SweNanoSafe workshop - Safe and Sustainable by Design: a prerequisite for achieving a circular economy

Background: Safe and Sustainable by Design (SSbD) is based on the consideration and minimization of uncertainties and risks to human health and the environment from an early stage of the innovation process and throughout the lifecycle of the innovation product. The concept of SSbD stems from the development of safe-by-design approaches within the nanosafety field (e.g. in projects such as NANoREG and ProSafe), and is a component of the Safe(r) Innovation Approach (SIA) for more sustainable nanomaterials and nano-enabled products, which was recently described in detail by the Organization for Economic Cooperation and Development (OECD). In addition to SSbD, the SIA entails the idea of Regulatory Preparedness, which refers to public authorities being ready to face the inherent challenges of assessing the risks of nanomaterials and nanotechnology. The goal is to establish a systematic and comprehensive strategy that builds the basis for efficient development and reuse of safe materials and products in a circular economy. In parallel, there are ongoing efforts within the European Union member states to harmonize and implement SSbD (and SIA) on a comprehensive level[1], including for chemicals and advanced materials, and from both a regulatory as well as an industrial/innovator perspective.

The goal of the workshop: In one of the recent SweNanoSafe reports, a set of proposals to overcome obstacles hindering efficient nanosafety were described, including a recommendation to establish a national strategy for nanotechnology whereby safety is integrated at an early stage of the innovation process. This workshop aims to orient Swedish authorities in the ongoing development and implementation of the SSbD concept to face regulatory challenges related to nano- (and advanced) materials with the purpose of advancing circular economy.

Organizers: SweNanoSafe - *Penny Nymark, Bengt Fadeel, Rune Karlsson (Karolinska Institutet) and Gregory Moore (Swedish Chemicals Agency)*

Format: Half day, online (Zoom), **Monday 29th November. 13-17.15 CET**

Target audience: Swedish authorities and other actors involved in sustainability, nanosafety, the European chemicals strategy, and circular economy (including academia and representatives of other European nanosafety initiatives/platforms).

[1]The European Commission has adopted (14 October, 2020) the EU Chemicals Strategy for Sustainability. The Strategy is the first step towards a zero-pollution ambition for a toxic-free environment announced in the European Green Deal. The Strategy is envisaged to boost innovation for safe and sustainable chemicals and increase protection of human health and the environment against hazardous chemicals. This includes promoting safe and sustainable by design (SSbD) phase and taking into account the overall life cycle: production, use and end-of-life.

Agenda:

13.00 Welcome (**Bengt Fadeel, SweNanoSafe/KI**)

13.05 Introduction (**Penny Nymark, SweNanoSafe/KI**)

13.20 Safe Innovation Approach: Towards an agile system to meet policy ambitions (**Lya Hernandez-Soeteman, RIVM**)

13.45 A regulatory perspective on Safe and Sustainable-by-Design (SSbD) approaches for advanced materials (**Andrea Haase, BfR**)

14.10 Q&A

14.30 *Break*

14.35 Short perspectives on the real-world situation and regulatory aspects of SSbD/SIA **(Ian Cotgreave, RISE, session moderator)**

- Testing and standardized methods for SSbD of nanomaterials (**Mar Gonzalez, OECD**) 20 min
- Modelling of nano- and advanced materials in research (**Alexander Lyubartsev, SU**) 10 min
- Ongoing European SSbD projects – towards high-throughput testing (**Roland Grafström, KI**) 10 min
- Digitalized and reusable data for SSbD of nano- and advanced materials (**Penny Nymark, KI**) 10 min
- Q&A 30 min

15.55 *Break*

16.00 SSbD as a prerequisite for achieving circular economy (**Xenia Trier, EEA**)

16.25 Discussion

17.00 Final remarks/Future perspectives (**Gregory Moore, KEMI**)

17.15 End