Risk assessment methodology for chemicals in the environment

We develop models that may support the extrapolation of toxicity data derived from laboratory experiments to field conditions. One step in the extrapolation procedure is the estimation of hazardous concentrations for sensitive species in the community, from a limited number of data on test species. The models involve an assumed statistical distribution of sensitivities, expressed as no-effect-concentrations, from which the data on tested species are a sample. The approach also involves non-persistent chemicals, such as pesticides. It is proposed that non-persistent chemicals be evaluated on the basis of a parameter called: "ecotoxicological recovery time", which may be estimated from the initial dose of a chemical, its toxicity and its persistence. Development of risk assessment methodologies links up with the development of in-situ techniques, such as bioassays with soil invertebrates.

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