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Structural characterisation and antibacterial activity ofPP/HDPE/TiO2-clay nanocomposites prepared by reactive extrusion

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Abstract : Compatible blends of polypropylene(PP)/hight density polyethylene (HDPE)were prepared byreactive blending in the presence of dicumyl peroxide (DCP)anhidride malic (MAH). The blends were characterized usingdifferent techniques: dynamical rheological analysis (DRA),differential scanning calorimetry (DSC), optical microscopy(OM) and scanning electron microscopy (SEM), dynamicalmechanical thermal analysis (DMTA), and impact strength, toevaluate their properties. The antibacterial properties ofPP/HDPE/TiO2-clay nanocomposites on E. coli Bacillus subtilisand S. aureus have been studied.

Keywords : pp, (dcp), nanocomposite, antibacterial properties