ENVIRONMENTAL DEFENSE
finding the ways that work

Environmental Defense's Activities on Nanotechnology
June 2007

Environmental Defense recognized nanotechnology as an emerging issue in 2003 and began to investigate how we could best ensure that its potential risks were understood and mitigated from the outset, so that its potential health and environmental benefits could be realized. Our work since then has taken several forms, as summarized below and described in more detail on our website at www.environmentaldefense.org/go/nano.

Advocating for Regulatory Reform: Environmental Defense has urged EPA and FDA to use their existing authorities to regulate nanomaterials.[1] In particular, beginning three years ago, we have urged EPA to act promptly to address a number of major deficiencies in existing regulations under the Toxic Substances Control Act (TSCA) as they apply to nanomaterials. We have argued that EPA should clarify that most nanomaterials are new chemicals subject to premanufacture notification, should reexamine and amend exemptions from TSCA requirements that are relevant to nanomaterials, and should use its authority to compel manufacturers to submit sufficient hazard and exposure data to allow EPA to assess potential risks before allowing a nanomaterial to be commercialized.

Environmental Defense also helped initiate and participated in deliberations of an EPA Federal Advisory Committee that proposed – nearly two years ago – an overall approach for the Agency to take to address potential risks of nanomaterials.[2] Part of the approach was the prompt initiation of a voluntary reporting program, by which EPA could quickly gain an understanding of what nanomaterials are already or soon to be in commerce, for what purposes they are being used, and what risk management practices are being employed. The continuing and inexplicable delays in EPA's launching of this modest initial step are unacceptable, in our view.

Also included in the Committee's proposed approach were a number of other measures for which Environmental Defense has continued to advocate. These include: simultaneous development of regulations under TSCA requiring manufacturers of nanomaterials to submit to EPA all available health and environmental studies and information on production and use, to provide a regulatory "backstop" to any voluntary program; clear identification of nanomaterials on the TSCA Inventory or a parallel inventory, and providing as much information as possible on potential health and environmental risks of nanomaterials to the public; and requiring appropriate testing of nanomaterials.

Promoting Risk Research: Environmental Defense has led efforts to direct more federal funding to nanotechnology health and environmental risk research.[3] In testimony to the National Academies committee charged with reviewing the National Nanotechnology Initiative and to the House Science Committee, we have called for a minimum of $100 million annually to be dedicated to such research, and have identified key short- and longer-term research needs. We

helped lead an effort that brought together large and small companies, consulting firms and environmental NGOs to call for more risk research funding and for a National Academies initiative to help shape, guide and monitor implementation of an overall federal risk research strategy. Also, working with the Woodrow Wilson Center and the International Council on Nanotechnology (ICON), Environmental Defense co-hosted a workshop to identify critical needs to advance understanding of the toxicology of nanomaterials.

Developing International Standards: Environmental Defense has been the only U.S. environmental NGO active at the international level in efforts to address nanomaterial risks. We helped convince the Chemicals Committee of the Organization for Economic Cooperation and Development (OECD) to develop a Working Party devoted to this topic, and to include within the scope of its work the need to increase regulatory scrutiny, risk research, and a testing program for nanomaterials.[4] We have also been actively engaged in the work of international standards organizations – ASTM, ANSI, ISO – to ensure there is an environmental advocacy voice in these groups' development of standards related to nanomaterials. We also took the lead in directing ICON's report that identifies best practices to manage the risks of nanomaterials and documents both the pressing need and industry support for government guidance in this area.

Creating Industry Best Practice: In June 2005, DuPont CEO Chad Holliday and Environmental Defense President Fred Krupp published an op-ed in the Wall Street Journal[5] calling for increased risk research, better regulation and industry leadership to identify and address potential environmental, health and safety risks of nanotechnology. Since then, Environmental Defense has worked with DuPont to develop the Nano Risk Framework.[6] Faced with the slow pace of government action to address the potential risks of nanomaterials, and the rapid pace of commercialization, our aim is to help fill the void by developing a comprehensive approach to identify, evaluate and mitigate such risks across all stages of a nanomaterial's lifecycle. We hope that additional companies will adopt the Nano Risk Framework or its equivalent until a consistent and comprehensive national regulatory program is in place.

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[1] See September 2004 letter to EPA and other communications and legal analyses that argue for prompt regulation of nanomaterials at http://www.environmentaldefense.org/article.cfm?ContentID=5132.
[2] See http://www.epa.gov/oppt/npptac/pubs/nanowgoverviewdocument20051125.pdf.
[3] See documents at http://www.environmentaldefense.org/article.cfm?ContentID=5131.
[4] See http://webdomino1.oecd.org/comnet/env/wp-nano.nsf.
[5] See http://www.environmentaldefense.org/documents/5177_OpEd_WSJ050614.pdf.
[6] See www.nanoriskframework.org.