

عنوان مقاله:

Modification of Polypropylene Nano Composites with Multi-Walled Carbon Nano Tube

محل انتشار:

چهارمین کنفرانس بین المللی نوآوری های اخیر در شیمی و مهندسی شیمی (سال: 1396)

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خلاصه مقاله:

In this study, physical and mechanical properties of polypropylene nanocomposites in the presence of carbon nanotubes (MWCNT) are studied. Nanocomposites were prepared by combining different percentages of melt mixing method. Mechanical and physical properties such as the fracture surface morphology, distribution of CNTs in the material field, the size of the crystals, crystallization and melting temperature, tensile strength, flexural and impact strength and flexural modulus were analyzed. In summary, it was shown that Young's modulus and flexural strength increase in the weight of MWCNT, are considerably improved. However, the distribution of the nanotubes was poorer in material terms, the melting temperature has not noticeably changed. Also, the sizes of the crystals in some Miller's pages were decreased. By increasing the amount of MWCNT, an increase in crystallization temperature of PP is observed. Loading 1.5%wt of MWCNT, the amount T_p has increased about 14.3 °C than pure PP. By increasing of MWCNT to 0.4%wt mechanical properties were improved. Then changing MWCNT to 0.8%wt, mechanical properties is reduced.

کلمات کلیدی:

Nano composite, polypropylene, Multi-walled carbon nano tube

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