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Retrieval and scientific interpretation of ecotoxicological information

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Essential Role of Health Sciences in Remediation of Contaminated Land

Legislation in South Africa around contaminated land has created an awareness of health- and financial risks to land owners, purchasers and lenders in real estate transfers. Enforcement of regulations regarding contaminated land may result in high costs of remediation and construction delays that impose an entirely new set of financial risks. These may include higher commodity prices associated with the industry, potentially lower wages and even the risk of unemployment. The property owner, whether directly responsible for the contamination or not, is ultimately responsible for cleanup actions. Whilst this liability may be transferred to prospective purchasers or developers, the involved parties may not be able to obtain the necessary project financing until the matter of contamination has been addressed. The future value or equity of the property is thus discounted for the cleanup costs, and the uncertainty in the timing of site development often leads to unacceptable delays that further impact the market value or salability of contaminated land.

Financial risks to investors and lenders can exist where site contamination was either not disclosed at the time of purchase, or where environmental consultants failed to detect such problems. The potential for groundwater contamination and cross-boundary contamination are among the greatest concerns on the part of lenders, given the high cleanup costs and potential for third party liability claims.

The financial risk associated with the purchase and/or development of contaminated land is rooted in the health risks that may exist from possible exposure to toxic substances and the consequences posed by governmental regulations developed to minimise such exposure. Often, the perception of risk exceeds reality due to the hypersensitive awareness and even fear founded in uncertainty early in the transaction process. INFOTOX is skilled in assessment of such potential health risks, based on contaminant concentrations and identified potential exposure scenarios.

An important and yet controversial issue that must be addressed when evaluating the need to remediate sites contaminated with hazardous substances involves answering the question, "How clean is clean"? The ultimate site usage and the financial viability of a project greatly depend upon the strategy selected to evaluate whether the contaminants may pose risks to human and ecological receptors at a given site. The cleanup target level or goal can be a site-specific threshold that a remedial action must meet in order to keep exposure and risk below an "action level". INFOTOX has valuable experience in developing such site-specific cleanup target levels.

Lack of competence in health sciences restricts the understanding of risks and limits the depth of scientific judgement. INFOTOX seeks creative scientific approaches in the due diligence assessment stage, greatly enhanced by its knowledge of health sciences. This is often rewarded

with tangible entrepreneurial profits to clients in real estate development. By applying appropriate science and taking into account cost-benefit balancing in the analysis, assessment and remediation costs can be minimised by INFOTOX, without allowing unacceptable risks to human health and the environment. This results in optimisation of property value while securing the feasibility of property development with the associated social and financial benefits.

INFOTOX offers a combination of experience and competence in health sciences, environmental science and analytical chemistry that are required for optimising assessment of health risks and practical benefits at contaminated sites.