

P-06-01-28**TiO₂-carbon nanotubes nanohybrid toxicity in *Danio rerio* embryo**

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Recent findings indicate that the combination of titanium dioxide (TiO₂) with carbon nanotubes (CNT) increase the photocatalytic efficiency. Due to the importance of these new technologies, the production of such particles has been encouraged. However, concerns about their toxicity and safety when released into the environment are considerable. Therefore, to understand the role of TiO₂-MWCNT in the environment, our goal was to synthesize TiO₂-MWCNT nanomaterial, by mechanical mixing method,

and evaluate its toxicity. For this purpose, an early life stage assay was performed with *Danio rerio* embryos. The parameters assessed were acute toxicity, hatching rate and growth. Also, the photocatalytic efficiency of the TiO₂-MWCNT was assessed through indigo blue dye degradation. Characterization was performed by electron transmission microscopy. The synthesis was efficient to loaded the TiO₂ on the surface of MWCNT, and the composite was more photocatalytic than TiO₂. Also, there was no acute toxicity, nor sublethal effects in *Danio rerio* embryos, until 100 mg L⁻¹. Therefore, the nanohybrid TiO₂-MWCNT is a promising material, presenting high efficiency and low toxicity.

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