

# **Nanoscale Materials Stewardship Program**

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# Overview

- Nanoscale Materials (NMs)
- New v Existing NMs under TSCA
- TSCA Regulatory Oversight of NMs
- Voluntary Nanoscale Materials Stewardship Program
  - Design & Participants
  - Basic & In-Depth Components
  - Outreach & Recognition
  - Evaluation
- International Collaboration on NMs



# Nanoscale Materials

- Scale of approximately 1 -100 nm
- Size dependent properties & new functions of matter at the nanoscale
- Manipulate or control material at the nanoscale



# Nanoscale Materials under TSCA

- Many nanoscale materials (NMs) are “chemical substances” as defined by the Toxic Substances Control Act (TSCA)
- NMs not on the TSCA Inventory are “new” chemicals
  - TSCA definition based on molecular identity, not other properties
  - New chemical examples include fullerenes & carbon nanotubes
- NMs already on the TSCA Inventory are “existing” chemicals
  - Some metal oxides



# TSCA Regulatory Oversight of NMs

- Pre-manufacture notice (PMN) is required before manufacture of new chemical NMs
- Significant New Use Rules can be applied to specific NMs or categories of NMs
- Information collection authorities can be used to obtain needed information
  - Use & exposure data
  - Health & safety studies
- Substantial risk reporting requirements keep EPA promptly informed of new information



# Nanoscale Materials Stewardship Program (NMSP)

- Encourage responsible development
- Complement TSCA regulatory program
- Increase experience with risk assessment/mitigation
- Provide firmer scientific basis for decision-making
- Encourage risk management practices to reduce potential exposures/releases



# NMSP

- Designed for participants who already manufacture, process, use, or import NMs
- Invites researchers or PMN submitters to also participate
- Does not limit or define participants or NMs
- Allows submissions to be claimed CBI, but encourages as much public data as possible



# NMSP: Basic Program

- Requests participants to submit existing information on NMs by 7/28/08
  - Physical & chemical properties, hazard, exposure, use, & risk management practices or plans
- Encourages use of optional data submission form but may provide data in any format
- Encourages participants who don't have risk management plans to develop & submit them



# NMSP: In-Depth Program

- Sponsors commit to develop data on a smaller set of representative NMs over a longer time period
- EPA will facilitate data development process
- Entities or consortia with an interest in developing data should notify EPA at:  
<http://epa.gov/oppt/nano/nano-contact.htm>



# NMSP Outreach & Recognition

- EPA strongly encourages early and active participation in the basic program
  - Submission before 7/28/08
  - EPA outreach via letters, stakeholder meetings, & conferences
- Major trade associations have notified members & encouraged participation
- EPA will publicly recognize participants



# Current NMSP Submissions/Commitments

- Two NMSP submissions under the basic program:
  - Dupont
  - Office ZPI
- Six companies committed to submit information under the basic program:
  - BASF Corporation
  - Dow Chemical
  - Nanocyl North America
  - Nanophase Technologies Corporation
  - PPG Industries
  - Strem Chemicals
- Arizona State University researchers interested in participating.



# NMSP Evaluation

- Interim evaluation & report
  - Approximately one year from initiation based on reporting during first six months
- Detailed program evaluation & report
  - Approximately two years from initiation
  - Determine future direction of NMSP
- EPA will adjust or decide future steps as needed during or at the end of the NMSP
  - Includes TSCA regulation to obtain data or take other actions



# International Collaboration on NMs

- Organization for Economic Co-Operation and Development (OECD) Working Party on Manufactured Nanomaterials (WPMN)
  - EPA chairs WPMN and actively participates
  - Project on Safety Testing of a Representative Set of Manufactured Nanomaterials
    - Research, testing, risk assessment, & oversight of NMs
  - In-Depth portion of NMSP complements WPMN
- U.S. Technical Advisory Group to Technical Committee on Nanotechnology of the International Organization for Standardization (ISO TC 229)
  - Standards for terminology, nomenclature, metrology & instrumentation



# NMSP Information Sources

- EPA/OPPT nano website at:  
<http://www.epa.gov/oppt/nano/>
- EPA docket at: [www.regulations.gov](http://www.regulations.gov)  
epa-hq-oppt-2004-0122
- EPA NMSP contact: Jim Alwood at:  
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