



# OECD Working Party on Manufactured Nanomaterials

Jim Willis, Chair

OECD Working Party on Manufactured Nanomaterials

# WPMN

- Established in September, 2006
- Four meetings to date:
  - October 26-27, 2006
  - April 26-28, 2007
  - November 28-30, 2007
  - June 11-13, 2008
  - 5th meeting: 4-6 March 2009
- Chaired by Jim Willis, USA
- Objective: *To promote international co-operation in health and environmental safety related aspects of manufactured nanomaterials, in order to assist in their safe development*
- Works through the implementation of (8) projects via “Steering Groups”

# Who attends the WPMN?

- Countries:
  - 30 OECD Member Countries and the European Commission
- Observers:
  - Argentina, China, Singapore, Thailand, Brazil, Russia
  - ISO, WHO, UNEP
  - BIAC, eNGOs (ED, FOE, and Greenpeace), TUAC, WWIC (past)
  - ICAPO request



# Project 1: OECD Database on Safety Research

- Objective: *to develop a global resource, which identifies research projects that address environmental, human health and safety (EHS) issues associated with manufactured nanomaterials. This will include research projects which are planned, underway or completed.*
- Chair: Australia
- Status:
  - Prototype database made available January, 2008
  - Data entry -10 weeks ~ September-November
  - Rollout expected in December 2008

## Project 2: Research Strategies on Manufactured Nanomaterials

- Objective: *to exchange information and identify common research needs to address human health and environmental safety issues associated with manufactured nanomaterials, and to undertake to meet those research needs.*
- Chair: Germany
- Status:
  - Initial research matrix completed
  - Strategies work will begin once database is populated

## Project 3: Safety Testing of a Representative Set of Manufactured Nanomaterials

- Objective: *to agree and test a representative set of manufactured nanomaterials (MN) using appropriate test methods.*
- Co-Chairs: USA and European Commission
- Status:
  - Testing program agreed encompassing 14 nanomaterials and a range of endpoints.
  - Sponsorship program agreed to/guidance manual under development

 OECD	Lead sponsor(s)	Co-sponsor(s)	Contributor
Fullerenes(C60)	Japan, US		China
SWCNTs	Japan, US		Canada, France, Germany, EC, China, BIAC
MWCNTs	Japan, US	Korea, BIAC	Canada, Germany, France, EC, China, BIAC
Silver nanoparticles	Korea, US	Canada, Germany	Australia, France, EC, China
Iron nanoparticles	China	BIAC	Canada, US
Carbon black			Germany, US
Titanium dioxide	Germany	Canada, Korea, Spain, US, BIAC	France, China
Aluminium oxide			Germany, US
Cerium oxide	US, UK/BIAC	Netherlands	Australia, Germany, EC
Zinc oxide	UK/BIAC	US, BIAC	Australia, Canada
Silicon dioxide		Korea, BIAC	France, EC
Polystyrene			Korea
Dendrimers		Spain	US
Nanoclays			US

# Endpoints

- “Dataset”:
  - Physical-chemical properties
  - Materials characterization
  - Environmental fate
  - Environmental toxicity
  - Mammalian toxicity
  - Safety
- Alternative approaches and methods, including in vitro
- Investigation of different particle sizes, shapes, coatings and/or modifications
- End product of Phase 1 is a “dossier” with supporting data; task groups developing a guidance manual and review process
- Sponsorship workshop - Busan Korea, Nov. 19-21 2008
- 2<sup>nd</sup> Phase envisioned





# Project 4 : Manufactured Nanomaterials and Test Guidelines

- Objectives:
  - *To review existing OECD Test Guidelines for adequacy in addressing manufactured nanomaterials.*
  - *To identify the need for development of new or revision of existing test guidelines.*
- Co-chairs: USA and European Commission
- Status:
  - Completed the Preliminary Review of the existing guidelines for potential applicability
  - Developing guidance on sample preparation and dosimetry, and a comparison document of Inhalation and Instillation

# Project 5: Co-operation on Voluntary Schemes and Regulatory Programmes

- Objectives:
  - *To identify common elements of the various information gathering initiatives, in place or planned.*
  - *To identify applicable current and proposed regulatory regimes and how they address information requirements, hazard identification, risk assessment and exposure mitigation/ risk management of manufactured nanomaterials.*
  - *To share information on existing or proposed guidance documents on practices to reduce occupational or environmental exposure to or releases of manufactured nanomaterials.*
- Chair: Canada
- Status:
  - Comparisons of information gathering schemes have been conducted
  - Recommendations for effective information gathering schemes have been made
  - Developing a clearinghouse for Information sharing
  - Questionnaire on regulatory regimes

## Project 6: Co-operation on Risk Assessment

- Objective: *to evaluate risk assessment approaches for manufactured nanomaterials through information exchange and identify opportunities to strengthen and enhance risk assessment capacity.*
- Chair: UK
- Status:
  - Draft report/white paper, including critical issues and supporting tools

## Project 7: Alternative Methods in Nano Toxicology

- New project to evaluate and, where applicable, validate in vitro and other methodologies
- Co-Chairs: Germany and UK
- Status:
  - Steering Group recently formed
  - Needs to integrate with SG3 and SG4
  - Alternative methods need to be considered during sponsorship
  - Report on available methods expected by WPMN-5

# Project 8: Exposure Measurement and Exposure Mitigation

- New project to develop guidance on exposure measurements and exposure mitigation, with an initial focus on occupational settings.
- Chair: USA
- Status:
  - Steering Group formed
  - Sub projects under development:
    - ***measurement techniques and sampling protocols for inhalational and dermal exposures in the workplace***
    - ***guidance on personal protective clothing, gloves and respirators***
  - Workshop on Exposure Assessment and Exposure Mitigation planned for Frankfurt on October 20, 2008

## More information

# Safety of Manufactured Nanomaterials

<http://www.oecd.org/env/nanosafety>

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