عنوان مقاله:

Biodegradation of PP flms modifed with organic prodegradant: Natural ageing and biodegradation in soil inrespirometric test

محل انتشار:

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خلاصه مقاله:

In this study, PP flms were modifed with an organic pro-degradant in different concentrations (1, 2 and 3 wt.%), exposed in the frst step of degradation to natural ageing for 100 days followed by biodegradation insimulated soil in the respirometric test for 100 days. At the end of the combined degradation process the PP sampleswere characterized according to their morphological and physical properties and the CO2 generated during thebiodegradation in soil was monitored. The CO2 production by the PP flms modifed with the organic pro-degradantwas proportional to the oxidation rate and weight loss of the samples. The reduction in the average viscosimetricmolecular weight could be attributed to chain scission due to the weathering conditions to which the samples wereexposed (natural ageing followed by biodegradation in soil). Scanning electron microscopy (SEM) of the PP flmsrevealed surface deterioration of the flms with the organic pro-degradant after the combined degradation process.Polyolefns J 3:59-68

کلمات کلیدی:

polypropylene; organic pro-degradant; natural ageing; biodegradation in soil; respirometric test