

**Overview of Current Development in Manufactured Nanomaterials**  
**(New Zealand)**

Date	Major Development	Participants of WPMN meeting
July 2010	(N/A)	
Oct 2009	(N/A)	
March 2009	<ul style="list-style-type: none"> <li>• At least three substantial research projects are now underway that investigate aspects of risks associated with manufactured nanomaterials.</li> <li>• 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.</li> <li>• A Nanotechnology Officials Group has been established to coordinate nanotechnology regulatory and related activities across the New Zealand government.</li> </ul>	Mrs. Lynne WATERSON
June 2008	<ul style="list-style-type: none"> <li>• Funding decisions will be announced by July that are likely to include support for one or more research projects that investigate aspects of risks associated with manufactured nanomaterials.</li> <li>• Environmental Risk Management Authority (ERMA) Emerging Technology Conference in May 2008.</li> </ul>	Kathryn HOLDSWORTH
Nov 2007	There has been no significant developments in New Zealand since the 2 <sup>nd</sup> meeting of the WPMN	Mr. Iain HOSIE
April 2007	<ul style="list-style-type: none"> <li>• Ministry of Research Science and Technology (MoRST) Symposium on Nanoscience and Nanotechnologies in New Zealand</li> <li>• Launch of MoRST Nanoscience &amp; Nanotechnologies Roadmap document</li> </ul>	Mr. Iain HOSIE
Oct 2006	<p><b>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</b></p> <p>If a nanomaterial has one or more hazardous properties<sup>1</sup>, it would be regulated by the Environmental Risk Management Authority (ERMA) under the Hazardous Substances and New Organisms (HSNO) Act 1996. The Ministry for the Environment administers the HSNO Act and monitors the performance of ERMA. Hazardous substances that are</p>	Ms. Fleur FRANCOIS Ms. Katherine WILSON

regulated under the HSNO Act include toxic substances, pesticides, dangerous goods (such as petrol and liquefied petroleum gas), explosives and cosmetics.

The Ministry for the Environment and ERMA consider that there is significant scope within the HSNO regime to regulate nanomaterials that meet the definitions for hazardous substances on a case-by-case basis. ERMA intends to establish over the next 18 months or so a formal position on the regulation of nanomaterials under the HSNO Act. Specific data requirements for risk assessment of nanomaterials will be developed that 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>

There is further provision under the Health and Safety in Employment (HSE) Act 1992 if nanomaterials do not fall under the HSNO Act due to being a manufactured article (excluded from the HSNO Act) or being non-hazardous as set out in the HSNO (Minimum Degrees of Hazard) Regulations.

The HSE Act is sufficiently general in its definition of a "hazard" that it would be applicable to any substance that has health consequences. The HSE Act provides a general duty on all employers to provide a safe place of work, and sets in place a hazard identification and management system that requires anything that could be hazardous to workers to be systematically identified and assessed to determine whether or not it is a significant hazard. If the hazard is found to be significant, the employer must take steps to eliminate, isolate or minimise the hazard.

There are also monitoring provisions under the HSE Act which requires an employer to monitor the employees' exposure to the hazard. However, in order for the hazard identification and management system to be effective, first the health effect and the technology for assessing the hazard and controlling it must evolve.

Residues of nanomaterials in foods are controlled by either the New Zealand (Maximum Residue Limits of Agricultural Compounds) Food Standards 20063 if contamination arises from use of pesticides or veterinary medicines, or the Food Standards Code4 established by Food Standards Australia and New Zealand (FSANZ) for other sources of food contamination. Both pieces of legislation are able to cope with this new technology when the need arises.

## **2. Developments related to voluntary or stewardship schemes**

There are currently no voluntary or stewardship schemes.

## **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<sup>5</sup>) must be notified to ERMA as a condition of the Cosmetic Products Group Standard<sup>6</sup>. 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**

There are currently no research programmes underway to address human health and/or environmental safety aspects of nanomaterials. The Foundation for Research Science and Technology has called for research proposals in its “Creating Opportunities Through New Physical Technologies” portfolio<sup>7</sup> that investigate the environmental and socio-economic uncertainties associated with nanotechnologies.

**6. Information on any public/stakeholder consultation**

No public/stakeholder consultation has been conducted on safety of nanomaterials.

***Additional Information***

The Ministry of Research, Science and Technology (MoRST) is producing a “Nanoscience & Nanotechnologies Roadmap” on directions for research and policy associated with the responsible development and management of nanoscience and nanotechnologies in New Zealand<sup>8</sup>. MoRST has also established the Navigator Network<sup>9</sup> to identify emerging science trends and innovations, particularly in biotechnology and nanotechnology.

The Bioethics Council prepared a report on nanotechnology to the Minister for the Environment in 2003<sup>10</sup>. This report looked at the potential ethical, cultural and regulatory implications of nanotechnology. The Bioethics Council have indicated that they will continue to investigate the cultural, ethical and spiritual implications of nanotechnology as part of their “future watch” function.

The Agribusiness and Economics Research Unit at Lincoln University is conducting research on public attitudes to nanotechnology.