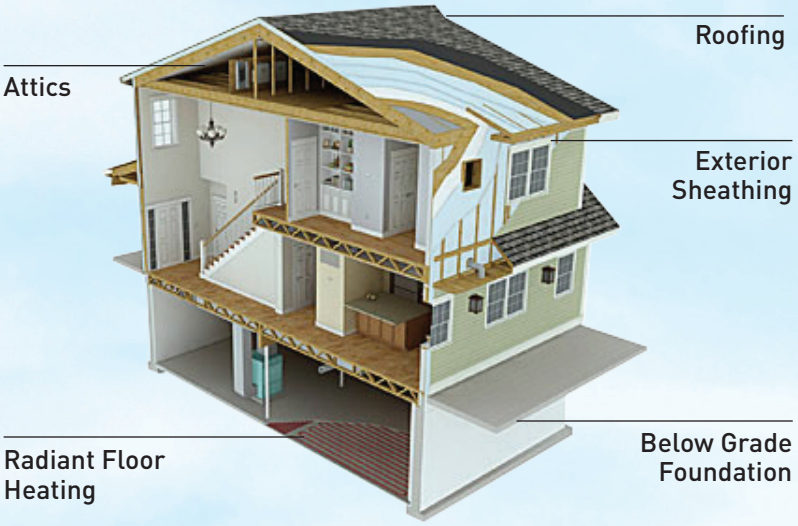
Facts About Flame Retardants & Building Insulation

Foam insulation is widely used in modern buildings to improve energy efficiency. Foam insulation is helping to reduce energy consumption across the country, which is important to lowering greenhouse gas emissions. And this is why foam makes homes and buildings more environmentally friendly, while flame retardants help foam meet important fire safety standards. There are many important questions about the use of flame retardants (FRs) in insulation. What follows are answers to some of those questions.



290 Million Tons of CO_2 Saved Through Plastic Insulation – Making Homes 70% More Energy Efficient

What Are Flame Retardants?

FRs can vary greatly from one another and perform in a variety of different ways. Even halogenated FRs, which are used in insulation, vary greatly from one to another. FRs play a crucial role in reducing the devastating impact of fires. According to the Materials Flammability Group of the National Institute of Standards & Technology (NIST), products treated with flame retardants significantly slow fire spread when compared to untreated products. [1,2]

How Do Flame Retardants Work?

FRs are chemicals added to building materials to prevent fires from starting or limit their spread, providing precious seconds for building occupants to escape and for firefighters to contain the blaze. The most common flame retardants in foam plastic insulation are hexabromocyclododecane (HBCD), typically used in expanded and extruded polystyrene insulation, and tris (1-chloro-2-propyl) phosphate (TCPP), which is used in spray polyurethane foam and polyisocyanurate. FRs serve a vital and proven function.

Why Are Flame Retardants Necessary?

Experts recognize that the use of flame retardants helps prevent fires from starting and slow their spread, crucially important in fires when every second counts. FRs play a critical role in helping foam plastic insulation pass current building material flammability standards, specifically ASTM E84. Code change proposals to substitute an additional thermal barrier in lieu of the long standing E84 fire test are based on limited fire scenarios and are not supported with the necessary data to demonstrate equivalent fire protection.

Energy Efficient Foam Coalition • 700 Second St., NE, Washington, DC 20002 • Phone: 202.249.7000 • Fax: 202.249.6100

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Are Flame Retardants Safe?

Flame retardants currently in use, like all manufactured chemicals, are subject to regulation by the U.S. Environmental Protection Agency (EPA) and regulators around the globe. The Toxic Substance Control Act (TSCA) and more than a dozen other federal laws and regulations, including consumer product safety laws and product liability laws, provide further oversight of chemicals in commerce.

Some groups have voiced concern over exposure to flame retardants and they are advocating to eliminate certain fire testing standards and change building codes in order to eliminate flame retardants from insulation. But existing building code fire safety provisions are based on years of careful analysis, extensive testing and a robust and inclusive public development process. Any assessment of potential health risks associated with the use of flame retardants must be based on scientific research that takes into account both hazard and exposure.

Should Flame Retardants Be Eliminated?

Code proposals to reduce fire standards and fire testing, such as ASTM E84, are unnecessary and should be rejected. Currently, any insulation material that passes the test requirements mandated by the model building code, with or without FRs, can be used. The code demands fire performance of the insulation under defined conditions and is neutral with respect to how the insulation is manufactured to achieve that performance. The building code represents long-standing requirements, based on an exhaustive consensus process that should not be summarily dismissed or altered without sufficient scientific backing.

The use of flame retardants in foam plastic insulation should not be eliminated.

References

[1] Environment Canada Screening Assessment in HBCD, CAS Reg. No. 3194-55-6, November 2011

[2] European Commission Risk Assessment Report on HBCD, CAS Reg. No. 25637-99-4, EINECS No.: 247-148-4, May 2008