U.S. Consumer Product Safety Commission

MEETING LOG

PRODUCT: Nanotechnology

SUBJECT: ISO/TC 229 Nanotechnologies Working Group Virtual Meetings to Discuss Current Projects and Potential New Work Item Proposals (NWIPs)

LOCATION: Hybrid (Stockholm, Sweden)

DATE: May 19-23, 2025

ENTRY DATE: May 29, 2025

LOG ENTRY SOURCE: Joanna Matheson (HSTR)

COMMISSION ATTENDEES: Priscilla Verdino (LSC), Joanna Matheson (HSTR)

NON-COMMISSION ATTENDEES: Contact ANSI for a complete list.

MEETING SUMMARY:

ISO Technical Committee 229 (ISO TC/229) focuses on standardization in the field of nanotechnologies, understanding and control of matter and processes at the nanoscale where the onset of size-dependent phenomena usually enables novel applications, as well as use of nanoscale materials to create improved materials, devices, and systems that exploit these new properties. Specific working groups address the development of standards and guides for terminology and nomenclature; metrology and instrumentation; test methodologies; modelling and simulations; and science-based health, safety, and environmental practices.

From Monday, May 19, 2025, through Friday, May 23, 2025, CPSC staff virtually participated in WG3 and WG5 late sessions. At the Working Group 3 (WG3, Health Safety and the Environment) general meeting project leaders provided brief verbal updates on their respective work and their goals for the project meetings that would occur during the week. In addition, information was given on CEN/TC 352 and CEN/TC 137 activities including two recently published technical specifications related to the detection and/or measurement of airborne nanomaterials (CEN/TS 18117:2025 *Detection and characterization of airborne NOAA using electron microscopy - Rules for sampling and analysis*; CEN/TS 18086:2024 *Direct reading low-cost particulate matter sensors for measuring airborne NOAA - Guidelines for application*). Two new CEN projects relate to the development of a guide for deploying relevant nano health and safety risk management and a Safe-by-design framework for nano scale materials and products containing nanomaterials. At the WG3 strategy meeting topics of potential future work included nanoplastics, graphene toxicity assessment, and exposure from nanomaterials used in agriculture.

Presentations were given to WG3 participants on two potential new work items: *Determination of cisplatin in nanobiomaterials - spectrophotometric method using o-phenylenediamine* and *Size and concentration of extracellular vesicles - nanoparticle tracking analysis*. Participating experts supported the registration of these two projects.

Updates and revisions continue for TS 13121 *Nanomaterial Risk Evaluation*, CPSC staff are currently leading the expert team. Work continues on other projects with updated draft documents available soon for comment, these projects include the environmentally-oriented toxicity method TS12769 using plant Arabidopsis thaliana, an optimized method for collecting bronchioalveolar fluid, a method assessing biotransformation of nanomaterials, and a new proposed work item 25324 *Lysosomal membrane permeabilization (LMP) assessment as a predictive measure of the long-term toxic effects biopersistent/biodurable nanomaterials*, as well as two waste related projects, including new work item 25702 *Risk management applied to industrial waste from the manufacturing and processing of engineered nano-objects,* which was generated from a completed CEN project.

WG3 held a joint meeting with WG5 (Products and Applications) on May 20, 2025, to continue discussions on PWI 23653 *Experimental considerations when evaluating efficiency of intracellular uptake of nanoparticles*, recommending revisions to the draft as well as changing the end-product from an international standard to a technical report. In addition, two similar projects evaluating antiviral activity (PWI 25402 *Reliability evaluation of antiviral activity on non-porous nanocoated surfaces* and new project *Antimicrobial ceramic tiles containing nanomaterials*) were discussed, recommending that the new project proposal on ceramic tiles include a table that clarifies and highlights its differences from PWI 25402.

The CPSC proposed project, PWI 5265 *Method for characterizing and quantifying nanomaterials released from wood products*, was recently adopted into the workplan and was discussed on Friday, May 23, 2025. Additional experts volunteered to work on developing the draft standard.

In other working groups, work continues on projects related to graphene, insulating nanocomposites, sensors, clay nanoplates for barrier films, nanoliposomes and terminology.

In celebration of the 20th anniversary of TC/229, it was suggested at the TC/229 general meeting to develop a short peer-reviewed paper on newly developed standards. Breakout groups at the TC/229 general meeting discussed strategic areas and potential topics for standard development. Nanoplastics was a common theme among the breakout groups as well as nanoelectronics, nanomedicine, quantum/AI, and characterization of nanostructures.

The next international meeting of ISO TC/229 will be held November 10-14, 2025, in Incheon, South Korea.