

Synthesis and Characterization of Some Acrylic Monomer/Sulfur dioxide Copolymers

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ABSTRACT

The copolymn. of either acrolein (I), Me acrylate (II), acrylamide (III), or acrylonitrile (IV) with liq. SO₂ at low temp. and high diln. in the presence of tert-BuOOH gives high SO₂ incorporation into the resulting copolymers. Anal. of the compn. of these polysulfones, by elemental analyses and ¹³C NMR, shows that they consist mostly of triad monomer sequences. TGA of selected samples demonstrates that their thermal stability, at 30% wt. loss, increases for different acrylic comonomers as follows: I < III < II < IV. Preliminary flammability tests reveal that flame retardancy increases with increasing SO₂ content in the copolymer.