

Texte 30/01

Sustainable and Precautionary Risk Assessment and Risk Management of Chemicals

Preface

At the summit of Rio de Janeiro in 1992 nearly all countries committed to the concept of sustainable, environmentally sound development of the world. Part of this concept is the enlargement and acceleration of the international assessment of risks and the improvement of risk management emphasizing the precautionary approach at production and use of hazardous chemicals.

Looking at European chemicals policy during the last two decades reveals that it has widely failed to achieve this goal. Over 100.000 chemicals are registered, but only 41 high volume chemicals are thoroughly assessed so far. For the majority of other chemicals lack of data especially on long-term effects and exposure makes it impossible to calculate the risks for the environment, consumers and workers appropriately. An burdensome administrative procedure prevents measures from being taken rapidly when a risk is likely.

Clarification of scientific uncertainties takes precedence over the application of the precautionary principle. Sustainable development is intimately linked to the application of the precautionary principle which means that “where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation” (Rio Declaration). The EU Commission in its Communication on the precautionary principle (February 2000) highlighted the importance of this principle for risk assessment and risk management.

An extraordinary illustrative example for these deficits is the lack of action regarding endocrine disrupting xenobiotics. During the last seven to ten years it became apparent that various substances may affect the endocrine system of humans and wildlife. Findings like increasing incidence of cancer of sexual organs, behavioural changes of children or changes in the gender ratio of fish may be influenced by hormonally active chemicals. Despite considerable scientific efforts by the state and industry full clarity about the role of endocrine disruptors for human health and the environment is still missing. However, several chemicals are already identified to affect the hormone system of laboratory test animals *in vivo*. Even for these substances action to reduce exposure to humans and environment has not been taken yet.

Therefore, a new European chemicals policy is overdue. In its conclusions in June 1999 the Council of Environmental Ministers asked the Commission to present a White Paper which should outline a new concept for chemicals policy in Europe. This White Paper was published by the Commission at 13 th February 2001 and will represent the basis for further debate on strategies to overcome the current dilemma.

With the following two reports the German Federal Environmental Agency (UBA) wants to contribute to the debate. These reports were prepared up before the Commission published its recent communication and, therefore, are not a comment on the White Paper. However, several issues of the current discussion are included, deficiencies are analysed and proposals are brought forward how to implement sustainability and precautionary action in chemicals policy. From an environmental perspective special emphasis should be laid on the risk management of substances which are highly persistent and bioaccumulative because these chemicals pose a risk even if adverse effects are yet unknown.

This contribution is divided in two parts:

Part I:

“New Strategies for the Ecological Risk Assessment and Risk Management of Substances”

by

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Hans-Hermann Eggers, Andreas Gies, Petra Greiner,
Karl-Otto Henseling, Bernd Mehlhorn, Harald Merkel, Inge Paulini, Klaus Steinhäuser, Hans-
Christian Stolzenberg, Kirsten Vormann, Suzanne Wiandt

Part II:

“Chemicals in the Environment which Interfere with the Endocrine Systems of Humans and Wildlife”

by

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