

Review Form 3

Journal Name:	Asian Journal of Applied Chemistry Research
Manuscript Number:	Ms_AJACR_123758
Title of the Manuscript:	Optimizing Tantalite Dissolution in Hydrofluoric-Sulphuric acid using Response Surface Methodology and Shrinking Core Model
Type of the Article	Original Research Article

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

<u>Compulsory</u> REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>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.</p>	<p>This manuscript provides significant insights into the dissolution of tantalite ore using hydrofluoric-sulphuric acid, which has implications for improving leaching efficiency in the mining industry. Its use of the shrinking core model and response surface methodology (RSM) offers a robust framework for understanding mineral dissolution processes. This contribution could benefit industries involved in rare-earth element extraction and those researching optimal ore processing techniques.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The current title, 'Optimizing Tantalite Dissolution in Hydrofluoric-Sulphuric acid using Response Surface Methodology and Shrinking Core Model,' is informative but could be made more concise. An alternative suggestion could be:</p> <p style="text-align: center;"><i>Optimization of Tantalite Ore Dissolution Using Hydrofluoric-Sulphuric Acid and Shrinking Core Model.</i></p>	
<p>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>	<p>The abstract is comprehensive, outlining the study's objectives, methods, and key findings. However, the focus on optimal experimental conditions could be further emphasized, as well as the broader implications for industrial applications. Consider adding a sentence highlighting the potential real-world impact of this research.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The structure of the manuscript is appropriate, with clearly defined sections on methodology, results, and conclusions. The breakdown of variables and their interactions is particularly useful for replication and validation purposes. However, the introduction could benefit from a more detailed discussion of previous research to contextualize the study's contributions.</p>	
<p>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>	<p>This manuscript is scientifically robust, with well-defined methodologies, thorough experimental design, and accurate data analysis. The combination of empirical and theoretical approaches, such as the shrinking core model, enhances the study's validity. Additionally, the statistical models applied appear sound, with sufficient explanation of the results.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>The references are adequate but could be updated to include more recent studies from the last three years, especially in the field of mineral dissolution and rare-earth element extraction. Suggestions include works on hydrometallurgy and advancements in leaching technology.</p>	
<p><u>Minor</u> REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Improve the clarity of language in the introduction and abstract.</p>	
<p><u>Optional/General</u> comments</p>	<p>The manuscript provides a thorough investigation into a specific industrial problem and could serve as a valuable reference for future studies in ore dissolution.</p>	

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PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
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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