

# Effects of functionalized halloysite on morphology and properties of polyamide-11/SEBS-g-MA blends

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## Publication date

2017/5/1

## Journal

European Polymer Journal

## Volume

90

## Pages

418-430

## Publisher

Pergamon

## Description

Halloysite nanotubes (HNTs) were functionalized by grafting styrene-ethylene-butylene-styrene (SEBS) copolymer chains after a two-step modification procedure. Fourier transform infrared spectroscopy (FTIR), thermal gravimetric analysis (TGA) and pyrolysis–gas chromatography–mass spectrometry (Py-GC/MS) were used to determine the grafting rate. Then, raw and functionalized halloysites were incorporated into polyamide-11 (PA11)/ styrene-ethylene-butylene-styrene grafted maleic anhydride (SEBS-g-MA) blends (85/15 w/w). Scanning electron microscopy (SEM) and transmission electron microscopy (TEM) micrographs show a good dispersion of both halloysites particles and SEBS-g-MA nodules in the PA11 matrix. In the case of functionalized halloysite, the presence of HNTs bundles surrounded with fine SEBS-g-MA nodules is observed. Atomic force microscopy (AFM) also highlighted the different blends ...