

## **Hazard and exposure assessment of chemical mixtures: steps towards increasing the realism of human and ecological risk assessments**

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While approaches for the assessment, management and mitigation of the impacts of local pollution from singular events and point sources are largely agreed upon and widely applied on a routine basis, the assessment of diffuse complex pollution scenarios is still a major challenge for science, environmental policy and chemical management. Meeting this challenge will require a move away from a narrow focus on individual pollutants, coarse acute individual or population level end points, the exclusive consideration of single emission sources and exposure routes towards a broader, more holistic approach. Standard instruments for chemical risk assessment and management, such as Environmental Quality Standards (EQS), Predicted No Effect Concentrations (PNECs) and even Acceptable / Tolerable Daily Intakes (ADI / TDI) need to be modernized and embedded into mixture-aware regulatory frameworks. Also, the current strategy for priority setting is too often focused on identifying individual priority pollutants. There is therefore an urgent need to identify "archetypal" mixtures that result from common emission scenarios, in order to develop more realistic priorities for chemical management. The session aims to provide an overview and critical reflection of the current debate, to identify gaps and bottlenecks. On the one hand, the session aims to present and analyze the specific situations in the different regulatory arenas (e.g. REACH, the Biocide and Pesticide Regulations or the Water Framework Directive), using conceptual analyses or evaluations of specific case studies. On the other hand, cross-cutting, conceptual analyses are also highly welcome, especially if they link between human and environmentally oriented assessments. We invite presentations that analyze the issue from the perspective of all the different stakeholders (academia, industry, regulators, NGOs). The session has been successfully run at previous SETAC meetings, always attracting a sizable crowd, indicating that the topic is of particular relevance for the SETAC community - which is hardly surprising, given the fact that even preliminary monitoring data over and over confirm that organisms are typically exposed to a complex mixture of various toxicants from various sources.