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Nanomaterials release from product´s life cycle: the GUIDEnano project

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Abstract: Currently the potential impacts of engineered nanomaterials (ENMs) on humans and the environment have generated considerable research interest, since their use and diversity of applications in commercial products have grown extensively over the past decade, and it is expected to continue growing. The main objective of this work is to develop a strategy to identify and predict amount of release of ENM and the form these released ENMs (e.g. free, aggregates, embedded in matrix and/or ion leaching, as added or degraded) throughout the life cycle of nano-enabled products, within the framework of the GUIDEnano FP7 European research project. This project ultimately aims at developing innovative methodologies to evaluate and manage human and environmental health risks of nano-enabled products, considering their whole life cycle.
Results obtained from literature review will be presented, categorized by type of product tested, experimental set-up, receptor compartment or released material properties. Special attention has been paid to both use and end-of-life life cycle stages of the nano-enabled products. In addition, a series of experimental simulations based on the industrial case studies proposed within GUIDEnano project will be described. The presentation will also outline the main findings up to 12 months of the ongoing project.

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