

Nanotechnology: "The Next Big Controversy in Food"

By [Ily Goyanes](#), Wed., Apr. 20 2011

What is nanotechnology? Michael Passoff, a senior strategist with shareholder activist group **As You Sow**, recently wrote an [article about nanotechnology](#) and its use in food manufacturing. "Nanotech is already used in vitamins, supplements, and sports drinks," he says. "It is the next big controversy in food."

I spoke with him yesterday to get a better understanding of what nanotech is and how it can affect consumers.



Michael Passoff, activist and one of 2009's "100 Most Influential People in Business Ethics."

Basically, nanotechnology is using known materials, such as silver for example, but on a nanoscale (*nano* means supertiny). When materials are shrunk to such a scale, their properties change. For example, at its normal size, silver melts around 1,763 degrees. At nanoscale, the properties of silver change, so we don't know how it would react to that temperature. Hypothetically, it could remain solid, it could evaporate, or it could blow up.

Which brings me to the main concern about the use of nanotechnology: stuff blowing up.

Nanotechnology is not necessarily a bad thing. The problem is that there hasn't been enough research to justify its use in commercial products -- especially food.

Passoff explains, "Nanomaterials, by virtue of their tiny size, are much more chemically reactive than their normal-scale counterparts. Nanoscale materials are also more likely to pass through biological membranes, circulate through the body, and enter cells. This combination of increased reactivity and increased bioavailability of nanoparticles pose novel health risks that have yet to be fully studied. There is a rapidly expanding body of scientific studies demonstrating that some of the nanomaterials now being used in foods and agricultural products introduce new risks to human health and the environment."

It is possible that nanotech might be beneficial to consumers. The problem is that we *just don't know*. And according to Passoff, there is no regulatory oversight. In fact, "regulatory agencies are unprepared for such technology." Companies using nanotech don't have to register with the FDA, and even though the federal agency tried to institute a self-reporting list, "it failed miserably."

One positive aspect in this issue is that for once, it seems food companies are being proactive instead of reactive. "The food industry tends to respond afterwards, be reactive to issues. But major food companies such as Kraft, McDonald's, and Pepsi are being proactive when it comes to nanotechnology."

In Passoff's article, he discusses how these companies have stated they are not using nanotech in their food. But, as Passoff points out, they might not be aware of what is going on further down the supply chain. It is possible the suppliers of these large food companies are using nanotech; therefore the companies' products are made using nanotech, but the higherups don't even know about it. And if they don't, we don't.

So, as with many other issues, the government is sticking to its policy of "shoot first, ask questions later." I've said it before -- if there hasn't been enough research to ascertain that something isn't harmful, we simply shouldn't use it.

"As the scientific community is raising serious questions about the safety of nanomaterials, consumers need to be concerned about the incorporation of nanomaterials into common consumer products such as food and food packaging," Passoff says. "The lack of safety standards, labeling requirements, and adequate testing leaves consumers vulnerable to absorbing and ingesting nanomaterials without their knowledge, and without data on the long-term effects of nanomaterials on human health and the environment."