A consumer perspective on applications of nanoscience and nanotechnologies

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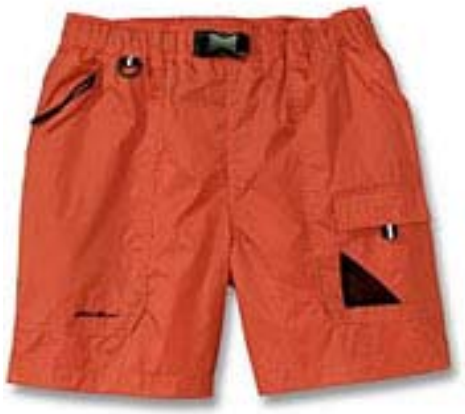
A consumer perspective

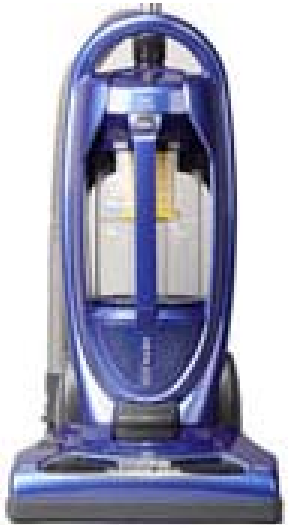
- Background
- Assessing the risks
- Regulatory gaps
- Public engagement
- Priority areas for action

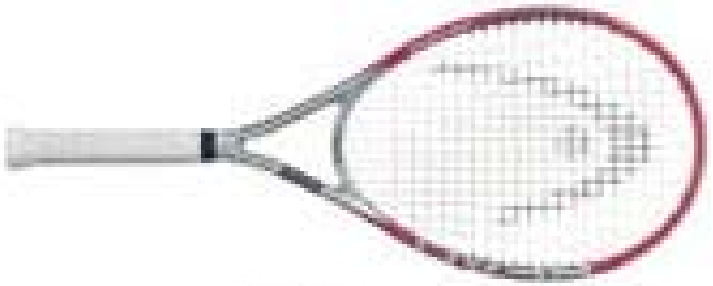
Background

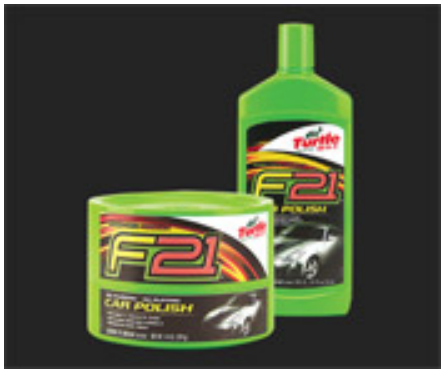
- Enormous investment globally
- Clear benefits possible
- Some products unlikely to be controversial
- Others raise concerns
  - human and environmental safety
  - broader social and ethical concerns
- But unclear what is already on the market and in the pipeline
- Voluntary reporting schemes inadequate

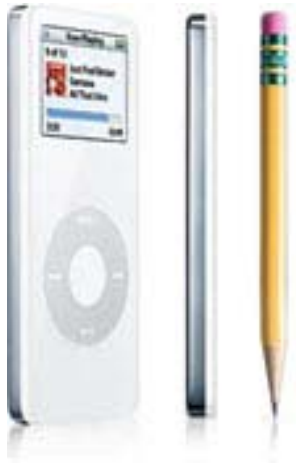
Consumer products











Assessing the risks – 'early' warnings

UK Royal Society/ Royal Academy of Engineering (2004):

Advised a precautionary approach because of knowledge gaps in key areas; warned that manufactured free nano particles could raise new health, safety and environmental concerns.

EU Scientific Committee on Emerging and Newly Identified Risks (2006):

'Current risk assessment methodologies require some modification in order to deal with hazards associated with nanotechnologies'.

US National Nanotechnology Initiative report on Environmental, Health and Safety Research Needs (2006):

Highlighted significant gaps in most basic knowledge.

Assessing the risks – 'early warnings'

UK Council for Science and Technology (2007):

Criticised *'a distinct lack of Government activity or funding in research into toxicology, health and environmental effects of nanotechnology'.*

EU Scientific Committee on Consumer Products (nanomaterials in cosmetics) (2007):

Inadequate information about key aspects eg. hazard identification, exposure assessment, uptake.

Regulatory gaps

Current approach

- EU Action Plan Implementation Report – emphasises protecting health, safety and environment by improving implementation of current legislation.
- DG Research – proposal to invite adoption of a voluntary code of conduct.
- UK Royal Society, Nanotechnology Industry Association and Insight Investment voluntary industry code.
- Global initiatives – OECD, ISO.

Regulatory gaps

UK DTI review (December 2006)

- Lack of clarity over how general legal requirements for safety are to be applied.
- Identified instances where regulatory measures might fail to prevent potentially harmful nano materials being placed on the market, eg:
  - Where use of substance restricted by percentage or weight.
  - Where thresholds are set for permitted concentrations in consumer products.
  - Where authorisation is based on whether substances are ‘equivalent’ to ones regulated and understood.

Public engagement

- Limited initiatives to date – generally small scale.
- Failure to involve public in strategic decisions.
- Lessons from other technologies – consult and involve from outset.
- Understand and address broader social and ethical concerns.
- Not enough just to engage, must address issues raised.
- Identify priorities and any no-go areas.

Priority actions

EFFECTIVE CO-ORDINATION – Strategic stakeholder group to ensure effective input and over-see implementation of key actions.

DEFINITIONS – Ensure that agreed and adopted as quickly as possible.

PRODUCTS – Understand what products are on the market or at research stage and which are likely to raise most concerns based on current understanding.

RESEARCH – Urgent research to address fundamental uncertainties around environmental and health risks raised by some nano materials.

Priority Actions

ASSESSMENT – Provide clarity over how the safety of nano materials should be assessed given the current knowledge gaps.

PRECAUTION – Apply the precautionary principle to products where there are potential risks, but where it is not currently possible to assess their safety so that consumers are not put at risk.

TRANSPARENCY – Ensure there is openness about the uncertainties some nano materials may raise, the research underpinning safety assessments and claims.

Priority actions

REGULATION – Address gaps in regulations so that nano materials are included and there is clear guidance on how the regulations are to be applied.

INFORMATION – Ensure consumers, industry and regulators have clear information about where nano materials are being used and that any claims they make are true.

ENGAGEMENT – Involve the public in meaningful discussions about the development of the technology, priority applications and no-go areas.