

Review Form 1.7

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_119939
Title of the Manuscript:	PERFORMANCE EVALUATION OF THERMAL AND ACID-ACTIVATED SMECTITE IN BLEACHING PALM OIL
Type of the Article	

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><u>Compulsory</u> REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p> <p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>1. Yes, This research expands knowledge in material science by studying the properties of activated smectite and provides valuable insights into process technology that can enhance industrial efficiency. Its potential for broad applications, including the purification of other oils, adds economic value and global relevance, while contributing to the scientific literature with new empirical data that supports further research.</p> <p>2. Yes, the title of the article is suitable</p> <p>3. The abstract is quite comprehensive as it includes essential elements that provide a thorough overview of the conducted research. It begins by explaining that smectite from Ubulu-uku was thermally and chemically activated to enhance its adsorptive performance, clearly stating the purpose of the study. The methods used, including thermal and chemical activation and analysis using X-ray Fluorescence (XRF), are clearly described. The results of the XRF analysis show changes in chemical composition due to thermal and acid treatments, and the physicochemical properties such as surface area, acidity, cation exchange capacity, and bleaching efficiency are presented with a clear comparison between chemically and thermally activated samples. The conclusion drawn from this study indicates that the performance of local clay minerals can be enhanced through thermal and acid activation. Relevant keywords are included, aiding in the indexing and searchability of the article. However, there are a few aspects that could be improved to make the abstract more informative: providing slightly more detail about the specific conditions of the thermal and chemical activation (e.g., temperatures, types of acids) could help readers understand the methods used, and adding one or two sentences about the implications of these findings for practical applications or future research could strengthen the abstract. Overall, the abstract is comprehensive and provides a good overview of the research, methods, results, and conclusions obtained.</p> <p>4. Yes, the subsections and structure of the manuscript are appropriate. The manuscript is well-organized with clear sections for the introduction, methods, results, discussion, and conclusion.</p> <p>5. Yes</p> <p>6. To ensure that the manuscript is up-to-date and relevant, it is important to incorporate more recent references alongside the foundational studies. Many of the current references are more than ten years old, which could limit the manuscript's appeal and applicability to contemporary research. Therefore, it is recommended to add 5-10 recent articles published within the last few years. These newer references will not only provide the latest insights and advancements in the field but also demonstrate the manuscript's engagement with current research trends and methodologies. By integrating recent studies, the manuscript will be better positioned to contribute to ongoing discussions and developments within the scientific community. This approach will enhance the credibility and impact of the research findings, making the manuscript more compelling and relevant to current and future readers.</p> <p>You can add the following articles as references: Kinetic and Thermodynamic Studies of Crude Palm Oil Bleaching Using Amansea Clay (journalajacr.com)</p>	

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	<p>BLEACHING OF CRUDE PALM OIL BY ACTIVATED NISE CLAY: PROCESS KINETICS, ISOTHERM AND THERMODYNAMIC STUDIES International Journal of Innovations in Engineering Research and Technology (ijert.org)</p> <p>Optimization of Crude Palm (Elaeis guineensis) Oil Bleaching using Zeolite-Fe by Response Surface Methodology Anis agriTECH (ugm.ac.id)</p> <p>Performance Evaluation of Bentonite/Nano-SiO2 Composite as Bleaching Earth in Crude Palm Oil Processing Yahya Jurnal Kimia Sains dan Aplikasi (undip.ac.id)</p> <p>Clay Characterization and Bleaching of Crude Palm Oil Using Acid-Activated Nibo Clay Bioremediation Science and Technology Research (hibiscuspublisher.com)</p> <p>Comparative analysis on the bleaching of crude palm oil using activated groundnut hull, snail shell and rice husk: Heliyon (cell.com)</p> <p>Optimization of bleaching of Crude Palm oil using Activated Groundnut Hull - IOPscience</p>	
Minor REVISION comments		
1. Is language/English quality of the article suitable for scholarly communications?	You can use applications like Grammarly.com to improve some sentences.	
Optional/General comments		
1, Introduction	1. Clearly specify the research gaps that this study aims to fill. For example, "Although extensive research has been conducted on acid and thermal activation of clay minerals, there is limited focus on their application in bleaching palm oil using locally sourced smectite from Ubulu-uku."	
2. Materials And Methods	Add references from recent studies (within the last 5-10 years) to ensure the literature review is up-to-date and relevant.	
3. Results And Discussions	2. The materials and methods section is detailed and well-structured overall, providing a clear framework.	
4. Conclusion	3. The results and discussion are good, although slight additions could enhance clarity in the discussion : Explain why increasing the activation temperature (from 0 to 450°C) results in an increase in bleaching efficiency, whereas at 600°C, there is a decrease. Add references from recent studies (within the last 5-10 years).	
	4. The conclusion is good	

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	(If yes, Kindly please write down the ethical issues here in details)	

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