Shedding Light on PFAS "Dark Matter" Using FluoroMatch Suite and Multimodal High-Resolution Mass Spectrometry Approaches

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Abstract

Per- and polyfluoroalkyl substances (PFAS) do not readily break down in the environment, have long half-lives in humans, and are produced at large volumes. Specific PFAS (e.g., PFOA and PFOS) have been strongly linked to health effects including higher cholesterol, lower birth weight, reduced immune response, certain cancers, and liver damage. In Taiwan, blood serum levels can be significantly higher than in the US (about 4-fold for PFOS and 6-fold for PFOA). It is essential to understand the total PFAS burden in the Taiwanese population and impact on human health. Over half of the PFAS burden in blood can be due to unknown/unmeasured PFAS; these unknown PFAS often vary significantly in fate, transport, bioaccumulation, and health effects than commonly measured PFAS. It is therefore essential to monitor all PFAS in the environment and humans. In this talk we will cover ……