PROJECT FACTSHEET

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NANOGAM

Understanding the mechanisms of nanomaterial toxicity on freshwater invertebrates.



Inspiration

Currently the properties of nanomaterials with relevance to toxicity are far from being understood and toxicity cannot be predicted. Therefore, safety assessments can only be performed by testing each batch of materials in a repetitive manner. There is a clear need for knowledge that will make it possible to predict certain biological effects based on material properties.

Innovation

NANOGAM is a project that complements the NANION project by carrying out experiments on nanoparticles in respect to ecotoxicological relevant model organisms. In particular, it aims to investigate the characteristics of the key physico-chemical parameters and surface functionalities of a well-chosen list of nanoparticles that control nanoparticle uptake and dependent biological effects and compare this with effects due to free ions that may leach from nanoparticles. Furthermore, the project evaluates the advantages and disadvantages of Gammarus sp. as an aquatic model organism as its relative size and position in the food cycle make it a potentially very interesting and relevant model organism.

Impact

The detailed systematic knowledge on the nanoparticle properties and the biological and environmental interactions of nanoparticles used within NANOGAM will contribute to the understanding of relevant material properties to reduce the need for carrying out endless repetitive tests and solely descriptive experiments. NANOGAM may also contribute to the overall aims of the project FUTURENANONEEDS by carrying out targeted toxicity testing in cases where screening suggests there is a need to do so.

Partners

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