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**Emerging Technologies (nano-materials) Working Group
DRAFT Outline for Action Statement**

(Prepared for discussion by the Working Group)

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The German government's health warning on 31 March 2006 concerning the consumer product "Magic Nano" illustrates the challenges to preventing unintended consequences of products incorporating nano-materials (or the marketing image of nano-materials) as such products penetrate international marketplaces¹. Major challenges include:

1. Difficulty verifying whether products actually contain nano-materials, and difficulty controlling potentially misleading terminology when used for marketing purposes;
2. Inadequate regulatory programs to screen chemical products (other than drugs and pesticides) for toxicity prior to commercialization;² and
3. The need for global integration and harmonization of testing and regulatory efforts.

¹ "Magic Nano" is a bathroom cleaning product intended for use on glass and ceramic surfaces to make them dirt- and water-repellant. The Washington Post reported that at least 77 people in Germany experienced severe respiratory problems over a one-week period in late March after using the product. In response to the warning distributors issued a recall and advised against using the spray. It is unclear whether or what kind of nano-material is in the spray.

² Nano-materials pose a special challenge because of the inability to use structural similarities to known materials to estimate environmental fate, persistence or toxicity or guide assessment of the need for product restrictions or further testing.

In addition, this incident of acute toxicity begs the question of how and when human society will detect unforeseen chronic toxicity. Adverse health or environmental effects caused by chronic exposures to nano-materials will be far more difficult to recognize and control.

The rapid growth in development and commercialization of nano-materials over the past five years has led to many calls for increased regulatory scrutiny, expanded health and environmental testing, and additional collaboration among all stakeholders at national and international levels.³ However, to date we see only limited action by governments and industry in response to these calls. Thus, we look forward to discussions with the Working Group concerning two issues.

(1) What steps can be taken to motivate both government and industry to take preventive measures *before* disasters occur?

Better motivation of government and private actions requires better understanding of the barriers to action. How important, for example, are:

- lack of public concern, leading to lack of government and industry concern,
- lack of funds,
- concerns that attention to risk places nano-materials firms as well as countries at a competitive disadvantage,⁴
- tendencies of the promoters of technologies (as well as governments) to presume safety of materials until extensive evidence of harm is presented, and
- other similar factors?

Once we better understand the relative importance of these and other barriers, what can we do to motivate action?

(2) What specific measures might be most productive in preventing human health and environmental problems from nano-materials?

If we are successful in motivating action on the part of governments and industry, what would we like them to do? We would like to explore at least three avenues with the Working Group.

³ See, for example, www.wilsoncenter.org/events/docs/EffectsNanotechFinal.pdf, www.environmentaldefense.org/documents/4533_EDnanopersp.pdf, and www.swissre.com/publications.

⁴ This might occur globally if nanotechnology is disadvantaged compared to other technologies, or country-by-country, where one country's or region's efforts to invest in risk identification and risk management is either perceived to or in actuality drives capital investment and development of nanotechnology to areas with less intensive risk management requirements.

- A. How best would a **testing program** for nano-materials be structured? For example, should companies be required to conduct the necessary tests or should government or independent laboratories conduct these tests? How will the testing program be financed? How and by whom will test results be interpreted? How will “safe levels” be defined?⁵
- B. How might we create **financial incentives** for companies to invest in adequate product testing and other risk management measures? Especially for smaller companies the costs of testing can be prohibitive. Could mandatory pooled insurance or other similar risk-sharing approaches be useful? If so, how might these be structured?
- C. Could **better information**, such as clear product labeling, publication of certain test results, or product certification programs be effective in allowing downstream users and the public to make situation-by-situation risk management decisions?

In our discussions of these and other mechanisms we hope the Working Group will be able to conceptualize and refine the most promising avenues, and list several specific “next steps” to begin working towards implementation.

⁵ For the purposes of this discussion we suggest not concerning ourselves with the scientific aspects of test selection and interpretation of test results.