

## **Insights and challenges concerning the bioavailability of organic chemicals and communication implementation in risk assessment**

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The bioavailability of organic chemicals in soil and sediment is an important area of scientific research. In some cases, regulators have recently started to consider bioavailability within retrospective risk assessment frameworks (e.g. of historically contaminated sites) for organic chemicals; by doing so, more realistic decision-making in terms of hazard definition and priority considerations can be achieved than by relying on the established approach of using total-extractable concentrations. However, implementation of bioavailability concepts remains difficult because scientific developments are not always translated into ready-to-use approaches for regulators. The main objective of this Session is to discuss recent developments in this field and to identify and provide scientifically-based solutions to the challenges faced by regulators and industries in considering bioavailability issues during risk assessment, regulation and remediation of sites contaminated with organic chemicals. This session will build upon the developments outlined in a recent position paper (Ortega-Calvo et al. 2015) that was published in *Environmental Science and Technology* From Bioavailability Science to Regulation of Organic Chemicals, <http://pubs.acs.org/doi/abs/10.1021/acs.est.5b02412> as well as a new ISO standard 19204 (2016). This session will provide a discussion forum for existing bioavailability concepts and methods, options for their innovative application and standardization, as well as pathways for their implementation into retrospective risk assessment, regulation and remediation. Papers will be welcome on the different perspectives and interests on bioavailability: whether the focus is on soils, sediments or waters; on methodological issues (e.g., chemical and biological methods for measuring bioavailability); on communication needs (message simplification, verification); or if, finally, the motivation is to look at bioavailability-oriented remediation strategies (e.g. bioremediation, use of sorbents).