

## NANOHETER - an ERA-NET SIINN Programme (2013-2016), Assessing the fate of manufactured nanoparticles released in surface water

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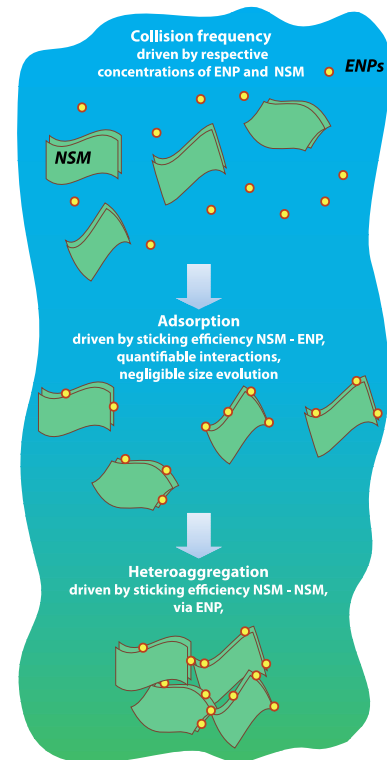
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As part of the risk assessment of nanotechnology, this programme deals with the exposure of engineered nanoparticles (ENPs), focusing on their fate in surface water. Based on the trace concentrations expected, the approach claims that the homoaggregation of ENPs in the water column is not a driving characteristic for their fate, but that their potential for interaction with the mineral and organic suspended matter occurring in surface water (NSM) [1] will be the governing factor. The aim of this project is to identify among these materials the potential carriers for ENPs. Mechanistic [2,3], holistic and model [4] approaches are conducted together. The interaction of ENPs with surrounding materials are investigated, and the potentially induced heteroaggregation and/or sedimentation mechanisms are studied. The goal is to deliver a probability ranking of these potential scenarios that can be used to model the fate of ENPs in natural aqueous systems at the river scale.



### References

1. D. Slomberg et al., Characterization of suspended particulate and natural organic matter in the Rhône River: Insights into selecting surface water analogues. *Environmental Chem*, Submitted (2015).
2. A. Praetorius, et al., Heteroaggregation of titanium dioxide nanoparticles with model natural colloids under environmentally relevant conditions, *Environ. Sci. Technol.* **48**, 10690 (2014)
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4. N. Sani-Kast et al., Addressing the Complexity of Water Chemistry in Environmental Fate Modeling for Engineered Nanoparticles, *Journal of the Total Environment*, in press (2015)