

**SYNTHESIS OF POLYURETHANE FROM OIL PALM
CELLULOSE**

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ABSTRACT

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The biomass waste are mostly generated by Asian countries such as Malaysia and other countries that produce palm oil as economic sources. By using this biomass waste for create new products also can reduce environmental pollution where the old and dead palm oil trees mostly will be burn since it cannot decompose to the soil. This experiment is to synthesis the polyurethane from cellulose by extraction of sawdust from palm oil fronds by using ethanol-toluene to remove essential oil and other substances. The sawdust then undergoes bleaching process which to remove lignin where sodium chlorite is used as bleaching reagent to make the cellulose in white powder. The white powder cellulose that obtained react with ethylene glycol producing glycoside. Glycoside react with palm oil to form polyols. Toluene diisocyanate (TDI) was used to react with polyols to form polyurethane. Polyurethane that obtained was analyzed by using FTIR. The result shows that polyurethane can be formed by using cellulose of oil palm fronds.

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