

SL 4.2

## **Studies on Reactive Processing of Polyesters Textile Industry Wastes with Polyamide 6**

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Post-production PET-contained fabrics waste (PET) and polyamide 6 (PA) were blended with addition of reactive modifier elaborated in the Industrial Chemistry Research Institute. The reactions of modifier with blend components were studied by Fourier Transformation Infra Red Spectroscopy (FTIR), solubility behavior of the products in formic acid and rheological measurements. Investigated blends were prepared in a co-rotating twin-screw extruder and characterized by differential scanning calorimetry (DSC) and scanning electron microscopy (SEM). The static tensile properties, and impact strength of the blends were tested. The results indicate that the reactions of modifier with free carboxyl end groups of PA and polyesters run, at least in part, towards the formation of PA-co-modifier-co-PET copolymers acting as the effective compatibilizers for these blends.