

عنوان مقاله:

Experimental investigation of viscosity variation of PP/PET/nano-size SiO₂ nano-composite

محل انتشار:

اولین کنگره بین المللی شیمی و نانو شیمی از پژوهش تا فناوری (سال: 1397)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

In recent years, composite structures of polymers have been widely considered. Extensive applications for these composites have been widely recognized in various industries and sciences, which have greatly increased the studies in this field. In this study, the addition of SiO₂ nanoparticles into the PP / PET composite structure has been investigated. The viscosity value as a response parameter has been used to investigate the effect of SiO₂ addition into the PP/PET matrix. The results of this study indicate that the addition of PET to the polymeric phase of the based PP increases the viscosity of the resulting polymer structure. Increasing the PET content also has a greater effect on viscosity increase. SiO₂ nanoparticles were used in sizes of 12 and 20 nm in a volume fraction of 5 and 9% by weight. As a result of empirical observations, an increase in viscosity was observed by increasing the volume fraction and reducing viscosity by increasing the size of the nanoparticles.

کلمات کلیدی:

Nano-composite, viscosity, Nano-fluid, SiO₂

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