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Nano Particles ply vital role in Toxicology

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Introduction

Nanotechnology has a worldwide socioeconomic connotation. On the progress side, Nanoparticles (NPs) tender astonishing technical competencies which consent them to carry out extremely novel developments in science and industries. Whereas, on the draw back side, just the same novel qualities of nanoparticles can concomitantly bring to mind undesired features, which every now and then lead to unfavorable and detrimental interactions with exposed organisms. Workers concerned in industrialized and managing of NPs in all countries face new hazards from these nanomaterials. The work-related safety and health links have taken schemes to spot the gaps between consciousness and practices. These worldwide agencies put together the guiding principle for handling nano materials and fix their professional exposure limits. In this juncture author discussed the source and role of NPs in different areas, NPs induced toxicity, their communication with dissimilar biomolecules, as well as the wellbeing and usage guiding principle of NPs in industrial and laboratory areas. Nanotechnology and the fabrication of nanoparticles are mounting exponentially, research into the toxicological shock and possible hazard of nanoparticles to human wellbeing and the atmosphere is still in its formative years. This review aims to give a wide-ranging summary of what is acknowledged today about nanoparticle toxicology, the mechanisms at the cellular level, access routes into the body and probable impacts to public health. Appropriate characterisation of the nanomaterial, as well as thoughtful processes happening on the nanoparticle facade when in get in touch with living systems, is crucial to understand probable toxicological effects. Dose as a key constraint is essential in hazard classification and risk appraisal of nanotechnologies. Perceptive nanoparticle pathways and entry routes into the body requires further research in order to update policy makers and regulatory bodies about the nanotoxicological potential of certain nanomaterials.

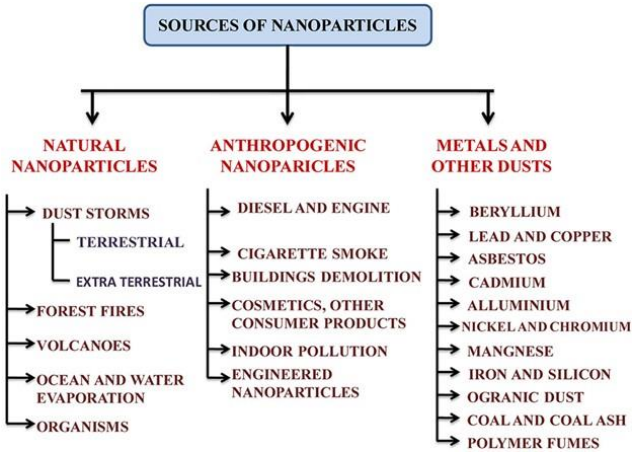

Figure 1: An outline of the various sources of nanoparticles in the environment

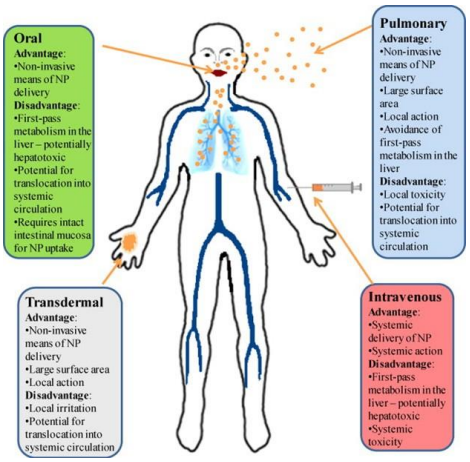

Figure 2: Routes of administration of nanoparticles and their advantages and disadvantages

Biography

Dr A.Mohamed Sikkander is serving as a Associate Professor&Head, Department of Chemistry, Velammal Engineering College,Chennai 600066.

He earned his UG&PG Chemistry Degrees from Jamal Mohamed College, Trichy , M.Phil from Bharathidasan University ,Trichy and Ph.D from Periyar University ,Salem .He is the 20TH Ph.D scholar of Dr.P.Manisankar Vice Chancellor,Bharathidasan University Trichirappalli.

He knows the values of teaching and research equally and having a balanced professional life which fulfill both activities.He earned more than 26 years experience in Teaching, R&D and administration in well reputed schools and college in India.

He believes the most important thing that can do to help his students is to come too regularly with enough creative preparation and organization. He treats his students and colleagues like close friends and invest his knowledge and good rapport with in their success. His Attitude is 1).Innovation is hard to schedule.2). Research is what I am doing when I don't know what I am doing.3). The best teachers teach from the heart, not from the book.

He is a journal reviewer of ELSEVIER -Biomedical journal, Elsevier-European Journal of Pharmaceutical Sciences and Egyptian Journal of Food Science (EJFS) .He has published 14 Research papers in well reputed journals and 7 Research paper in reputable international Conference proceedings. He has written ten chemistry books are titled as Computational Chemistry, Organic reactions & their Mechanisms, Petroleum Chemistry, Basic Concepts in Medicinal Chemistry, Medicinal and Pharmaceutical Chemistry, Green Chemistry, Bio Chemistry, Engineering Chemistry, Chemistry for Engineering Materials and Polymer Chemistry. Book writing is not his hobby. He wants to touch the young minds through his books.

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