

Brought to you by [INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA](#)



Scopus



[Back](#)

Properties of montmorillonite-reinforced thermoplastic sago starch composites

[Advanced Materials Research](#) • Conference Paper • 2012 •

DOI: 10.4028/www.scientific.net/AMR.445.469

[Zuraida A.](#) ; [Yusliza Y.](#); [Nurizan O.](#); [Anuar H.](#); [Zahurin H.](#); [+1 author](#)

Manufacturing and Materials Engineering Department, Kulliyyah of Engineering, International Islamic University Malaysia, 50728 Kuala Lumpur, P.O.Box 10, Malaysia

[Show all information](#)

2 35th percentile

Citations

[Full text](#) [Export](#) [Save to list](#)

[Document](#) [Impact](#) [Cited by \(2\)](#) [References \(8\)](#) [Similar documents](#)

Abstract

In this work, biodegradable polymer was prepared from thermoplastic sago starch (TPSS) plasticized with glycerol. In order to improve the properties of the TPSS, Montmorillonite (MMT), a kind of reinforced additive was used in the preparation of montmorillonite-reinforced thermoplastic sago starch (MTRSS) composites via hot pressing method. The fabricated samples were investigated through X-ray diffractometry, Fourier transform infrared (FT-IR) as well as thermal and morphological properties. FT-IR patterns show that in the MTRSS composites, the C-O groups of sago starch molecules shifted to higher wave number, while the reactive hydroxyl groups of MMT shifted to the lower wavenumber. On the other hand, X-ray diffraction revealed that MMT restrained the crystallization of MTRSS and intercalated in TPSS. Thermogravimetric analysis (TGA) revealed that the thermal stability

Abstract

Author keywords

Indexed keywords

Corresponding authors

About Scopus

[What is Scopus](#)

[Content coverage](#)

[Scopus blog](#)

[Scopus API](#)

[Privacy matters](#)

Language

[日本語版を表示する](#)

[查看简体中文版本](#)

[查看繁體中文版本](#)

[Просмотр версии на русском языке](#)

Customer Service

[Help](#)

[Tutorials](#)

[Contact us](#)

ELSEVIER

[Terms and conditions](#) ↗ [Privacy policy](#) ↗ [Cookies settings](#)

All content on this site: Copyright © 2025 [Elsevier B.V.](#) ↗, its licensors, and contributors. All rights are reserved, including those for text and data mining, AI