Fourier-Transform Infra Red (FTIR) Analysis of UV Curing Biobased-Polyurethane from Epoxidized Palm Oil Using Acrylation and Thiols Addition

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ABSTRACT

This study is conducted to synthesis bio-polyurethane from epoxidized palm oil (EPO). Palm oil-based polyurethane was synthesized by the acrylation process followed by thiols addition. The resulting oligomers were then reacted with isophorone diisocyanate (IPDI) and dibutylin dilaurate (DBTDL) to form Thiolated Acrylated Epoxidized Palm Oil Urethane (t-AEPOU). t-AEPOU was then reacted under UV photoirradiation for further reaction and to pre-determine its curing activities. The polymerization of AEPO and t-AEPOU were confirms by using Attenuated Total Reflection - Fourier-Transform Infra Red (ATR-FTIR). This study affords new approach in synthesis of Palm Oil bio-based Polyurethane Coating.

KEYWORDS

Bio-Based Coating; Palm Oil; Polyurethane; Thiols Addition; UV-Curing

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