

Review of: "Nanomaterials: History, Production, Properties, Applications, and Toxicities"

Syed Shoaib Ahmad Shah¹

¹ National University of Sciences & Technology (NUST)

Potential competing interests: No potential competing interests to declare.

Title: **Nanomaterials: History, Production, Properties, Applications, and Toxicities**

Article Type: **Review Article**

This article review is about Nanomaterials: History, Production, Properties, Applications, and Toxicities. The article is somehow well written; however, it needs a major revision to be considered for publication.

1. Authors should reconsider the title, as there is no comprehensive discussion regarding the production/synthesis of the nanomaterials.
2. Authors should add a graphical representation highlighting the overview of this paper.
3. Many review papers have been published on nanomaterials in the recent few years. What is the difference between this review and already published papers? State the novelty of this review paper.
4. Authors are suggested to review and cite these advanced nanomaterials in the revised manuscript: Inorganic Chemistry Communications 157 (2023) 111268, Chemical Engineering Journal 474 (2023) 145700, Journal of Molecular Structure 1301 (2024) 137384, Inorganic Chemistry Communications 165 (2024) 112294, <https://doi.org/10.1007/s11814-024-00162-w>, Composites Communications 45 (2024) 101783, Journal of Alloys and Compounds 990 (2024) 174378, Surfaces and Interfaces 34 (2022) 102324, International Journal of Hydrogen Energy 62 (2024) 1113–1138, Journal of Energy Storage 75 (2024) 109725, Journal of Alloys and Compounds 1001 (2024) 175172.
5. Authors should describe the purpose of this review paper in the ending section of the very first heading.
6. The application section “3. NMs and their applications” is insufficient. Moreover, there is no proper discussion regarding the use of nanomaterials in applications. Only some of the common properties are described.
7. Authors should add graphical illustrations from the most recent research regarding the working mechanism in every application. I strongly recommend improving the application section. In the present condition, it is not up to the standard of publication.
8. In this review article, the discussion is too common and general. Authors should critically analyze the recent research and compile it in a comprehensive way.
9. Moreover, tabular data can be added in the application section to make it more comprehensive.
10. The authors should state the future prospects and challenges more effectively in the field of nanomaterials and their applicability in different applications.

