

Spatial and Temporal Trends of Persistent Organic Chemicals with emphasis on Brominated Flame Retardants

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Rapid growth in chemical and agrochemical industries during the past century have resulted in the release of large numbers of persistent organic chemicals (POCs) into the environment. Since POCs are prevalent in air, water, soil and tissue of organisms throughout the world and resistant to degradation and cause long-term health effects on organisms, trend monitoring studies are essential to make clear the behavior and fate of these compounds and to protect our environment and living resources. In this study, we provide detailed coverage of spatial and temporal trends of POCs including organochlorines (PCBS, pesticides, dioxins/furans), and fluorinated compounds (perfluorinated chemicals) with an emphasis on brominated flame retardants (BFRs). Our results revealed that due to continued use of some brominated compounds, and their physicochemical properties, it can be surmised that the environmental contamination, human exposure and health effects by BFRs will continue to increase for several decades.

(This abstract does not necessarily reflect USEPA policy).