

Review Form 3

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| Journal Name: | Chemical Science International Journal |
| Manuscript Number: | Ms_CSIJ_124918 |
| Title of the Manuscript: | Henderson-Hasselbalch Equation in pH Determination of Buffer (Acetic acid-Sodium Acetate) Solution at Temperature, 298 K |
| Type of the Article | |

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PART 1: Review Comments

| Compulsory 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> |
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| <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>Positive comments:</p> <ol style="list-style-type: none"> 1. Clarity of Purpose: This article clearly states its purpose: Use the Henderson-Hasselbalsch equation to determine the pH of an acetic acid-sodium acetate buffer solution. It helps set the reader's expectations. 2. Extensive literature review: The introduction provides a solid theoretical foundation by discussing relevant theories (e.g. Le Chatelier's theory, the ionization constant) and citing several references. This demonstrates a comprehensive understanding of the topic. 3. Description of the methodology the experiment section has comprehensive content. It describes solution preparation and use of a digital pH meter. This precision allows for repeatability. This is important in scientific reports. 4. Use visual aids: Incorporating diagrams (such as a digital pH meter and infographics) to show the pH measurement process and results improves reader understanding and engagement with the material... 5. Results Discussion: The Results Discussion section effectively links experimental observations with theoretical concepts, such as the pH effect of adding NaOH to a buffer solution. This connection between theory and practice is admirable. <p>Negative comments:</p> <ol style="list-style-type: none"> 1. Language and Grammatical Issues: There are many grammatical errors and awkward sentences throughout the article. For example, phrases such as "We apply" and "Very volatile" should be edited for clarity. clear Consider the proofreading or editing process carefully to improve readability. 2. Sentences that are too complicated: Some sentences are too complex or complex. This makes it difficult for the reader to follow the argument. Simplifying these sentences improves clarity and understandability. 3. Repeatability: Some points, especially regarding the formulation of the solution and the role of the components in the buffer system. There is unnecessary repetition. This could be improved to improve flow and reduce redundancy. 4. Inconsistent terms: Ensure that terminology is used consistently throughout the article. For example, the terms "ice cream" and "acetic acid" should be clearly defined and used consistently to avoid inconsistencies. confused 5. Lack of Information Presentation: Although the text discusses pH fluctuations, limited information is presented. Identification of specific pH measurements and changes in response to NaOH addition strengthens the results section. 6. Clarity of Conclusions: The conclusions repeat points in the article without summarizing the key findings or significance of the research. A more focused conclusion that highlights key results and relevance will increase the impact of the article. <p>Overall impression: This article presents a valuable application of the Henderson-Hasselbalsch equation. and demonstrate a clear understanding of buffer chemistry. It has the potential to make a significant contribution to the literature on buffer solutions through improving language clarity. Presentation of information and compactness...</p> | |
| <p>Is the title of the article suitable? (If not please suggest an alternative title)</p> | | |

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| 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. | | |
| Are subsections and structure of the manuscript appropriate? | | |
| 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. | | |
| Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. | | |
| <u>Minor REVISION</u> comments | | |
| Is the language/English quality of the article suitable for scholarly communications? | | |
| <u>Optional/General</u> comments | | |

PART 2:

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| | 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> | |

Reviewer Details:

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|----------------------------------|---------------------------------|
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