

Review Form 3

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	Ms_IRJPAC_122621
Title of the Manuscript:	The influence of acid activation on surface characteristics of natural bentonite
Type of the Article	Original Research Article

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	I appreciate the article's effort to investigate and highlight the adsorption potential of natural clay from Šipovo. However, there appears to be a discrepancy between the characterization techniques mentioned in the abstract and the results presented in Table 2. Specifically, the abstract states that XRD was used to characterize the bentonite clay, but Table 2 reports the results of XRF analysis expressed as oxides (%). Please clarify and reconcile this inconsistency.	
Is the title of the article suitable? (If not please suggest an alternative title)	Yes.	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	<p>The abstract should be presented in a single paragraph. However, the current second paragraph should be revised and updated as follows:</p> <p>“Activation of bentonite clay in the experimental part was performed with different concentrations of sulfuric acid. The chemical composition of the natural bentonite sample was determined using XRD alongside the influence of acid activation of bentonite with H₂SO₄ on the surface characteristics (such as specific surface area, pore volume and average pore diameter, adsorption capacity and isotherm type) of bentonite clay. The XRD analysis of the natural bentonite, which contains 56.35% SiO₂ and 19.82% Al₂O₃ as its primary components, confirms that it is an aluminosilicate material. Except for SiO₂, which recorded a consistent increase in quantity from 56.35% to 74.15% with increasing acid concentration, the composition of other components, after activation slightly decreased or remained the same.</p> <p>The acid concentration that yielded the highest increase in specific surface area, as measured by the BET method, was selected as the optimal concentration for activating bentonite. The specific surface area almost tripled (from 95.519 m²/g to 346.467 m²/g) by activation with 15% sulfuric acid, with an activation time of 3 hours and a bentonite:acid ratio of 1:5. The research results show the effectiveness of acid modification in terms of improving the characteristics of the porous structure of bentonite samples.”</p> <p>Please arrange the <i>keywords</i> in alphabetical order for consistency and clarity.</p>	
Are subsections and structure of the manuscript appropriate?	Yes.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	<p>This manuscript is scientifically robust. However, in the Materials and Methods section, you omitted to cite or acknowledge the source of the method you employed, specifically whose method you adapted or followed.</p> <p>RESULT AND DISCUSSION SECTION</p> <p>Please the discussion of results should be focused primarily on this study. To provide context and validate the findings, the results can be compared to those of earlier related research, demonstrating their consistency and alignment with existing knowledge in the field.</p>	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =	<p>The current references are inadequate. To enhance the introduction's references, incorporate the following articles, which will provide more comprehensive and relevant support for the topic.</p> <p>https://doi.org/10.2298/SOS1303363S https://doi.org/10.1016/j.micromeso.2014.03.031 https://doi.org/10.1007/s12665-015-4941-2</p>	

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	https://doi.org/10.5772/intechopen.96524 https://doi.org/10.15244/pjoes/61626 https://doi.org/10.1016/j.jhazmat.2020.122594 https://doi.org/10.1088/1742-6596/2373/3/032006	
Minor REVISION comments	<p>Additionally, a uniform citation style (such as APA, MLA, Chicago, Harvard or Vancouver) should be maintained throughout the reference list, ensuring consistency in formatting and presentation of all cited sources.</p>	
<p>Is the language/English quality of the article suitable for scholarly communications?</p>	Yes.	
Optional/General comments	This paper is acceptable for publication after all the noted errors have been properly rectified and the necessary revisions have been made.	

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?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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