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Is Nano the New Turbo?

Sam Jaffe 07.06.06

A little bad PR can go a long way toward destroying the public's confidence in a product, especially when it comes to potential damage to human health -- just ask Monsanto. Whether it was fair, GMO became a dirty word, and if the nanotech industry isn't careful its products could suffer the same fate.

A study released by [Lux Research](#) in late June [advised](#) companies with nanotech offerings to be alert not only to real risks, but also to perceived risks that could undermine consumer acceptance of their products, even if they pose no actual danger.

It might not even matter if products actually contain nanotechnology. In April, Kleinmann GmbH in Germany recalled its Magic Nano products after dozens of users reported breathing problems following contact with the aerosol form of the household glass-and-ceramic tile sealant. The irony is the product in question contains [no nano ingredient](#) (the company won't reveal exactly what's in Magic Nano). But it won't matter to consumers.

"If something bad happens to an item that has 'nano' in its name, attention will immediately focus on that," says Craig Martin, executive vice president of Feinstein Ke an Healthcare, a strategic communications firm based in Boston. "That's what the Magic Nano incident has shown us."

Nano seems to have survived the incident with its hip status intact. Perhaps "nano" is the [new turbo](#). Nevertheless, the Magic Nano incident was a wake-up call for industry, says [David Rejeski](#), director of the Project on Emerging Nanotechnologies at the Woodrow Wilson International Center for Scholars in Washington, D.C. The government hasn't yet established guidelines for testing nanotech products' safety, and that could lead to problems, which some activist groups are quick to [point out](#).

"The scary part of it is that if we were to demand that nano products be tested for health and safety prior to release, we're not even sure how to do the tests," Rejeski says.

He points out, for example, that there have been a handful of studies on the effects of [buckyballs](#) on the lungs of lab animals, but no prominent studies have been done on how such nano-materials interact with the gastro-intestinal tract.

While some companies rush to put "nano" in their product's name even if it does not scientifically deserve the moniker (the Wilson Center keeps a [database](#) of products that have a reasonable claim to using nano-engineering, which is now more than 200 items large), others, like Dupont, are taking a more methodical approach.

This summer, Dupont unveiled its [Framework for Responsible Nanotechnology](#), a set of standards and practices for testing nano-products for health and environmental hazards before releasing them commercially. It's a surprising move from a company not exactly synonymous with public health and environmental stewardship. The framework is also unique in that it was drawn up in coordination with [Environmental Defense](#), a non-governmental environmental rights organization.

While Environmental Defense has received flak from other green groups for its partnership with Dupont, it can point to a considerable achievement -- the first public set of standards for how to ensure the safety of nano-engineered products.

"We're a science-based organization and we want to help anybody that's going to use science to keep this technology safe," says Scott Walsh, a project manager with Environmental Defense's corporate partnerships department. The framework can serve as a template for other corporations that want to follow Dupont's lead, he said. "We could even see it serving as a format upon which government regulation in this area can be based."

Self regulation could also have its down sides, Walsh says. "We might end up with a situation where companies that are acting responsibly, like Dupont, are at a competitive disadvantage to less scrupulous companies which launch products without any safety testing," Walsh says. "If that's what happens, government regulation might become a more reasonable approach than voluntary standards."

Strict workplace safety standards and environmental monitoring are crucial for nanotechnology manufacturers and laboratories, said University of Michigan professor of toxicology Martin Philbert.

"If there is a problem, the first place it will show up will be among the technicians and dishwashers in some research lab," he said. But so far no national debate has addressed creating regulations to protect workers.

If Congress and the White House aren't paying attention yet, some of the federal bureaucracies are starting to prick up their ears. The [Food and Drug Administration](#) announced in May that it will hold a public meeting in the fall to solicit opinions for nanotechnology products regulation. But that's just the tip of what needs to be done, says Rejeski.

"So far all we've seen from nanotechnology are better tennis rackets and nice pants," he said. "That's about to change. This stuff will be in our drugs, our food, our cosmetics and everything else. It's better to plan now for how to deal with it than wait another five years."