

Nanotechnology

Relevance, Chances, Risks and Demands

Some remarks

Sector Social Dialogue
Committee of European Chemical Industry

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Relevance:

- Nanotechnology is a key technology
- Already 2007 sales in the market for Nanotechnology were estimated at 83 bn US\$
- Sales will rise to 260 bn US\$ in 2012
- Nanotechnology could bring potential health and environmental benefits
 - e.g. large-format lithium-ion batteries can enhance energy efficiency
 - e.g. OLEDs are a new lighting technology that is highly power-efficient
 - e.g. carbon nanotubes can be added to plastics to produce materials with special properties – such as extra strength, tear-resistance or electrostatic neutrality
 - e.g. nanoporous foams can enhance structural insulation for both renovations and new buildings.
 - e.g. protection and conservation of precious water resources
- the European industry must take advantage of the potential of the Nanotechnology

But

- Development of new processes and materials leads to safety issues – questions regarding safety for people and the environment
- Nanotechnology will only be accepted if manufacturers can demonstrate its safety and if workers and consumers feel safe
- Therefore : Nanomaterials must be safe for humans and the environment
- Currently further research is needed
- For scientists the inhalation of nanomaterials is the most potential risk, but most nanomaterials are bound (for example within a matrix such as a hardened surface coating)
- Absorption of nanomaterials through the skin (for example by sunscreens) is not the biggest a problem. Many dermatological studies have found out that healthy human skin provides relatively good protection against this type of nanomaterials and is able to keep them away from entering into the human body
- Less is known about the possible impacts of absorption of nanomaterials via the gastrointestinal tract or about the potential environmental impacts
- Provided that health&safety regulations are obeyed and there is a secure safety at work - production of nanomaterials is safe

– Supplement and adjustment of health and safety regulation

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The needs

- Definition and disclosure of responsibility and management (good governance)
- Transparency with regard to nanotechnology-relevant information, data and processes commitment to dialogues with stakeholders
- Establishment of risk management structures
- Assure the responsibility within the value chain
- Stepping up the research effort on safety assessment, including risk management, throughout the product life cycle
- Supporting the further development and validation of nanomaterial characterisation and test methods

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