developmental effects, neurological effectives, repeated dose effects, as well as skin contact with these polymeric flame retardants, supporting their safety profile consumers and workers.[6] The 2014 EPA report also indicates that while these polymers are persistent, they do not pose a significant exposure risk because they are not readily released from the materials they protect.[6]

NAFRA appreciates the opportunity to comment on the Department's Draft Report to the Legislature and looks forward to additional opportunities during the regulatory process to discuss with Ecology the characteristics of specific flame retardants contained within insulation products. If you have questions or need clarification, please contact me at Owen_Jappen@AmericanChemistry.com or 202-249-7000.

Sincerely,

Owen P. Jappen
Director
American Chemistry Council
On behalf of the North American Flame Retardant Alliance

[3] Brauman SK, Fishman V, Brolly AS, et al. Sb2O3—Halogen fire retardance in polymers. IV. Combustion performance. J Fire Retard Chem 1976; 3: 225–264.
[4] Joesten BL, Wagner ER. Halogen-modified impact polystyrene. II. Evidence for condensed-phase reactions by thermogravimetry. J Appl Polym Sci 1977; 21: 2675–2682. Crossref. Web of Science.
[5] Luda di Cortemiglia MP, Camino G, Costa L, et al. Mechanism of action and pyrolysis of brominated fire retardants in acrylonitrile-butadiene-styrene polymers. J Anal Appl Pyrol 1987; 11: 511–526. Crossref. Web of Science.
[6] Design for the Environment Alternatives Assessment Report, U.S. Environmental Protection Agency, 2014.

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