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Calibration and Application of Passive Sampling for Per- and Polyfluoroalkyl Substances in a Drinking Water Treatment Plant

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HIGHLIGHTS:

- First calibration study for various PFASs using POCIS-WAX and POCIS-HLB
- POCIS-WAX was more susceptible for shorter-chain PFASs than POCIS-HLB
- First application of POCIS-WAX and POCIS-HLB in a drinking water treatment plant
- Good agreement of PFAS measurements using POCIS and composite water samples
- Removal efficiency of PFASs generally low in full-scale DWTP

Abstract

The aim of this study was to calibrate and apply polar organic chemical integrative samplers (POCIS) to examine 26 per- and polyfluoroalkyl substances (PFASs) in a drinking water treatment plant (DWTP). As a first step, the sampling rates (R_s) of 14 PFASs were determined in a laboratory calibration study for POCIS-WAX (weak-anion exchange) and POCIS-HLB (hydrophilic-lipophilic balance) (each with a

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