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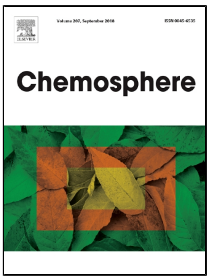

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An environmentally relevant concentration of titanium dioxide (TiO_2) nanoparticles induces morphological changes in the mouthparts of *Chironomus tentans*

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Abstract:

The present study was carried out in order to assess the influence of environmentally relevant concentrations of TiO_2 nanoparticles (E171 human food grade) toxicity on the freshwater midge *Chironomus tentans.* Tested concentrations were 125, 250, 500, 1000, 2000 and 4000 mg of E171 TiO_2 per 1 kg of sediment, for the experiment aiming at life trait toxicity observation; and 2.5, 25 and 250 mg of E171 TiO_2 per 1 kg of sediment for the experiment aiming at mouthpart deformity observation. The experimental design was constructed for the sediment dwelling chironomid larvae according to OECD guidelines. For the first