

Process development for the extraction of valuable components from rice husk using alkaline catalyst

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The alkaline extraction process was performed for de-mineralization and de-lignification from rice husk. The effects of reaction variables in de-mineralization and de-lignification were investigated under the following conditions: temperature (160 – 180 °C), time (15 – 60 min) and NaOH concentration (5 – 15 wt.%). The extraction conditions for the efficient de-mineralization and de-lignification of rice husk were 160 °C, 30 min, 5% NaOH. In this condition, 90.1% of mineral and 72.0% of lignin were obtained from liquid hydrolyzate. The result showed that alkaline extraction can be used for effective separating method into mineral, lignin and carbohydrates from rice husk. The obtained mineral (mainly silica), lignin and carbohydrate from rice husk can be considered as sources of value-added materials in biorefinery field.