

**Participants:** Rick Canady, Shaun Clancy, Lie Chen, Myriam Hill, Cathy Fehrenbacher, Debbie Kaiser, Steve Froggett, Bill Kojola, Jo Anne Shatkin, Chuck Geraci, Yasir Sultan, Andy Atkinson, Janet Carter and Darrel Boverhof

**Updates:**

Last meeting's notes: approved as drafted and ready to post on the website

**Agenda**

(1) Readout from the workshop --

Participation and "how did it go?":

- The group agreed that the workshop was successful and that the SC now has a handle on the detailed information necessary to move forward.
- It was generally agreed that the panels, especially the Q&A sessions with the panels and the breakout sessions were very helpful because the participants quickly got down to the level of detail the SC needed.
- Several members of the group commented on how impressed they were with the level of engagement from all of the participants; panelists, SC members and invited experts. The general feeling was that the workshop had a very good group of people, allowing very focused and in-depth discussions.
- It was also stressed that the needed information transfer, about where the field is at, what's practical and what would be a good start for the NR project, was accomplished.
- Given the benefit of in depth discussions during the workshop, but the difficulties with travel/venues, it was mentioned that the SC should consider webinars.

Thoughts on the critical information we heard:

- Some SC members felt that exposure scenarios could be a good starting point for considering which ENM to move forward, while other SC members felt that starting with the ENM itself would help them frame exposure scenarios and the matrices that would be most relevant.
- It was generally agreed that the SC should continue to be mindful of the consumer's perspective, as they are important stakeholders.
- Based on the information covered in the workshop, several SC members began to feel the need to consider more carefully the scope of "release" under investigation. A few questions were posed: Are we looking to measure release only, or do we want to continue the investigation to characterize the release methods that inform downstream considerations?
- A critical piece of information that was gleaned from the workshop was that current methodologies available for detecting CNTs are limited, and that at a minimum 3 different tools (both direct and indirect) are needed to characterize CNTs.
- Based on the discussions during the workshop, it was agreed that as the NR project moves forward, it will be important to link/compare the most likely released particles (i.e. CNT + matrix) to existing hazard data.

- A number of SC members mentioned that was difficult to envision how relevant CNT release would be for consumer products. Meanwhile it was generally agreed that CNT release is a serious concern during production (i.e. milling).
- For nano-silver, regulators are generally less concerned about ion release, as there is literature to go back to and consider for silver. What is new is the potential release of nano-particles of silver and when it goes to the ionic form. However, we have very poor methods to measure NP silver release.
- A few SC members highlighted the methodological difficulties in measuring release of either CNTs or n-Ag mentioned during the workshop, and suggested that the SC reconsider other, potentially easier ENMs (e.g. n-Si or n-TiO<sub>2</sub>) to investigate.
- Several SC members questioned whether investigation into release of n-Si or n-TiO<sub>2</sub> would be informative or novel enough to be of high value. Further it was mentioned that research communities generally consider n-Si uninteresting and thus it might be difficult to find collaborators willing to conduct the work.

#### Anything that changes our plans?

- During the workshop, there was a strong message to set the conceptual framework to define what the SC intends to accomplish and the context within which those goals could be obtained.
- It was generally agreed that choosing the carrier system, the ENM, along with methods, *all at once* is probably too complex. A suggested solution was to select the ENM, then the system, and then let those help inform the methods to investigate.
- It was recalled that the SC initially selected one “difficult” NM (MWCNT) and one “easy” NM (n-Ag) and now it appears that silver may be more difficult than expected. It was suggested that perhaps the SC should consider the other, high manufacture volume ENMs that are potentially easier to examine.
- Some SC members expressed that based on their experience with titania, the SC will likely find problems similar to those with silver, and mentioned that during the workshop n-TiO<sub>2</sub> was not discussed. Further probing into the details of measuring release of titania might reveal it to be as complex as silver; with titania the challenges will likely be from aggregation and agglomeration, just as speciation/transformations are challenges with silver.
- As had been raised in past meetings, the SC could choose multiple ENMs to move forward. If that is done, then more resources, etc, would be needed, but the SC selection process should not be the limiting agent.
- It was stressed that the SC should not feel pressure to go forward at the expense of leaving a high value investigation behind.

#### (4) Next steps:

1. Steve will ask the SC members to add pro’s and con’s to their initial straw poll submission, and confirm/change their ENM selection by Friday June 3<sup>rd</sup>.