

Assumptions Underlying IIT Projects

- It is essential to develop responsible practices in the great variety of settings for nano R&D and production of nanotechnologies
- It is essential to provide opportunities for nano specialists to interact with ethics and societal implications specialists, preferably in R&D settings and in side-by-side research
- It is important to generate interest in and support for research on the life-cycle of nano products and to escalate efforts to increase knowledge of potential for harm, e.g. distinctive toxicity
- A promising way of pursuing public engagement to involve members of the public in actually developing standards of care in nano enterprises

NanoEthicsBank

- Includes 370 entries covering following topics:
 - United States and European initiatives to build a regulatory framework for nanotechnology
 - Public perception and acceptance of nanotechnology, media coverage, efforts of public engagement by governments, academic institutes, and industry
 - Development of best practices for industry and businesses dealing in nanoparticles.
 - Ethical development of nanotechnology, military use, privacy, bioethics and nanomedicine
- Examples of Recently Added Material
 - Kahan, Dan M., Paul Slovic, Donald Braman, John Gastil, and Geoffrey L. Cohen. “Affect, Values, and Nanotechnology Risk Perceptions: An Experimental Investigation” From Social Sciences Network Web Library. March 7, 2007. *Survey exploring how the general public form judgments on the possible risks of nanotechnology*
 - “Nano Risk Framework Draft” DuPont and the Environmental Defense Fund. February 26, 2007. *Draft of a framework for industries and companies to deal with risk management for nanotechnology.*
 - “Progress Toward Safe Nanotechnology in the Workplace” National Institute for Safety and Health. February 2007. *Report outlines advances made by the NIOSH in researching the health and safety implications of engineered nanoparticles, and outlines areas where further research is needed.*

NanoEthicsBank – Technical Advances

- Relevance Ranked Searching
- Combined field search (Author + Title + Publisher + Key Words) and Boolean searching (Public AND Engagement NOT Media).
- Full text of publicly available documents, such as government publications, included in the NEB, efforts are being made to obtain permission to include copyrighted material.
- Controlled tagging system being developed to index entries, drawn from literature included in the NEB and survey of key search terms used by researchers, political activists, and scholars.
- “Folksonomy” tagging system being developed. When finished, frequent users of the database will be given limited ability to “tag” or add key words to records, much in the way social tagging is used on the open web.

Screenshot of NanoEthicsBank



Center for the Study of Ethics in the Professions at IIT

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Search Keyword :

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Title: [Risks from military uses of nanotechnology](#)

Relevance:0.0

Author(s): Altmann, Jurgen ; Mark A. Gubrud

URL Source: http://www.ep3.ruhr-uni-bochum.de/bvp/RiskMilNT_Lecce.pdf

Abstract: Article warns that it is essential to move beyond the over-hyping of benefits and predictions of grave dangers associated with nanotechnology, and calls for a balanced and careful scholarship to assess the actual prospects of nanotechnology, and consider what should be done in response to them. The author specifically writes to address the question of dangers arising from the military use of nanotechnology.

Title: [Nanomaterial health effects - Part II : Uncertainties and Recommendations for the Future](#)

Relevance:0.0

Author(s): Powell, Marie C. ; Mertz, S. Kenneth

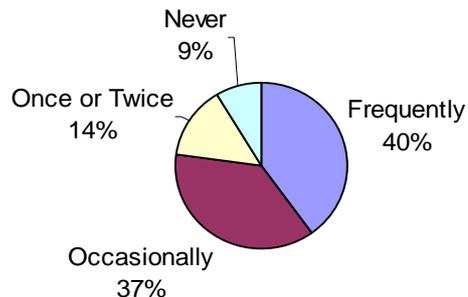
Uses of /Comments on NEB

- A journalist, who weekly looks for new materials added to the NEB, used the report, “Beneath the Skin: Hidden Liabilities, Market Risks and Drivers of Change in the Cosmetics and Personal Care Products Industry” as the basis of an article published on March 5, 2007 for *The Rose Sheet*, a newsletter covering the cosmetics industry.
- “I did look through the test version, and I am impressed, I’ll definitely use it as a resource when it is finished.”
 - Comment from researcher at the National Resources Defense Council, contacted in the course of conducting a survey of how researchers search for ethics material on nanotechnology.

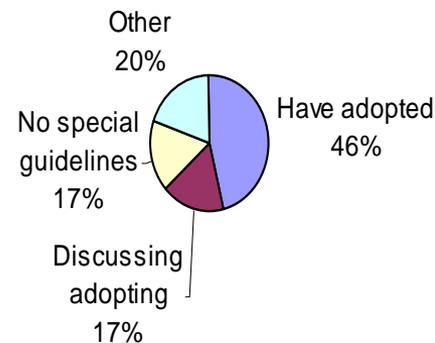
NEB Survey

- Mail survey of companies involved in nanotechnology manufacturing measuring the level of discussion of workplace safety and public health related to nanotechnology.
- Results (12% response rate)

Frequency of Discussion about Safety and Nanotechnology in the Workplace



Adopted Workplace Safety Guidelines Specific to Nanotechnology



NEB Survey Results

- 80% of respondents believed that industry should be responsible for providing information about the possible health risks of nanotechnology to the general public, and 61% favored national governments being responsible. A number of respondents wrote comments emphasizing the need for cooperation between industry and government.
- 30% included written comments explaining how their use of nanotechnology was unlikely to pose health or environmental risks. Respondents were concerned that the entire field of nanotechnology not become over-regulated because of generalizations. One respondent stated,
“We’re concerned that guidelines will be developed for *nanotechnology* that are narrowly applicable to *nanoparticles*. It’s hard to work under an irrelevant umbrella, and ethically irresponsible to associate nanotechnology with nanoparticles.”

Future Project for Developing Voluntary Standards of Care

- **Aim:** Actively assist nanotechnology start-ups in the Chicago area to develop voluntary standards of care and add to the stock of voluntary standards in NEB
- **Method:** CSEP collaborates with IIT's Director of Entrepreneurial Studies and a Chicago colleague active in promoting nanotechnology in the business community
- **Activity:** Work with company or consortium to form committee within company or consortium, including outsiders from the community, to develop and utilize a process to formulate standard of care for the company

Rationale Behind the Future Project for Developing Voluntary Standards of Care

- Nano start-ups have good reasons, both ethical and prudential, to develop standards of care. Jay Fisher, IIT's Director of Entrepreneurial Studies holds that one of the barriers is entrepreneurs' ignorance of the reasonable care procedures that large, established organizations, such as DuPont and Amoco, have put in place.
- Companies would likely see barriers, such as not enough resources and exposure of trade secrets. These barriers can be overcome. Adapting procedures well tested in large companies can be accomplished economically while denying outsiders exposure to trade secrets. Companies already publicize some economically valuable information to attract customers and employees. Formulating standards of reasonable care depends more on knowledge of generic features of the company than on inside knowledge of particular innovations.