

GREAT-ER model recommended for REACH risk assessment

The German Federal Environmental Agency (UBA) commissioned an advisory report on the use of the GREAT-ER model for risk assessment. This advisory report was performed by Dr. Michael Klein, of the Fraunhofer-Institute of Molecular Biology and Applied Ecology in Schmallenberg (Germany). It compares GREAT-ER (Geography-referenced Regional Exposure Assessment Tool for European Rivers) with other available environmental models. The report recommends that European regulators use the GREAT-ER model for environmental exposure assessment of down-the-drain industrial chemicals and pharmaceuticals.

“The GREAT-ER model deserves recognition as a high-tier model in the EU regulatory framework for industrial chemicals and pharmaceuticals” says Dr. Burkhard O. Wagner, section head for environmental exposure assessment of Umweltbundesamt (UBA, Berlin). *“We feel this model should be promoted in the REACH Implementation Programme (RIP) and support its introduction into the regulatory framework. However, a consensus of EU experts is needed on the conditions and limitations of its use.”*

Compared to the European Union System for the Evaluation of Substances (EUSES), the review's authors note, GREAT-ER generally better describes the fate of chemicals in surface water. The evaluation recommends the use of both models in regulatory assessments, preferring EUSES for initial screening and GREAT-ER for further high-tier assessment. EUSES is the generic model currently used in the regulatory framework, and GREAT-ER is a fate model of further scientific progress.

According to the report, GREAT-ER can be used for priority setting of substances, in higher-tier regulatory exposure assessment, and risk management. The geographic capabilities of GREAT-ER would also allow users to identify 'hot spots' (high concentrations) of given substances in a river basin supporting, among others, planning and performance of monitoring programmes.

GREAT-ER is part of a suite of four environmental computer models funded by LRI which aim to help identify, measure, and predict the fate of chemicals in various European environments. It provides a Geographic Information System (GIS)-based model for simulating substance dispersion and distribution in river networks. It is available free from the GREAT-ER website:
www.great-er.org

The advisory opinion also makes certain recommendations for improvement of GREAT-ER. Some of these recommendations are already addressed with the other models of the suite, while others are being considered for implementation.

The German advisory report will be published on www.umweltbundesamt.de, presumably in September 2004.

SOURCE: CEFIC, July 2004