**Biocidal active substances in households – all covered by the Biocidal Products Regulation?**

Stefanie Wieck1, Oliver Olsson1, Klaus Kümmerer1

1 Institute for Sustainable and Environmental Chemistry, Leuphana University of Lüneburg, Scharnhorststr. 1, 21335 Lüneburg, Germany; contact: wieck@leuphana.de

A wide variety of biocidal active substances that fall under the Biocidal Products Regulation (EU) 528/2012 (BPR) are designated for the use in households. However, the way these substances are used in households is widely unknown. Consequently, the contribution of biocidal active substances from households to the pollution of wastewater is unclear. Additionally, the same substances can be used in products that are regulated by other regulations. For example, preservatives that are used in personal care products do not fall under the BPR but under the Cosmetic Products Regulation (EC) 1223/2009. This leads to the situation that the total amount of biocidal active substances used in households might not be evaluated under the risk assessments of the BPR because a fraction of the uses might fall under a different regulation depending on the function of the respective product. As exposures resulting from different regulatory areas are not aggregated during current environmental risk assessments but in the environment, the risks of these active substances might be underestimated. The objectives of the work presented here are therefore (i) to identify the biocidal active substances that can be found in households, (ii) to show the product categories they are used in and (iii) to describe the cases where biocidal active substances might enter the sewage system without falling under the BPR and thus are not evaluated under its risk assessment scheme.

Face-to-face interviews were conducted in approximately 100 households in a selected study site in Northern Germany to obtain more detailed information and data on the different uses of biocidal active substances. Members of private households were interviewed using a standardised questionnaire regarding the use of biocidal products, plant protection products, washing and cleaning agents and personal care products. Additionally, the products that were present in the households were registered with the help of a barcode reader. During the interviews emphasis was laid on the use of a wide selection of household products that might enter the sewage system to record the biocidal active substances used in other regulatory backgrounds.

Results show that a high variety of biocidal active substances can be found in products present in the households. However, they are not primarily found in biocidal products but in personal care products or washing and cleaning agents. Herewith, the study extends the knowledge on the potential sources of biocidal active substances in wastewater and demonstrates how they distribute over the different regulatory areas, which highlights gaps in the current environmental risk assessments.