

Workshop „Pharmaceuticals in Soil, Sludge and Slurry” of the German Federal Environment Agency (18th June to 19th June 2013)

Environmental relevance of pharmaceuticals – the global perspective

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Pharmaceuticals are known to occur ubiquitarily in the aquatic environment of industrialized countries. An analysis of monitoring data (IWW 2011) showed that in Europe nearly 300 pharmaceutical substances and degradation products were detected in different environmental compartments. Considering the fact that consumption and availability of medicines is increasing worldwide, it is obvious that drug residues in the environment are of global relevance as well. In addition, production sites for active pharmaceutical substances are by now predominantly located in emerging countries. Although some information on the global occurrence of pharmaceuticals in the environment has become available increasingly, a concise picture on the prevailing concentrations and potential effects on human and ecosystem health is still elusive.

The International Society of Doctors for the Environment has recently proposed the topic “Environmentally Persistent Pharmaceutical Pollutants” for nomination as an emerging issue under the Strategic Approach on International Chemicals Management (SAICM) of the United Nations Environmental Programme (UNEP). The Open-ended Working Group OEWG 1 encouraged further development of the proposal.

In order to define the state of knowledge on the global relevance of pharmaceuticals in the environment, the German Federal Environment Agency has initiated a research project in 2012 (www.pharmaceuticals-in-the-environment.org). As first step the project partners IWW Water Centre and Adelphi Consult Germany compile an inventory of monitoring data from each of the five UN regions: African Group, Asian Group, Eastern European Group, Latin American and Caribbean Group, Western European and Others Group. This global database is used to assess the range of pharmaceuticals found in the environment, the measured concentrations in different regions and the relevance of different emission pathways (production, use, disposal) on a global scale. Based on regional consumption data the role of infrastructure, population, pharmaceutical availability and agricultural practice on emissions of pharmaceuticals into the environment is assessed. Additionally, specific strategies for further action e.g. to reduce problematic emissions will be evaluated. The project provides a platform to encourage policy makers from agriculture, infrastructure, health care sector and scientists to discuss key issues and possible activities to be included in the global plan for action.