

Persistent Organic Pollutants (POPs)

Announcing a New Series

How to Deal with Persistent Organic Pollutants (POPs)?

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Persistent Organic Pollutants (POPs) are persistent chemicals which cause or may cause toxic effects within the biosphere. This definition does not include chlorofluorocarbons (CFCs) which are persistent but lead to environmental problems because of their chemical fate in the stratosphere while they are non-toxic.

International negotiations about an 'International, Legally Binding Instrument for Implementing International Action on Certain Persistent Organic Pollutants' were concluded on December 9 in Johannesburg, South Africa, with the formulation of the convention text (to be found at <http://irptc.unep.ch/pops/>). The convention shall be signed by the participating states in May 2001 in Stockholm and has to be ratified by at least 50 states before it enters into force (about 2004).

The negotiations started from 12 organochlorine compounds that are well-known environmental pollutants: [list of 12 UNEP POPs] These chemicals are listed in Annexes A (elimination), B (restriction), and C (release reduction) of the convention. The convention aims at protecting human health and the environment from harmful effects caused by these 12 organochlorines and possibly from further POPs. A procedure for identifying additional POPs is defined in Article F and Annexes D, E, and F of the convention.

The international negotiations stimulated new interest in the environmental behavior of POPs and semivolatile chemicals in general, and also in the assessment procedures for such chemicals (reaching from scientific criteria to legal instruments). For these reasons, a series of articles with three main topics is started in UWSF and ESPR: (i) the international negotiations (Ed. K.-G. Steinhäuser), (ii) the application of the precautionary principle and socio-economic questions connected with the POPs convention (Ed. H. Hulpke), and (iii) scientific questions about the environmental behavior of POPs (Ed. M. Scheringer). The series starts with an opening paper by W. Klöpffer and M. Scheringer in the December 2000 issue of UWSF and will contain various contributions to the three topics appearing throughout the next two

or three years either in UWSF (in German) or in ESPR (in English). A short summary of each article will be published in the other respective journal. The introductory chapter has been published in UWSF – Z Umweltchem Ökotox 12 (6) 307-309 (2000).

The individual contributions will deal with questions such as:

- How was the new interest in old environmental pollutants stimulated?
- Which other chemicals are possible POPs candidates? How is the POPs character of a chemical determined by its chemical properties?
- Which chemical properties are addressed by the POPs criteria given in the convention? Is the environmental fate of POPs sufficiently covered by these criteria?
- Which parts of the environmental fate of POPs are not yet understood sufficiently? What are the research needs?
- How did the negotiations proceed throughout the series of Intergovernmental Negotiation Committee (INC) meetings? What conclusion can be drawn for the global regulation of chemicals and for the aim of a sustainable chemicals management?
- How are benefits and burdens of the use of chemicals compared, in particular in the case of DDT (malaria protection)?
- What are the implications of persistence and spatial range for the chemical assessment when there are no ecotoxic effects known?

On the one hand, several contributions will explicitly address the process of the negotiations and the contents of the convention text. The scientific contributions dealing with the environmental behavior of (possible) POPs, on the other hand, are not restricted to the 12 UNEP POPs but will include other semivolatile organic chemicals as well. This is appropriate because the POPs questions lead to rather fundamental problems in the environmental fate of semivolatile organic compounds which also need attention. For this reason, we use the more general definition of POPs given above, which goes beyond the 12 POPs from the UNEP list.