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Study shows no nano in Magic Nano, the German product recalled for causing breathing problems

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May 26, 2006 - 'Magic Nano,' the protective glass and bathroom sealant that was recalled in late March in Germany after causing severe breathing problems for some consumers, did not contain any nanoparticles. That's according to Rene Zimmer of the Federal Institute for Risk Assessment (BfR) in Berlin. He said that was the conclusion of a May 23 meeting in Berlin with representatives of the companies involved in manufacturing the product.

"We can exclude the possibility that [the breathing problems] had anything to do with nanoparticles," Zimmer said.

At the same time, Zimmer said, it is still unclear what caused the breathing problems in consumers; that question will be addressed in another meeting this fall. Previously, experts thought that the breathing problems may have been caused by tiny aerosol droplets of the solvent that penetrated deep into the lungs.

The conclusion that 'Magic Nano' does not contain nanoparticles comes from an analysis ordered by the Verband der Chemischen Industrie (VCI), the German chemical industry association, Zimmer said.

An official statement the BfR posted on its Web site on May 26 said that the conclusion that the products do not contain any nano-sized particles was "based on the information from manufacturers and chemical studies commissioned by BfR." The statement did not mention the VCI. A BfR official did not immediately respond to an email asking to clarify the discrepancy.

Not only were there no nanoparticles in Magic Nano, but Zimmer said it didn't even include the active ingredients it was supposed to contain. Those ingredients are molecules that contain silicon and, once sprayed on surfaces, generate an oil and water repelling "nanothin" layer of silicon dioxide. But according to Zimmer, the analysis did not find much silicon in 'Magic Nano.' For the most part the spray contained solvents, he said. He added that at the meeting, the manufacturers said that had there not been a recall because of the breathing problems, there would have been complaints because "the stuff didn't do what it was supposed to do."

Zimmer said the companies that were primarily involved in the production of

'Magic Nano' were Easyglas GmbH, which produced the nano liquid; Hago Chemotechnik GmbH, which added an anticorrosive chemical and a propellant; and Kleinmann GmbH, which distributed the final product.

Ralf Juergens, a scientist at Nanopool GmbH, which he said subcontracted Easyglas to produce the nano liquid according to Nanopool formulas, said that the original liquid still contained the active ingredients. He said that an analysis ordered by Nanopool suggests that the final product had been changed such that the active ingredients were destroyed and fell out of the solution. Bernd Zimmermann, sales manager of Kleinmann, said that was possible. Representatives of Hago could not immediately be reached for comment.

When asked whether he believes the analysis ordered by the VCI was reliable, given that it was ordered by an industry trade association, Zimmer said that the BfR didn't want to comment on that, but added that additional, independent analyses would take a long time. "We accept these results for now," he said. Zimmer also said that the companies involved in producing 'Magic Nano' are not VCI members. It could not be immediately confirmed with the VCI or the individual companies whether that is the case.

In the U.S., Sean Murdock of the NanoBusiness Alliance, the U.S. trade association of the nanotech industry, said this latest twist in the 'Magic Nano' saga "points to the need not to be reactionary." He was referring to the ETC group, a Canadian-based civil society organization that in April, in response to the 'Magic Nano' recall, had renewed its own earlier call for a global moratorium on nanotech research and a recall of consumer products that contain nanoparticles. "Until the facts come in, we don't know," Murdoch said.

But Jim Thomas of the ETC group said a moratorium is still justified to have enough time to establish safety testing and labeling standards for nano tech products. "The point of a moratorium is to give you time to establish safety," he said.

Kristen Kulinowski, director of the international council on nanotechnology at Rice University, also said there should be quality control and pre market testing to understand what's in a product and what the potential health effects are going to be. "It shocked me that it took this long to find out what was in the product," she said.

She added that there should be labeling standards, although it may not be possible to impose them on companies. "If you are going to use the nano label, it would be nice if there were some standards for how people label their products and whether or not they should be using the nano label," she said. "The company did a disservice to people bringing legitimate nanotechnology to the market in the U.S."

Andrew Maynard of the Woodrow Wilson International Center for Scholars in

Washington, D.C., said the confusion over what was in 'Magic Nano' shows the need for more transparency as to what's in nano products. "If we had known at the outset what was in this product, it would have saved a lot of heartache with the discussion over what was and what was not responsible for the health impact," said Maynard, who is the science advisor to the Project on Emerging Nanotechnologies. He's not alone in that belief.

Erich Pica of Friends of the Earth said that there should be conventions over how to use the term "nano." He said that if a consumer product is labeled "nano," it's reasonable to assume that it contains nanoparticles. "We need better regulations and labeling so we know whether or not [products] are nano-laced," Pica said. Friends on the Earth was one of eight groups that filed a petition on May 16 asking the FDA to introduce mandatory labeling and safety testing of nano products.

But according to Nanopool's Juergens, 'Magic Nano' had been correctly called 'nano' because, had it been properly produced, it should have created a 100 nanometer layer of silicon dioxide on surfaces.

The recall may already have harmed the reputation of the label 'nano,' even if it now turns out that no nanoparticles were involved, said David Rejeski, the director of the Project on Emerging Nanotechnologies. "First impressions matter," he said.

Kleinmann's Zimmermann, on the other hand, doesn't seem too worried.

"German consumers have a very short memory," he said. "Many haven't even heard about this."

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