

Recent Advances in Polyolefins/Natural Polymer Blends Used for Packaging Application

Abstract

This article reviews the recent advances made in polyolefin and natural polymer blends used for packaging applications, with a focus on their degradation. Nondegradable polymers are now considered as a serious environmental problem, and they have become an enormous challenge to waste management. Hence, the degradable polymers are practical solutions to reduce the municipal solid waste (MSW) caused by the use of nondegradable polymers. These degradable options can be produced from three kinds of natural sources:- (1) polysaccharides-starch, cellulose, chitin and chitosan; (2) proteins-soya, wheat gluten, collagen/gelatine; and (3) speciality polymers-such as lignin, natural rubber. One major challenge to producing a degradable blend with the desired properties is merging the hydrophilic characteristics of natural polymers with the hydrophobic characteristics of polyolefin. The aim of this review is to offer a complete overview of polyolefin/natural polymer blends researched for packaging applications.

Keywords

Blends; Compatibilizer; Natural polymer; Packaging application; Polyolefins