

Effect of Organoclay as Compatibilizer on Linear and Nonlinear Rheological Property of PLA/Biodegradable Polymer Blends

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Due to environmental disposal of polyolefin, biodegradable polymers have recently been studied. Poly(lactic acid) (PLA) has received attention because of its outstanding mechanical properties, but it has drawback of its brittleness. To overcome this drawback, making blend with other polymer which has ductility has studied as the easiest method. In this study, we blended PLA with poly(ϵ -caprolactone) (PCL), poly(butylene adipate-co-terephthalate) (PBAT) and poly(butylene succinate-co-adipate) (PBSA) to overcome its brittleness. We also added organoclay to improve miscibility of blends. We investigated linear and nonlinear rheological properties from SAOS (small amplitude oscillatory shear) and LAOS (large amplitude oscillatory shear) test, respectively. Morphology using scanning electron microscope was evaluated to confirm its droplet in the matrix.