

عنوان مقاله:

Moisture Sorption Behaviour of Orange Peel Activated Carbon (OPAC) Filled Poly (Styrene-Co-Butyl Acrylate) Green Composites

محل انتشار:

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نویسندگان:

Shahryar Pashaei - *Department of Chemistry, Payame Noor University, Tehran, I.R of Iran*

Soleyman Hosseinzadeh - *Department Chemical Engineering, Payame Noor University, Tehran, I.R of Iran*

Basaravaje Siddaramaiah - *Department of Polymer Science and Technology, Sri Jayachamarajendra College of Engineering, Mysore ۵۷۰ ۰۰۶, India*

خلاصه مقاله:

In present work, orange peel derived activated carbon (OPAC) loaded into poly (styrene-co-butyl acrylate) green composites were synthesized with different weight fractions of (OPAC) viz., ۰, ۲, ۵, ۸, and ۱۰ wt% filler in the biocomposites. The effect of different water activity (aw) on the moisture sorption of Orange Peel Activated Carbon (OPAC) filled poly (styrene-co-butyl acrylate) green composites was investigated. Moisture sorption was carried out by exposing the composite specimens to different water activity (aw) from ۰.۱ to ۰.۹ at ۲۵ °C. The obtained sorption data were used to fit five different sorption isotherm models; namely, Braunauer-Emmet-Teller (BET), Smith, Halsey, Caurie, and Oswin proposed in the literature. The model constants were determined by linear fitting of the sorption equations. The value of the coefficient of determination ($R^2 = ۰.۹۹$) confirms the linear fitting of the equations studied.

کلمات کلیدی:

(Styrene, Butyl acrylate, sorption isotherm models, Green composites, Orange peel activated carbon (OPAC)

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