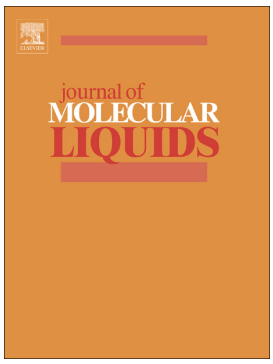


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# Influence of Treatments on the Dielectric Properties of Sugar Palm Fiber Reinforced Phenolic Composites

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## ABSTRACT

The dielectric properties of sugar palm fiber (SPF) reinforced-phenolic (PF) composites have been studied in terms of bonding between fiber and matrix. The paper aims to investigate the effect of alkaline treatment and sea water treatment on SPF composite using the dielectric relaxation spectroscopy in the frequency range from 0.1 Hz to 0.1MHz and temperature range from 80°C to 200°C. The results were discussed in terms of dynamic molecular and interfacial process. Our analysis suggests that interfacial adhesion in the case of alkaline treated composite is higher than those of untreated and sea water treated composites.

***Keywords:*** Sugar palm fiber, Dielectric properties, Alkaline treatment, Sea water treatment.

## 1. Introduction

The commercial application of composite materials in large scale production began in the early 1940s and before 1950s during the period of the Second World War with the marine