

Assessing the risk of environmental pollutants on amphibians and reptiles

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Amphibian and reptile toxicity data have not been traditionally taken into account when assessing risks of man-made chemicals that are released to the environment, being considered to be protected by data retrieved from other vertebrate taxa. This trend has definitely changed with the inclusion of a specific data requirement to assess the risks to reptiles and amphibians from exposure to plant protection products under Regulation (EC) 1107/2009. With the exception of the amphibian metamorphosis assay (OECD 231) which is specifically designed to identify and assess the potential for interference with the hypothalamic-pituitary-thyroid axis, there are no standard acute or chronic test guidelines for amphibians or reptiles with which to address these data requirements. There is also no agreed risk assessment scheme for either group, and no defined safety factors (Regulation 546/2011 triggers) to compare risk quotients to. As a result there are many questions that still need to be answered. Additionally, there is much work to be conducted to fully understand the interactions of chemicals with amphibians and reptiles in their habitats. One of the aims of this session is to determine the current state of the art in terms of exposure routes and effects of contaminants on amphibians and reptiles. For example, the importance of dermal exposure in the terrestrial environment related to the more commonly considered dietary exposure, as well as the influence of pollutant exposure on disease susceptibility, hormone-mediated processes, reproduction or other responses likely to cause effects at the population level. We also wish to consider how the current available information will allow the data requirements under Regulation (EC) 1107/2009 to be fulfilled. For example, are there suitable species that could be used in regulatory tests? In the absence of standardised regulatory studies, can we extrapolate from other wildlife groups (e.g. aquatics, birds) by applying appropriate safety factors? Are there sufficient data to build realistic exposure scenarios based on food intake rates and diets? The session is promoted by the SETAC Amphibians and Reptiles Advisory Group, providing the framework for an intersectoral discussion between academia, government, business and NGO partners about assessing the true risks to amphibians and reptiles from environmental pollution.

Keywords: reptile, amphibian, risk assessment, plant protection products.

SESSION TYPE: Poster and Poster Corner