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NANOTECHNOLOGY ENVIRONMENTAL, HEALTH, AND SAFETY CONCERNS DEMAND ACTION TODAY

Lux Research partners with Intertox to offer a comprehensive nanotech EHS service

New York, NY – June 29, 2006 – The debate over the potential environmental, health, and safety (EHS) risks of nanomaterials has grown in intensity over the past year, as environmental groups call for restrictions and stage protests, and government agencies study the issue and consider regulations. With all this discussion, firms active in nanotech need a comprehensive plan to manage nanomaterial EHS risks today, according to a new report from Lux Research entitled "Taking Action on Nanotech Environmental, Health, and Safety Risks."

"There are three aspects of the nanotech EHS issue that firms need to confront," said Lux Research Analyst Michael W. Holman, Ph.D. "First and foremost, they need to manage real risks of their materials to ensure no actual harm comes to people or the environment. Furthermore, to successfully commercialize nanotech innovations, they must understand perceptual risk, which could undermine public or consumer acceptance of their nano-enabled products, regardless of real risks. And of course, they need to understand the emerging regulatory environment."

To assess the state of nanotech EHS issues and help firms develop strategies for coping with the challenges they present, Lux Research spoke with 17 experts from industry, academia, and non-governmental organizations, and 10 officials from agencies with regulatory authority over nano-enabled products. The research team also conducted in-depth discussions with five start-up CEOs and 10 representatives from leading corporations to understand how EHS issues are affecting nanotech commercialization today, and to identify their best practices. Lux Research found that:

- Real risks of nanomaterials present challenges due to a lack of data, the complexity of the materials, measurement difficulties, and undeveloped hazard assessment frameworks. Just 316 peer-reviewed journal articles on real risks of engineered nanomaterials have been published, giving firms little scientific guidance to go on. To mitigate real risks, firms need a *process* plan to: 1) inventory all nanomaterials used across the company, 2) map those materials to applications and thus to potential exposures across the product life cycle, 3) characterize the risk of each application based on exposure and available knowledge about hazard, and 4) mitigate risk through exposure controls, additional testing, and product redesign.
- On perceptual risks, the public's outlook on nanotech remains positive despite a lack of knowledge, but press coverage and agitation from NGOs mean that firms won't be able to dodge these questions much longer. Instead of remaining silent, companies need a *communications* strategy to share their safety studies, collaborate with trusted partners, and explain the benefits nanotech can bring.
- EHS regulations will govern nanomaterials in a variety of applications. Exactly how the relevant laws will be applied isn't settled, but agencies are beginning to swing into action. To make sure their commercialization plans aren't hampered by these regulations, companies need to *project* how the U.S. Environmental Protection Agency (EPA) and other agencies will adapt existing regulations to accommodate nanomaterials.

The Lux Research analysis concludes that the unique EHS challenge nanotech presents will drive a new product development framework, just as complex manufacturing drove the "Total Quality" movement. "Companies can't afford to run extensive toxicity tests on each material their scientists consider using, but they also can't wait until just before product launch to consider EHS concerns," said Dr. Holman. "Instead, a staged approach to managing EHS issues should match risk-reducing actions to each step in the product development process."

To help firms tackle nanotech EHS issues, Lux Research also announced that it has partnered with Intertox, a Seattle-based health science consulting and research firm, to offer a new service which will identify and mitigate potential EHS risks from nanomaterials. "Large, complex organizations that use nanomaterials in many areas struggle to stay on top of

EHS issues in this rapidly-evolving field," said Matthew M. Nordan, President of Lux Research. "By combining Lux Research's deep understanding of nanotech commercialization with Intertox's long experience in public health and risk assessment, we will help companies gain competitive advantage from nanotech with the confidence that their products and processes are safe, and that they won't be exposed to liabilities down the road."

The EHS report provides in-depth analyses of available data and best practices on nanotech real risks, perceptual risks, and regulations, as well as guidance on how to structure product development and other processes in order to commercialize nanotech innovation safely and efficiently. The full report is available immediately to clients of Lux Research's Nanotechnology Strategies advisory service. For information on how to become a client, contact Lux Research Vice President Rob Burns at (646) 723-0708.

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