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Effect of Ultrasound on Polymer Solution Viscosity

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Reducing the length or molecular weight of the chain as a result of scission a bond in a polymer chain is termed polymer degradation in the literature. Polymer degradation can be done by various methods. Thermal and other methods of degradation of polymers in the solid state, due to insufficient heat transfer and high viscosity, bring about control difficulties. However, polymer degradation in the solution has better advantages due to good heat transfer and a single phase. The viscosity and the molecular weight decrease as the polymer chains scission. Chemical degradation in the chemical substance, factors such as cross-linking, random processing and the need for temperature. In thermal degradation, high temperature, random or terminal bond breaks, oligomer formation occurs. Enzymatic degradation requires various enzymes. Very special devices are required for flow-based mechanical degradation. Ultrasonic polymer chain scission it is different from above methods and has several advantages over its use. In this study, the use of ultrasound in polymer technology and in detail the effect of ultrasound on polymer chain breakage and solution viscosity have been mentioned.

Biography:

Prof. Afsin Gungor received his Ph. D in mechanical engineering, Istanbul Technical University in 2006. He is presently professor and Founder Dean of Bucak Technology Faculty, Burdur Mehmet Akif Ersoy University, Burdur, Turkey and he is also professor of mechanical engineering at Akdeniz University, Turkey. His research interests include Modeling and Simulation of Chemical Reactions and Reactors, New and Renewable Energy Sources, Energy Conversion and Management, Simulation and Modeling of Energy Systems, Combustion and Gasification of Coal and Biomass in Fluidized Beds, Hydrogen Production and Purification in Gasification of Coal and Biomass, Solar Thermal Applications, Environmental Sustainability, Carbon, Energy and Water Footprint, Nanotechnology.