

NanoRelease Consumer Products Steering Committee Conference Call October 14, 2015

Participating in the call: Treye Thomas, Keana Scott, Wendel Wohleben, Elaine Cohen Hubal, Carolyn Cairns, Richard Zepp, Janet Carter, Tina Bahadori, Lie Chen

Chair – Wendel Wohleben

An agenda was distributed prior to the call. The chair asked if there were other agenda items to consider. None were offered.

Review/approve minutes of last call

Action: Minutes approved

Status of data collection.

What is done and what remains to be done? Are there decisions to be made by the SC?

- **Data hub**
 - The data hub is up and running, and has data.
 - Read/write access confirmed by participating laboratories at EPA Cincinnati, EPA Athens, NRC, NIST, ERDC, BASF, and IUTA.
 - Other members of the sanding and weathering modules have been reminded of how to register and use the data hub.
 - Nanocyl has been able sign in (Read-only access).
 - ITG co-chairs (Carolyn Cairns and Janet Carter) have access (read-only).
- **Weathering**
 - *Immersion sampling analysis data.*
 - BASF data upload is complete and no more analysis planned (no sample left).
 - EPA Athens has completed the core protocol analysis of the immersion samples and is completing additional analysis using AF4 very soon (possibly by November). The AF4 analysis is complementary to the additional AUC analysis conducted by BASF on the immersion samples.
 - BASF and EPA Athens noted differences in analysis outcomes caused by differences in application/interpretation of the protocol and have adjusted protocols (to be described when the write-up occurs). Confirmatory analyses have been performed both by EPA and BASF.

Action: It was proposed (and the SC agreed, pending confirmation in a Weathering module call in early November) that the data aggregation and initial drafting for the immersion analysis can move forward as soon as the “standard” techniques are done. The optional techniques such as AF4 can be added in later.

Wipe sampling and analysis

- ERDC and NRC were not available to discuss status. A conference call of the Weathering Module will be arranged in the next 4 weeks to clarify status.

- **Sanding**

- ***SEM analysis of air filters***

- Air filters from sanding runs of epoxy/MWCNT discs have been received by NIST and NRC from IUTA, CEA and KIST
 - NIST and NRC have discussed SEM analysis approach
 - NIST has started analysis of air filter SEM analysis.
 - NRC was not present to report status of SEM analysis

- ***Inline particle analysis data***

- KIST, CEA, and IUTA have not uploaded inline particle analysis sanding data to the NIST data hub; however, the data have been collected and should be uploaded soon (probably by the end of October).

- ***Agreement for ERDC to receive sanding discs from Nanocyl***

- A proposal for agreement has been offered by Nanocyl to allow shipment of the sanding discs to ERDC. Response from ERDC is needed.

Action: Proposal was made and agreed to that the sanding module should go ahead and set up the analysis of the inline data from the sanding runs that are completed rather than wait for ERDC sanding data input. The data from ERDC can be added when it is available. Similarly, the analysis of the inline data will proceed ahead of the SEM analysis.

Write up of results

Three papers were proposed for consideration by the sanding and weathering module experts:

1. Weathering/immersion
2. Weathering/wipe
3. Sanding (inline and SEM)

The authors and writing responsibilities would be decided in subsequent calls of the Weathering and Sanding modules.

Although not anticipated within the scope of actions to be undertaken by the Steering Committee, it is assumed that these papers would be the starting point for other actions regarding outreach and possible initiatives in Standards Development Organizations (SDOs). Other papers may also be developed at a later point from ongoing work by the experts involved in the analysis, for example, perhaps on SEM protocols and analytic techniques specifically.

- **Proposed “charges” to the drafting for each paper:**

- Overall goal is to provide a “pre-validation” evaluation of protocols for release testing.
 - Each of the three papers should
 - Address statistical significance of comparisons regarding interlab transferability of protocol application and differentiation of materials (e.g., the polymers in the Weathering Module and the MWCNT loading rates for the Sanding Module).

- Describe “lessons learned” in how use of the draft protocols fared (e.g., what was planned vs what happened across labs and in the shipment of samples that may have affected sampling and measurement consistency).
- Make recommendations for protocol improvement
- Offer opinion of whether the materials used by the modules are useful as reference materials for high/low probability of release, possibly with quantitative ranges. (and, if applicable, what modification would be needed).
- Include observations (based on application of the protocol across the laboratories) regarding approaches to characterizing released materials, including quantifying the range of particle types associated with added nanomaterial (e.g., matrix-bound and free nanoparticle).
- **Timeline for publication:**
 - Initial analysis of the data in hand in November 2015
 - Drafts of the 3 papers in 1st quarter 2016 to be shared with the SC for information and to inform coordination actions to be taken.
 - Then proceed to submission to peer review journals
 - In reportable form by end of 2016
 - Start processes for outreach mid 2016 (e.g., , DC NanoTech in May 2016; NanoSafe in Grenoble Nov 2016)

Meetings/workshop/webinars?

What is needed to facilitate progress and closure of the project?

It was proposed and generally agreed that a workshop is not needed to support development of the final output papers of NanoRelease or for movement of the knowledge generated by the project to SDOs. Presentations of the work through coordinated sessions at conferences or other venues (e.g., to working groups or meetings of SDOs) could provide the needed outreach to stakeholders and provide the basis for transition to standards development.

It was however suggested that a webinar specific to NanoRelease might provide useful outreach and a mechanism for feedback from other experts to take forward to SDO’s. The need and possible scope for such a webinar would be addressed in the next Steering Committee conference call.

A proposal was discussed for development of a Technical Reference document (TR) in ISO that drew from published outputs so far from NanoRelease. The TR would be a general review document that set the stage for development of technical specifications and standard methods. It was generally agreed that such a TR would be useful and should go forward. Further actions in SDOs should also be considered based on the project and on the weathering and sanding modules, including ASTM and ISO. The point was made that the papers describing the results obtained by the protocols are the most important element for wide dissemination and use of the methods. Standard methods could then be developed based on the papers, if and as interest and resources are available.