

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

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Potential competing interests: No potential competing interests to declare.

Authors report nanomaterials and nanoparticles and their use in various sectors of nanotechnology, including catalysis, water treatment, sensors, energy storage, and nanomedicine. Authors also clarify their impacts (advantageous and disadvantageous) on the environmental and social points of view.

1. The content is relatively incoherent with the abstract since authors declare that they give a number of unique approaches to improve the selectivity and selectivity of MOS. Really, authors cited categories of NMs that can be used for a specific applications without giving any specification on the synthesis process, device architecture, and without any scientific reasons and there are no rigorous discussions of the already obtained results. Add clarifications about the synthesis process, and a specifications, concentrations of NPs (composite for examples) and please made discussions based to supports innovative properties.

2- No reference after 2020 is cited.

Add new references (2021,2022,2023 and 2024).

3-Keywords should not be presented as abbreviations.

4- In the introduction, the term nano in Greek will not provide additional information for the term "nano"

5. In my knowledge, the SEM can not reach atomic resolution. It is used only for surface topography.

In Table 1, the year of the main use of the fourth group is not indicated, and bibliographic references are dated before 2020.

Figure 1 is not indicated in the text.

6- In paragraph 4, authors declare that they analyse NMs by microscopy, chromatography.... There is no data about these analyses. Please correct the form of the sentence.

7-What is the meaning of NMs in paragraph 4.a?

8. In paragraph 4.a, authors used the term " thanks to" I think that it is not adequate. please replace it by "based on ..."

9. In the conclusion part, authors recommend a rigorous study including characterization synthesis and toxicity and at the same time the paper reports a large specification of the appropriate application of NMs. In my knowledge, the synthesis and characterization is the first step accomplished by scientists. The Secondd step followed by scientific community is to specify the applicability. Therefore, I think that this a contradictory with the base of the work. Please eliminate this sentence.

I recommend the publication of the paper in Qeios after correction of these comments

