# Review of: "Use of the experimental designs as an approach to optimize the inhibition efficiency of a Pyridazine derivative against corrosion of steel in an acidic medium"

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Potential competing interests: No potential competing interests to declare.

**Review of: ‘‘Use of the experimental designs as an approach to optimize the inhibition efficiency of a Pyridazine derivative against corrosion of steel in an acidic medium’’**

The researchers had a clear and defined set of objectives mapped out to solving critical and practical issues with the use of Pyridazine derivative against corrosion of steel in an acid medium; and, used Dohlert matrix and NemrodW software in achieving their aim.

The authors were able to demonstrate, with practical examples, using the Dohlert matrix and NemrodW software, that corrosion inhibition of steel in an acid medium can be influenced by the concentration of the applied inhibitor, operating temperature, and immersion time.

Essentially, the findings from this research ‘provide insight into the optimal conditions for inhibiting steel in an acid medium, which can have practical implications in industries that use acid solutions. The results suggest that careful control of the amount of inhibitor and temperature is critical for achieving high inhibition efficiency, while the immersion time can be adjusted within a reasonable range without a significant impact on the efficiency; and, specifically, the researchers were able to provide helpful and insightful information for developing optimal strategies to optimize the use of the Pyridazine derivative inhibitor.

Indeed, every research has an aim, objective, and scope. It can be said that the authors were able to achieve, significantly, the aims, objectives, and scope of this research.

However, authors would need to merge the first three lines in paragraph three to paragraph (2) and should ensure that undue repetition of words/sentences found in paragraph two (2) and the first three (3) sentences are avoided.

Also, the ‘new’ paragraph two (2) should be constructed to ensure the flow of thought/idea within the introductory section.

In addition, I am of the view that the word ‘breaking’ found in paragraph three (3) is not a technical term. A more suitable/technical word such as fracture should be used! Similarly, the phrase, ‘optimized the efficiency inhibition’ would be better to read: optimized the efficiency of inhibition.

Moreso, a cursory gaze at Table 1 reveals that the steel sample used is plain carbon steel (specifically called low carbon steel). Thus, the use of the phrase, ‘ordinary steel’ by the researchers in the manuscript should be revisited. I suggest the

researcher should adopt a more technical/appropriate phrase such as carbon steel or low carbon steel since there is no such term as ordinary steel from Materials & Metallurgical point of view.

In a not shell, I commend the researcher for their insightful, thorough and thought-provoking research as this.