**Critical pollutant tributyltin in surface water systems**

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The widespread of organotin compounds (OTC), used for example as pesticides, antifouling coatings and PVC stabilizers, results in an extensive input into the environment. OTC show toxic effects already at trace level. The public focus lies on the toxic and estrogenic effective tributyltin (TBT) and its metabolites. In 2000 the European water framework directive (WFD 2000/06/EC) was remitted to standardize the monitoring of aquatic ecosystems and ground water within the EU. The WFD aims to improve the quality of environmental waters and their sustainable usage. The claimed limit of quantification for TBT is 0.06 ng L-1 for the whole water body. A sensitive analytical method is required to achieve this demand.

The development of traceable measurement methods for monitoring TBT under the European water framework directive is presented. Therefore different extraction methods like liquid liquid extraction (LLE), solid phase extraction (SPE) and solid phase microextraction (SPME) were evaluated at ultra trace level. The extracts were analyzed using GC-ICP-MS. The quantification was realized by isotope dilution mass spectrometry (IDMS). The feasibility for detecting TBT in real water samples at the WFD concentration level will be demonstrated. Further results on stability and possible transformation processes of TBT and the influence of environmental factors like radiation, humic substances (HS) and suspended particulate matter (SPM) on the recovery will be presented.