P R E F A C E

The thesis embodied the results of the investigations carried out by the author at the Department of Chemistry, University of North Bengal, Darjeeling, India.

The thesis presents the results of the aqueous polymerization of Methylmethacrylate, Methacrylonitrile and acrylonitrile and their co-polymerizations in presence of a trace amount of ethanol and the bentonite clay mineral, particularly hydrogen bentonite in the aqueous suspension. Considerable attention has been devoted to establish the hydrogen bentonite-ethanol system as the free radical initiator for the polymerization reactions. Spectral and Kinetic data have been produced in support of the view. The failure of both Methacrylonitrile and Acrylonitrile to homopolymerize and the success of each of them to copolymerise with Methylmethacrylate have been accounted for. The mechanism for the polymerization process has been put forward.