

# Consumers neutral on risks, benefits of nano

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The largest and most comprehensive survey of public perceptions of nanotechnology products finds that U.S. consumers are willing to use specific nano-containing products – even if there are health and safety risks – when the potential benefits are high. The study also finds that U.S. consumers rate nanotechnology as less risky than everyday technologies like herbicides, chemical disinfectants, handguns and food preservatives.

The study, which was conducted by researchers at Rice University's Center for Biological and Environmental Nanotechnology (CBEN), University College London (UCL) and the London Business School, is the largest survey yet conducted on public willingness to use commercial nanotechnology products. It appears in the December issue of *Nature Nanotechnology*.

"By some estimates, products containing nanotechnology already account for more than \$30 billion in annual global sales, but there is concern that the public's fixation with nanotechnology's risks – either real or imaged – will diminish consumers' appetite for products," said lead researcher Steven Currall, a management and entrepreneurship expert who conducted the research while a faculty member at Rice and while at UCL and London Business School, where he currently holds academic appointments. "Measuring public sentiment toward nanotechnology lets us both check the pulse of the industry right now, and chart the growth or erosion of public acceptance in the future."

The research was based on more than 5,500 survey responses. The

authors of the article developed the surveys, which were administered by Zogby International. The surveys defined nanotechnology as involving "human-designed materials or machines at extremely small sizes that have unique chemical, physical, electrical or other properties."

One survey polled consumers about how likely they would be to use four specific, nano-containing products: a drug, skin lotion, automobile tires and refrigerator gas coolant. This is the first large-scale study to experimentally gauge the public's reaction to specific, nano-containing products, and Currall said the use of scenarios about plausible, specific products yielded results that challenge the assumption that the public focuses narrowly on risk.

"It was clear that people were thinking about more than risk," he said. "The average consumer is pretty shrewd when it comes to balancing risks against benefits, and we found that the greater the potential benefits, the more risks people are willing to tolerate."

Study co-author Neal Lane, who helped craft the U.S.'s National Nanotechnology Initiative during his tenure as director of the White House's Office of Science and Technology Policy, said the public is likely to become more aware of nanotechnology's risks as environmental health and safety research is completed and as nanomaterials find their way into more products. What remains to be seen is whether the public's budding perceptions of the benefits of nanotechnology will also grow, he said.

"We propose that academic bodies like the UK's Royal Society and the US's National Academies set up interagency clearinghouses to coordinate public education and synthesize the latest scientific findings," said Lane, senior fellow in science and technology at Rice's Baker Institute for Public Policy. "Transmitting the latest information about both risks and benefits, in a timely, thorough and transparent way, will

minimize the likelihood of a polarized public debate that turns on rumor and supposition."

Source: Rice University

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