

Non-flammable Polymer Membrane and Sponge

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The flammability of polymers is one of the challenges for their use in several applications ranging from day-to-day use in furniture, households and demanding applications in automobiles, aircrafts, construction, protective clothing. In the past, several innovative solutions were put forward for tackling the problem and improving the heat and flame resistance of polymers. The use of copolymers with flame retardant units, organic additives and inorganic fillers are the most commonly used measures for improving the flame-retardant characteristics of polymers. Using these measures, the fire retardancy could be improved to different extents depending upon the amount, type and the method of application of the additives and fillers.

In this talk, we present new concepts of formation and properties of a rare examples of a high-performance membrane and sponge from special polymers. They are non-flammable (neither sustain flame nor burn with smoke, no polymer dripping), low density, very high thermal stability, flexible and strong.

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