

Nanotech- a *Biological Time Bomb*

After more than 20 years of scientific evidence that nanoparticles (objects 1,000 times smaller than the width of human hair) are toxic to biological systems, there is still *no* comprehensive regulation for the manufacturing of nanoparticles nor for the products that contain nanoparticles. There is also no international regulation of nanoproducts or nanoproducts.

According to the CDC, nanoparticles “exhibit unique properties that affect physical, chemical, and biological behavior”, and “Occupational health risks associated with manufacturing and using nanomaterials are not yet clearly understood.” <https://www.cdc.gov/niosh/topics/nanotech/default.html>. Potential health hazards from exposure to nanoparticles have been clearly identified. Scientists have demonstrated the following toxic effects:

- 1) Damage to DNA- <http://news.mit.edu/2014/tiny-particles-may-pose-big-risk>
- 2) Accumulation in lung and liver-
http://www.euro.who.int/__data/assets/pdf_file/0018/233154/e96927.pdf?ua=1
- 3) Inflammation, scarring, allergies, DNA toxicity and potential to cause cancer- <http://journals.sagepub.com/doi/abs/10.1177/0192623310390705>
- 4) Eco-toxicity in a variety of species –
<https://www.tandfonline.com/doi/abs/10.1080/17435390701314761?journalCode=inan20>
- 5) Nanoparticles have the ability to cross cell barriers and enter cells to react with the internal structures and cause cellular stress. They also cause lung toxicity.

Scientists knowledgeable in this field agree that nanotechnology in commerce poses important potential risks to human health and the environment.

http://www.assembly.coe.int/CommitteeDocs/2013/Asocdocinf03_2013.pdf

Nanoparticles are in over 600 products worldwide from cosmetics and clothing to food. In June 2016 The French National Laboratory of Metrology and Testing found nanoparticles in: chocolate biscuits, chewing gum, a can of veal casserole

and spices for guacamole. http://www.unesco.org/new/en/media-services/single-view/news/nanotechnology_is_a_growing_research_priority/ Estimates of over half a million tons of nanoparticles are being produced every year in a rapidly growing industry. Billions in profits are being made. In 2014, nanotech was a \$20 billion business. <https://www.forbes.com/sites/robertbowman/2014/08/14/doctors-claim-evidence-that-nanotechnology-can-make-workers-sick/>

An estimated 6 million factory workers will be working in the nanotech industry by 2020. Nanotechnology is a highly profitable industry and production is accelerating. . We have witnessed more than 20 years of toxic warnings and yet production continues to rise and protection is lacking for the millions of workers in the industry and the billions exposed to their products.

The historical record reveals that industry's constant search for profits have placed millions of workers at risk for disease and death. In 1988 it was estimated that in the US there were over 100,000 work related deaths and 20 million work related injuries. (Occupational Health, by Levy and Wegman, 1988) For over one hundred years it has been the workers and their families who have demanded that industry and the government protect workers by passing regulatory laws. Clearly what we do have as regulation is insufficient.

It appears that we are sitting on a nanotech ticking time bomb. Only the working people can demand protection. Industry, left to itself, will continue to sacrifice workers to the 'God of profit'. History clearly demonstrates that the essential, nature of our present capitalist economic system is to put profits over workers lives. We can and must do better. We need an economic system that has the workers health as the guiding principle, the prime directive.

Dr. Nayvin Gordon is a California Family Physician who has written many articles about health and politics. He can be reached at gordonnayvin@yahoo.com