Tox Strategies

Integrating New Approach Methodologies to Inform Sustainable Chemical Decisions

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1156
Workshop Session: Integrating New Approach Methodologies to Inform Sustainable Chemical Decisions
Convention Center
Room W308A

Abstract:
In recent years, interest in designing products with safe and sustainable chemistries has greatly increased. At the state level, programs such as California's Safer Consumer Products or Washington State's Safer Products for Washington have led to efforts to ban, remove, or innovate away from particular chemicals or chemical classes. There is a need to make informed, transparent decisions about the replacement chemistries and/or process by evaluating and comparing full chemical hazard profiles using chemical alternatives assessment.

In Europe, the Safe and Sustainable by Design framework has been proposed by the European Union Commission Joint Research Centre as a mechanism to integrate human health and environmental safety assessment with life-cycle assessment. Work at the Organisation for Economic Co-operation and Development on Safe(r) and Sustainable Innovation Approaches, as well as EU-funded research projects, has explored novel frameworks for integrating the safety and sustainability assessment of advanced and emerging materials, such as nanomaterials. In the United States, government and nongovernmental programs are adapting frameworks to support the identification of safer chemistries with the use of new approach methodologies-based information. One major obstacle to achieving these ambitious goals for new innovations is the availability of data. With novel chemistries, there is often little to no data that can be used directly for decision-making. However, with the explosive growth of new approach methodologies (NAMs), including *in vitro*, *in silico*, and combinatorial approaches, there is an opportunity to begin filling current data gaps with novel data streams. How this can be done, however, has not yet been defined and may differ depending on chemical characteristics, available data, or produce use.

The session will offer global perspectives on how new approach methods can be used to inform safe and sustainable chemistry decisions with case studies from regulator, industry, and nongovernmental communities. After the presentations, an active discussion will engage the speakers, session Chairs, and audience to explore (1) best practices for using NAMs data to evaluate existing and novel chemistries, (2) benefits and limitations of NAMs data for evaluating safer choice products, and (3) barriers and needs to implement NAMs more fully into sustainable chemical decisions.