

USING DEOXYBENZOID MONOMERS TO GENERATE LOW FLAMMABILITY POLYMERS FOR AIRCRAFT

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This presentation will describe the integration of deoxybenzoin monomers into step growth polymerization processes to generate novel polymers with very low heat release values and potential suitability for applications where low flammability materials are required. Two topics will be discussed in detail, including 1) the preparation of deoxybenzoin-containing polysulfones, sulfoxides, and sulfides, in which the deoxybenzoin subunits are shown to reduce the flammability of these polymers even further than their current state; and 2) the preparation of functional deoxybenzoin monomers setup for rearrangement chemistry, giving the first example of deoxybenzoin polymers containing pendant groups that are ideal for post-polymerization crosslinking, composite materials formation, and/or the fabrication of robust, non-flammable coatings.