

Session 2 speaker:

Putting the SSbD concept into practice – challenges and opportunities for hazard testing

Hedwig Baakhuis, PhD toxicologist, RIVM National Institute for public Health and the Environment, Netherlands

Dr. Hedwig Braakhuis works as a toxicologist at the Centre for Health Protection at the National Institute for Public Health and the Environment (RIVM) in Bilthoven, the Netherlands. She is involved in policy-underpinning research and (inter)national policy advice in the area of risk assessment of complex materials. Her main area of expertise is in innovative testing strategies to assess human safety of complex materials such as biomaterials and nanomaterials. Her current focus is on the development of safe-and-sustainable-by-design strategies for innovative materials including advanced materials, nanomaterials, biomaterials and plastics that are recyclable-by-design.

Hedwig has ample experience in international research projects (e.g. SURPASS, PARC and SAbyNA), and is participating in several expert groups of the International Organization for Standardization (ISO) Technical Committee 194 Biological and Clinical Evaluation of Medical Devices.

Short abstract

Safe-and-Sustainable-by-Design (SSbD) aims to protect humans and the environment by identifying and minimizing impacts on safety and sustainability at an early phase of the innovation process. A crucial step in SSbD is early hazard screening to detect potential hazards at an early stage of product development. New approach methodologies (NAM) are a great opportunity to perform hazard screening for novel materials, such as advanced materials and nanomaterials. For SSbD, methods should be simple, cost-effective, predictive, robust, and compatible. In this presentation, the opportunities and challenges of using NAMs for SSbD hazard screening will be discussed using a case study from the nanomaterial field.

Specific attention will be paid to life-cycle thinking and assay compatibility using complex/innovative materials. Finally, the need for close collaboration between innovators, scientists, and regulators to further improve SbD hazard testing will be highlighted.