A New Cancer Risk Assessment for Formaldehyde

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Regulatory exposure guidelines for inhaled formaldehyde are based on upper respiratory tract endpoints in rats. Default cancer risk assessment methodology for extrapolating from rats to people does not take into account site-specificity of rat response data within the upper respiratory tract. Differences in nasal anatomy and hence respiratory airflow patterns may cause significant differences in the regional dose of inhaled gases that are not being incorporated into current risk estimates. In addition, there is a need to pull together available information on formaldehyde toxicity and mode of action to conduct a risk assessment under the new cancer risk assessment guidelines. In 1999, CIIT published an internal document that assessed the carcinogenic risk of formaldehyde using a 2-stage clonal growth model that facilitates incorporation of two modes of action—cytotoxicity and direct mutagenicity. Since the assessment involved original research in a number of areas, CIIT scientists have been developing numerous manuscripts for publication in peer-reviewed journals. In 2004, the last of these manuscripts was finished.


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