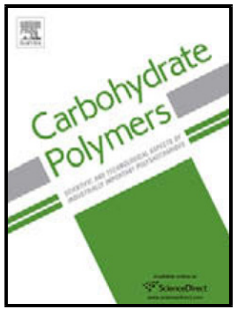

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Characterization of layered silicate-reinforced blends of thermoplastic starch (TPS) and poly(butylene adipate-co-terephthalate)

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Highlights

- Effects of organophilic (oMMT) and pristine (BT) clays in TPS/PBAT blends studied
- Ductility of blends increased when PBAT became one of the continuous phases
- Dehydration of TPS, also in PBAT blends, depended on the types of clay
- Unlike oMMT BT was intercalated during TPS production

ABSTRACT

A two-step melt blending procedure was used to produce binary systems composed of thermoplastic starch (TPS) and poly(butylene adipate-*co*-terephthalate) (PBAT). To improve the properties of the blends, two different layered silicates, viz. bentonite (BT) and organically modified montmorillonite (oMMT) were incorporated. First, TPS and its layered silicate nanocomposites were prepared *via*