

# OCCUPATIONAL RISK ASSESSMENT - IMPORTANT TOOL IN THE REGULATION OF PESTICIDES

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**Introduction:** The occupational risk assessment is a systematic and scientific process by which the hazard, exposure and risk are identified and quantified, to assist government decisions makers aimed to protect human health. Based on the evaluation results and taking into account factors such as benefits to society, a decision-making process should be established to minimize the risk that a substance can offer to human health at professional environment. It has four main steps: *Hazard Identification* - chemical inherent toxicity evaluation; *Hazard Characterization* - relationship between the dose and incidence of effects; *Exposure Assessment* - estimates and/or measures the intensity, frequency and duration of exposure; *Risk Characterization* - estimates the incidence of adverse effects to human health under specific exposure conditions. Identified the hazard and characterized the evidence of exposure effects, the application of this assessment is carried out in practice - the use of this knowledge for making future decisions. This is conducted through the *Risk Management*, implementation of measures to mitigate the risk. [1] **Purpose of study:** Present a proposal to facilitate the Occupational Risk Assessment implementation in Brazil. **Methods:** Literature review and description of Industry actions. **Results:** The occupational risk assessment has been adopted internationally for decades, in order to prevent damage to the health of farmers during pesticides handling. [2] In Brazil, Decree 4074/2002, article 95 establishes that the Technical Committee Advisory for Pesticides (CTA) should make viable by December 31, 2002, routines and procedures to implement the pesticides risk assessment. [3] The industry supports the government in different ways in this implementation, addressing the work and has proposed a technical-scientific Legal Entity in order to conduct further monitoring exposure studies to improve the The Pesticide Handler Database (PHED) [4]. The Legal Entity would count with government regulatory areas, academia, associations and cooperatives of agricultural producers and companies owners of registering pesticides participation and integration. Among available exposure prediction databases, PHED has been identified as the most complete, with information for different agricultural scenarios of relevance to the Brazilian agricultural practices. It was developed by the United States government Agency (EPA), Canada Ministry of Health (PMRA) and CropLife America. The exposure data from this database was conducted by academia, government and industry, and is currently used by the US/EPA, Canada (PMRA), Australia (APVMA), UK (PSD) and California State (CDPR) to estimate the potential exposure of workers in mixing, loading and applying practices. **Conclusion:** This process is an important tool for pesticide regulators, because evaluates the workers' exposure to the product handled according to the label, and enables the management of risk, if necessary - increasing the safety. Brazil should adopt this scientific tool, as already happens in many other countries.

**Keywords:** Risk Assessment; Pesticides; Predictive Exposure Models.

Regulatory Toxicology.

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