

TOXIC SUBSTANCES

Draft Strategy to Evaluate, Manage Risks of Nanomaterials Issued by Partnership

By Pat Phibbs-Rizzuto

A draft strategy to enable firms that make or use nanomaterials to evaluate and manage risks was released by Environmental Defense and DuPont Feb. 26.

The six-step strategy describes the process companies use to evaluate potential risks, the roles divergent staff may need to play, and the types of information firms should gather.

Environmental Defense and DuPont have worked in since Sept. 1, 2005, to develop the framework as part of their shared goal of encouraging the responsible development of nanotechnology-based products, they noted in an introduction to the draft document.

Environmental Defense and DuPont will accept public comment on the strategy, called the Nano Risk Framework, through March 30, they said. The draft document has already been reviewed by nanotechnology experts.

Based on the comments they receive, Environmental Defense and DuPont said they would revise the document and publish a final version this summer.

Life Cycle Approach Urged

The strategy recommends that firms consider risks posed throughout the life cycle of a material, from when source material is extracted from the Earth or made through disposal or recycling. Throughout the document, Environmental Defense and DuPont stressed that "the material's properties, hazards and exposures may change during the material's lifecycle."

This means information about the health or environmental effects of the nanomaterial may need to be gathered for more than one stage of its life cycle, the report said.

A life cycle approach, however, need not entail the use of a formal life cycle assessment, "much less the associated consideration of all material and energy inputs and outputs" that a life cycle assessment typically entails, the draft framework said. Rather, the life cycle concept "is used as a means to organize all relevant processes and activities to which a nanomaterial (or its predecessor successor materials) is subjected," the draft said.

The document describes a core set of health hazard, environmental hazard, and environmental fate data that firms should obtain and additional data that may need to be developed.

The Nano Risk Framework also provides guidance on ways to measure workers' exposure and on the types of monitoring that should be done as a nanomaterial moves through the supply chain until disposal or recycling.

Worksheet Provided to Aid Analyses

The document is filled with charts and tables to clearly communicate information. As an additional aid, Environmental Defense and DuPont also developed a Framework Worksheet, a form that can be edited and which is designed to organize, document, and communicate a firm's understanding of a particular nanomaterial's potential risks and ways to mitigate those risks.

"Our hope is that the framework will be as useful as possible for as broad an audience as possible," they said.

The draft Nano Risk Framework and worksheet is available at <http://nanoriskframework.com/page.cfm?tagID=1081>. Comments may be submitted at the same website or by e-mailing Scott Walsh from Environmental Defense or Terry Medley from DuPont at feedback@nanoriskframework.com.