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## **Nanotoxicity: An Unmet Challenge**

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Any substitute ranging from 1- 100 nm, known as nanomaterials, constitutes the bearer of most advancing technology, nanotechnology. The toxicity from nanomaterials is due to their exceptional properties which are attributable to their small size, chemical composition, small size, surface structure, aggregation, solubility and shape. Over the past number of years several studies have indicated that nanomaterials produce ultimate impact on health and the environment. An important mechanism of nanotoxicity is the generation of reactive oxygen species (ROS). There are four main human routes of exposure namely: dermal, inhalation, ingestion and injection. Environmental routes of exposure are manifold. Most important examples are wastewater system and disposal of nanomaterials or products of research laboratories, manufacturing companies and household. Despite the widespread development of nanotechnology and nanomaterials very limited numbers of studies have been performed on the effects of nanoparticles on environment and health. In view of the fact that there are many different nanomaterials and that the risk they pose differ substantially depending on their properties, fundamental research is necessary so as to do a risk assessment for each of the specific variation of nanomaterial before it enters the market.