Manuscript ID : 00000-40965

Source ID : 00000002

International Journal of Mechanical Engineering and Technology

Volume 9, Issue 10, October 2018, Pages 271-278, Page Count - 8

DELIGNIFICATION OF CHANDLENUT SHELL WASTE WITH ALKALI PRETREATMENT METHOD AS AN ALTERNATIVE FUEL FEEDSTOCK

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Abstract

The limited supply of oil and the increasing need for energy make it necessary for alternative energy sources based on biomass and environmentally friendly. One of them is by utilizing hazelnut shell waste for feedstock energy alternatif.. The purpose of this study was to determine the effect of the hazel shell delignification process on the levels of lignin, cellulose, hemicellulose, to determine the effect of concentrations and alkali types to get the optimization of lignin compound degradation. The method used is the delignification process using alkaline types NaOH, KOH, CaOH2, with concentration varies of alkali 3%, 6%, 9%, 12% and 15%, And Then analyzed using the Chesson method to calculate the content of lignin, cellulose and hemicellulose. The results of the research is make data the highest hemicellulose content produced was 10.33% using an alkaline NaOH solution with a concentration of 15%, The highest cellulose content percentage was 77.67% by using alkaline KOH solution with a concentration of 15% obtained and the lowest lignin content percentage is 10.33% using alkaline NaOH solution with a concentration of 15%.

Author Keywords

Pecan Shell, delignification, alternative energy

Acknowledgement

Thank you very much to the National Institute of Technology Research and Community Empowerment for the internal grants provided to us for the smooth running of our research. And all those who have helped in carrying out this research.

ISSN Print: 0976-6340
ISSN Online: 0976-6359
Source Type: Journals
Document Type: Journal Article
Publication Language: English
DOI:
Abbreviated Journal Title: IJMET
Access Type: Open Access
Publisher Name: IAEME Publication
Resource Licence: CC BY-NC
Major Subject: Physical Sciences
Subject Area classification: Energy
Subject area: Fuel Technology
Source: SCOPEDATABASE

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