

عنوان مقاله:

Effect of Solvent on the Properties of TPU (PCL)/PCL Blends Prepared by Solution Method

محل انتشار:

چهاردهمین کنگره ملی مهندسی شیمی ایران (سال: 1391)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

The blends of thermoplastic polyurethane based on polycaprolactone diol (TPU(PCL)) and Poly(ϵ -caprolactone) (PCL) with 50% weight fraction are prepared by solution cast method. Different solvents: tetrahydrofuran (THF), dimethylacetamide (DMAc) and dimethylformamide (DMF) were used. The blend prepared by THF solvent showed better miscibility and better phase dispersion. The morphology and mechanical properties of TPU(PCL)/PCL blends have been investigated by Scanning Electron Microscopy (SEM), Dynamic Mechanical Analysis (DMA) and tensile test. When a film cast from THF, T_g and T_m are slightly reduced to a lower temperature that also lowers the crystallization of PCL and enhance the blend miscibility and phase adhesion. The tensile test results and SEM micrographs confirmed better phase dispersion in THF system

کلمات کلیدی:

Morphology; Solution blending; Solvent; Polyurethane

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