

ENVIRONMENTALLY BENIGN NANOMATERIALS: IT IS EASY BEING GREEN!

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ABSTRACT

Engineered nanomaterials are currently being created, modified, functionalized, and so-synthesized for novel and useful applications in a diverse range of products. Innovative products which extend the quality of life, improve the environment, and enhance agricultural harvests among many other applications. As society travels down the path of progress and technological innovation, keeping an eye on the complete material life cycle of both the nanomaterials and products into which they are incorporated. Understanding how and where exposure might occur and designing nanomaterials which can be recovered and recycled will enable us to traverse this path without falling headlong into the pit of serious adverse impacts on public health and the ecosystem.

Joint international efforts are critical to meet the challenge of technological progress in a manner that allows for the design of environmentally benign components and compounds and for the thoughtful recovery of materials. Diverse cultures approach and address challenges from different perspectives, in much the same way as different scientific disciplines do. If society is to meet the needs of increasing populations, decreasing resources, and more insistent demands for sustainable life it will be through the use of all minds. We are facing global challenges and we need global minds to achieve holistic solutions.

Scientists and engineers should begin to think about their research and projects from an environmental and holistic frame of reference. Such a perspective would include:

- ❖ Careful consideration of potential public health and environmental impacts;
- ❖ Scrutiny of impending commercial products for ways to employ environmentally benign aspects;
- ❖ Support and encouragement of students towards a paradigm of holistic thinking;
- ❖ Use of consumer power to insist upon “green” products by purchasing those first; and
- ❖ Publicize and highlight successes in environmentally benign design.

This talk will outline options for “being green” and for adopting a sustainable approach to technological development. Activities by the U.S. EPA in this area will be mentioned, as well as some of those within the framework of the National Nanotechnology Initiative’s subgroup the Global Issues in Nanotechnology.