

The fire retardant spectrum: from aluminium to zinc, or from red to green?

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The widespread use of synthetic polymers has increased the flammability of our built and living environment. This has led to formulations based on a diverse range of additives, in order to reduce their flammability. This opening presentation will cover the range of strategies for imparting fire retardancy, from gas phase *flame* retardants, based on phosphorus and halogens; incorporation of hydrated fillers; formation of char and protective barriers; development of swollen protective layers (intumescence); and the incorporation of nanoparticles with specific fire retardant functionality.

The range of polymers for which each solution is applicable, together with its effectiveness, will be critically reviewed, together with the limitations on their applicability. In addition, issues of sustainability and “greenness” will be discussed from the presenter’s perspective.