



Advances in Flame Retardant Polymer Materials

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Message from the Guest Editors

Over the last decade, numerous studies have focused on flame-retardant polymer and polymer composites both in the academic and industrial worlds. Halogen-free flame-retardant technology is attracting a large level of interest owing to the awareness of environmental and human health issues associated with its applications.

In this context, highly efficient, eco-friendly, smoke-suppressed, and low-toxic polymers are leading topics in the field of flame-retardant polymers. Reactive and macromolecular organophosphorus structures, the variety of nanoparticles (LDHs, MOFs, organic-modified clays, POSS, black phosphorus, etc.), bio-based compounds (phytic acid, starch, β -CD, lignin, DNA, alginate, etc.), carbon materials (expandable graphite, graphene, carbon nanotubes, fullerene, etc.), boric compounds, and organometallic complexes greatly enrich the flame-retardant family, as well as synergetic systems.

This Special Issue focuses on progress in the synthesis, functionalization, characterization, mechanism, and advanced technologies for halogen-free flame retardants.





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