

Synthesis of Novel Phosphorus, Sulfur-Containing Fire Retardants

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Fire retardants play an essential role in NASA's Standard for Fire Protection. They allow for the protection of human life, property, and the environmental risk due to fires. Phosphorus based fire retardants have been found to be a more environmentally friendly solution; however, they face threats of leaching because of inadequate weight. With the addition of an extra sulfur element, these flame retardants can become sharpened, gaining greater thermal stability, mechanical properties, and outstanding corrosion resistance. Exploiting novel phosphorus-sulfur based flame retardants empowers the advance of supplying safe, efficient non-halon fire protection.