

## REPUBLIC OF KOREA

### **Highlight of developments since the 2nd meeting of the WPMN**

- Started a new project on the safety of manufactured nanomaterials in the framework of Ecotechnopia21 project (as elaborated below in #5, worked by MOE).
- Initiated a series of research projects on the toxicity of nanomaterials (as elaborated below in #5, worked by KFDA)

### **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**

The Korean government does not have any national regulatory development on human health and environmental safety on manufactured nanomaterials. However, MOST (Ministry of Science and Technology) started investigating any needs in the new regulatory system and possibilities to apply the existing law and rules to issues related to nanomaterials.

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

The Korean government does not have any national development related to voluntary or stewardship schemes.

#### **3. Information on any risk assessment decisions**

The Korean government initiated a few research projects as elaborated below in #5 this year including risk assessment part, but these are still in the initial stage.

#### **4. Information on any developments related to good practice documents**

The Korean government does not have any information on developments related to good practice documents

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

The Korean government well recognized the importance of potential risks of nanomaterials, and is conducting several projects on human health and environmental safety of nanomaterials

#### Ministry of Environment (MOE)

MOE has conducted the Eco-technopia21 project to promote the development of environmental technologies since 2001. MOE started a project on human health and environmental safety of nanomaterials in the framework of Eco-technopia21 from April 2007, which will be continued until 2010. USD 0.5 million per year is invested on this project annually, in total USD 3 million. The ultimate goal of this research is to support the establishment of infrastructure necessary to minimize potential risks derived from the manufacture, distribution and disposal of nanomaterials and nanomaterials-containing products. The research project includes 1) identification of environmental release of manufactured nanomaterials 2) characterization

of physico/chemical properties of nanomaterials, 3) development of monitoring methods of nanomaterials in air and waters 4) (eco) toxicological assessment of nanomaterials by systematic molecular biology 5) environment exposure and fate of nanomaterials including LCA, and 6) preparation of test guideline for the risk management of nanomaterials. The project is designed that results would be used for the supportive data to international cooperation activities of OECD WPMN.

#### Ministry of Science and Technology (MOST)

MOST has performed a research project named 'environmental implications assessment of nanomaterials' from 2006. The outputs of the project include 1) the characteristics of nanomaterials 2) the domestic and overseas trends in industrial, social, pharmaceutical, human, and environmental effects on nanomaterial 3) need for research on human health and environmental safety, and 4) a proposal for a new institute to address negative effects of nanomaterials. Besides, MOST is conducting two projects on EHS (Environment, health and Safety) and ELSI (Ethical, Legal, and Social Issue) of nanomaterials, which will be continued for one year from second half of 2006. Those projects will spend USD 200 thousand and USD 100 thousand, respectively.

#### Korea Food & Drug Administration (KFDA)

KFDA is conducting a series of research projects on the toxicity of nanomaterials from 2007 to 2015 aiming for the development of a toxicological assessment system of nanomaterials and establishment of the related guidelines for the area such as food, drug, medical product, and cosmetics. KFDA is spending USD 3 million this year and the budget will be increased upto USD 3 million per year in conducting this project which includes genetic toxicity, inhalation toxicity and *in vitro* study

#### Korean Agency for Technology and Standards (KATS)

As a Korean representative for ISO, KATS has conducted all works related to ISO/ TC 229. Recently, KATS submitted two standard proposals to ISO/TC 229: 1) for monitoring silver nanoparticles in inhalation exposure chamber for inhalation toxicity testing, and 2) for generation of silver nanoparticles for inhalation toxicity testing.

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

Korea Nanotechnology Research Society was established by law and is composed of professors and researchers from public and private institutes. Korea Nanotechnology Research Society held a public hearing on environmental implications assessment of nanomaterials in December 2006 where experts from the government, research institutes, universities, and NGOs participated and public opinions on the EHS, ELSI of nanomaterials were collected.