

## ECOSAFETY OF NANOMATERIALS FOR SEAWATER REMEDIATION

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The use of nanomaterials (NMs) for *in situ* remediation referred as nanoremediation represents a promising and cutting-edge solution, by ensuring a quick and efficient pollutants removal. However, their use should not pose any additional risk for the environment and natural ecosystems. The aim of the present study is to validate and define ecotoxicological tools to plan and realize *ecosafe* remediation techniques in the marine environment based on the use of *eco-friendly* NMs.). Newly synthesized *mesoporous titania* (MT) for heavy metals remediation in seawater have been tested using ecotoxicological bioassays in selected marine organisms belonging to different trophic levels: algae (*Rhodomonas baltica*, *Rhinomonas reticolata*), zooplankton (*Artemia franciscana*, *Amphibalanus amphitrite*, *Acartia tonsa*, *Brachionus plicatilis*) and sea urchin (*Paracentrotus lividus*). No MT significant effects were observed, nevertheless, co-exposure of MT with Cadmium (Cd) as marine pollutant to be remediated, increased Cd toxicity. Preliminary data underline the need to define the *ecosafety* of NMs for environmental applications before any massive use in the natural environment in order to prevent any adverse environmental impact.