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## **Risk Assessment for Chemical Sensitivity Analysis**

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### **ABSTRACT**

One critical area of uncertainty in toxic risk assessment studies is human dose-response relationships, particularly for acute exposures. Probit equations are lacking/questionable for many materials, and the use of ERPG levels as a surrogate for acute exposures is often excessively conservative when exposure times are on the orders of minutes--particularly when the impact of concern is a very severe injury or a fatality. To address these issues, Arthur D. Little estimates severe-impact exposure levels for 10- and 30-minute exposures and also uses sensitivity analyses. These sensitivity analyses apply different exposure factors for indoor and outdoor populations, and also use a range of vulnerability factors to address the variabilities within any given population. Comparisons to risk levels estimated using ERPG levels both help to meet regulatory expectations and to place the results in perspective.

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