

Photo-oxidation of modified Polypropylene nanocomposite

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All polymers when exposed to the environment suffer diverse alterations due to the action of diverse factors such UV light, pollution, acid rain and others. In this study, the modified polypropylene by gamma irradiation (HMSPP - high melt strength polypropylene) was blended with Cloisite 20A to obtain HMSPP nanocomposite. The PP-g-MA, polypropylene graft maleic anhydride, was utilized as compatibilizant agent [1]. The samples were processed in twin-screw extruder and the dumbbell samples were obtained by thermopressing. The samples was exposed in environment by 6 months [1,2]. The chemical analysis was evaluate by Carbonyl Index (CI) and Melt Flow Index (MFI). With increase of time, the CI also increased, indicating the chain scission process, principally in the chain backbone, as observed in MFI, which value has increased very fast with increasing of time.

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References

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