

Breakout session B: Environmental protection issues related to nanomaterials

Session leader:

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Industrial ecology, mass flow of nanoparticles

- some work by SETAC, in Europe
- need to identify exposure points, and determine how nanomaterials look at each of these points (ie environmental state)
- need for basic fate and transport data (current EPA funding focus) – emphasis on nanomaterials as they exist in the environment (as opposed to pure manufactured nanoparticles)

Risk assessment, communication and perception

- follow chemical industry for risk assessment
 - o too many unknown variables with NPs to be predictive?
 - o many of the coatings used on NPs are not well characterized in terms of environmental safety
 - o opportunity to develop a more holistic (multi-component) risk assessment
 - o multi-factorial risk has been done before in the chemical industry, with only low-to-moderate accuracy)
- disconnect between public perception of risk and actual risk
 - o “newness” an amplifying factor, but has precedence in chemical industry
- currently no tools for addressing public on the risks of NPs – need easily digestible information for the public
- Aside from public, what do we have to educate researchers?

Safety regulations and guidelines for nanomaterial use in research labs

- unified set of guidelines for working with NPs put out by NIOSH, but very general
- need to develop lab safety protocols
 - o are gloves protective? (probably not)
 - o identify protective materials for working in lab
 - o how to clean up spills
 - o how to handle disposal (currently grouped by bulk material)
 - o OSHA developing monitoring equipment
- consensus gathering to develop guidelines? (previously done to develop biosafety regulations)

Steps forward:

- Drexel Safety and Health wants to provide a training for PIs on lab safety / protocols for working with NPs. Could this be cooperative with U PENN and other area organizations?
- Organize a workshop for a consensus gathering to develop safety guidelines for working with nanomaterials
- Communicate environmental risks of nanomaterials in a public meeting? What are best practices and amplifying or mitigating factors to risk perception.