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Poly(lactic acid) and acrylonitrile–butadiene–styrene blends: Influence of adding abs–g–mah compatibilizer on the kinetics of the thermal degradation

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**POLY(LACTIC ACID) AND ACRYLONITRILE–BUTADIENE–STYRENE BLENDS:
INFLUENCE OF ADDING ABS–g–MAH COMPATIBILIZER ON THE KINETICS OF
THE THERMAL DEGRADATION**

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Abstract

Square plates (nominal thickness: 3 mm, nominal width: 100 mm) of different rheologically modified PLA/ABS blends were manufactured through injection molding, with or without adding ABS grafted with maleic anhydride (MAH). During processing, the properties of the melt were stabilized and enhanced by the addition of a styrene-acrylic multi-functional-epoxide oligomeric reactive agent (SAMfE). PLA-REX was obtained by reactive extrusion of PLA. A general analytical equation was used in order to evaluate the kinetic parameters of the thermal degradation of PLA-REX/ABS and PLA-REX/ABS/ABS-g-MAH blends through thermogravimetric analysis. The thermal degradation of these blends occurred through two different reaction steps. Various empirical and theoretical solid-state mechanisms were tested to elucidate the best kinetic model. In order to reach this goal, plots of standardized conversion functions were constructed. Given that it is

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