

FLAME RETARDANCY: STILL A HOT TOPIC

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ABSTRACT

To prevent catastrophes as the Grenfell Tower inferno in London, the use of flame retardants in buildings is of utmost importance. This also comprises the textiles used within these buildings.

In Europe, several well-performing flame retardants have been restricted by REACH legislation or have been classified as SVHC-compounds, so there is a need to substitute these flame retardants. A huge variety of alternative flame retardants is commercially available, but are they as performing as the conventional ones? What is their impact on environment and human health? The European LIFE-project Flarex [1] addresses this issue. The technical performance of multiple selected alternative flame retardants is being assessed (both on lab scale as industrial scale), as their impact on environment/health via LCA studies, toxicological tests and risk assessments. A comparison with conventional used flame retardants will be made.

Furthermore, industry is challenged by the increasing “bio, eco, natural and environmental friendly” consciousness of the consumer leading to a boost in the research and development of biobased flame retardants. Some examples of ongoing research in this field will be highlighted. In the KaRMA2020 [2] project newly designed non-halogenated PN type flame retardants are being produced containing nitrogen from keratin (derived from poultry feathers), and phosphorus from various sources. During the bio FR Letex project non-food proteins will be chemically modified to create new flame retardants for textile and leather applications.

References

- [1] www.life-flarex.eu
- [2] www.karma2020.eu
- [3] www.centexbel.be/en/projects/bio-fr-letex