UK Progress in Nanotechnology and SAFENANO

Dr John Garrod
Policy Advisor to the Department for Environment, Food and Rural Affairs (DEFRA), UK

Within the community of nanotechnology, there is a sense of great opportunity for benefits to society from the ability to engineer materials on the nanoscale. Annual Worldwide investment in nanotechnology is currently of the order of $10 billion and it has been reported that over $32 billion worth of nanomaterial based products were sold in 2005. Nanomaterials are being developed for a wide range of innovations including drugs, cosmetics, material science, soil and water remediation, electronics, food packaging, fuel efficiency, photovoltaics , batteries and insulation. However, there is in parallel concern as to the potential risks that these new materials may pose to human health and the environment and there is an urgency to address research requirements in this area to identify any possible adverse impacts. The way forward is through responsible cooperation and collaboration between those involved not only with the beneficial applications but also with the implications for human health and the environment of nanotechnology.

The UK Government has drawn up a programme of work to address the Environment, Human Health and Safety (EHS) aspects of nanomaterials following the publication in 2004 of the Royal Society/Royal Academy of engineering report 'Nanoscience and Nanotechnologies: opportunities and uncertainties'. This report set out a number of recommendations for addressing possible adverse EHS impacts of nanomaterials. Two cross-Government groups have been set up to take forward and monitor progress in meeting the recommendations from the RS report; the Nanotechnology Issues Dialogue Group, taking forward policy, and the Nanotechnology Research Coordination Group (NRCG) to oversee the research programme.

Working under the NRCG are 5 Task Forces which have developed Action Plans to address the research requirements. The Task Forces are covering research in the following areas:

1. Metrology, Characterisation, Standardisation and Reference Materials
2. Exposures - sources, pathways and technologies
3. Human Health Hazard and Risk assessment
4. Environmental Hazard and Risk Assessment and
5. Social and Economic Dimensions of Nanotechnologies.

Work in progress and recently commissioned was described in a report produced in October 2006 and a further research report is due out in autumn 2007.

SAFENANO is a welcome addition to the overall push to generate and disseminate data on the fruits of nanotechnology and facilitate responsible and safe development. The Institute of Occupational Medicine, with a background in investigations on the toxicology of particles, is well placed to provide independent advice to stakeholders and will complement outputs on the safe development of nanomaterials from other bodies.

Dr John Garrod,

DEFRA www.defra.gov.uk