NEW ZEALAND

Highlight of developments since the 4th meeting of the WPMN

- At least three substantial research projects are now underway that investigate aspects of risks associated with manufactured nanomaterials.
- A symposium will be held in April to discuss the positive potential and the possible consequences of nanotechnologies in a New Zealand context. The event will bring together an invited audience of policy makers, researchers, NGOs and business people.
- A Nanotechnology Officials Group has been established to coordinate nanotechnology regulatory and related activities across the New Zealand government.

Work completed, underway or planned

1. Any national regulatory developments on human health and environmental safety including recommendations or discussions related to adapting existing regulatory systems or the drafting of laws/ regulations/ guidance materials

It has been established that if a nanomaterial has a known hazard or risk, there are regulatory systems in place in New Zealand that can regulate, eliminate or manage this hazard or risk. Depending on the circumstance in how the nanomaterials is used or poses a threat, a nanomaterial would be regulated under:

- the Hazardous Substances and New Organisms (HSNO) Act 1996 by the Environmental Risk Management Authority (ERMA);
- the Health and Safety in Employment (HSE) Act 1992 by the Department of Labour;
- the Food Act 1981, via the NZ (Maximum Residue Limits of Agricultural Compounds) Food Standards 2008[1], and the Australia New Zealand Food Standards Code[2], by the NZ Food Safety Authority;
- the Fair Trading Act 1986 by the Ministry of Consumer Affairs.

The legislation in the above Acts is sufficiently broad enough to include manufactured nanomaterials and covers the majority of the potential exposure pathways of manufactured nanomaterials.

ERMA intends to establish a formal position on the regulation of nanomaterials under the HSNO Act. Specific data requirements for the hazard and risk assessment of nanomaterials will be developed which will take into account international harmonisation efforts on regulatory requirements for nanomaterials.

Further information on the HSNO Act and ERMA is available from:
http://www.mfe.govt.nz/issues/hazardous/
http://www.ermanz.govt.nz/index.html

2. Developments related to voluntary or stewardship schemes

There are currently no voluntary or stewardship schemes.

[1] http://www.nzfsa.govt.nz/policy-law/legislation/food-standards/nz-mrl-fs-2008-consolidation.pdf

[2] http://www.foodstandards.gov.au/thecode/foodstandardscode.cfm

3. Information on any risk assessment decisions

ERMA has not received any applications to import or manufacture a hazardous substance that contains manufactured nanomaterials. There have not been any applications to allow residues of nanomaterials in foods.

4. Information on any developments related to good practice documents

Cosmetics containing nanoparticles (other than zinc oxide or titanium dioxide[3]) must be notified to ERMA as a condition of the Cosmetic Products Group Standard[4]. The purpose of this provision is to provide information to inform technical review of such substances in the future, so that if necessary, the group standard can be amended to put in place controls relating to such substances. To date no notifications have been received from importers or manufacturers of cosmetics.

"Nanoparticle" is defined in the group standard as "a particle having three dimensions in the nanoscale and a diameter of less than 100 nanometres". This is an interim definition that can be readily revised when international consensus on definitions emerges.

5. Research programmes or strategies designed to address human health and/ or environmental safety aspects of nanomaterials

Research investment decisions for 2008/2009 are now final.

The MacDiarmid Institute for Advanced Materials and Nanotechnology[5], a New Zealand Centre of Research Excellence, received renewed funding for a further six years commencing in July 2008. They have introduced a new research theme with this new funding that will look at biological applications and implications of nanotechnologies, which has the potential to investigate risk-related issues.

In addition to the MacDiarmid Institute, we are aware of at least three specific research projects that incorporate investigations of human health and/or environmental safety aspects of nanomaterials. One involves computational modeling that includes assessments of potential adverse effects of different types of nanoparticles. The second includes examination of potential toxicity of particular quantum dots in human cells and animal models. The third is a laboratory research project which was funded in 2008 to specifically examine the uptake of quantum dots by plants and subsequent environmental effects of these particles. This is a three year project.

6. Information on any public/ stakeholder consultation

No public/stakeholder consultation has been conducted on the safety of nanomaterials; however a symposium on nanotechnology is planned to be held in April 2009.

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[3] The provision has not been applied to nanoparticles containing zinc oxide and titanium dioxide on the basis of a review by the Australian Therapeutic Goods Administration (TGA) which concluded that there was no cause for health concern at this time.

[4] http://www.ermanz.govt.nz/appfiles/orgctrl/pdf/HSR002552Con.pdf

[5] http://www.macdiarmid.ac.nz

Additional Information

The Ministry of Research, Science and Technology (MoRST) is continuing to run a scanning network that identifies emerging science trends and developments[6]. Nanotechnology is an area of active interest.

The Bioethics Council will continue to investigate the cultural, ethical and spiritual implications of nanotechnology as part of their "future watch" function.

[6] http://www.morst.govt.nz/current-work/futurewatch/