

Conducting a state-of-the-art risk assessment of 1,3-butadiene

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1. Introduction

The art of health risk assessment, especially for the carcinogens, has matured a great deal from the efforts of the 1970s. These early assessments were often based on a single animal bioassay, a minimal understanding of the differences between animal and human metabolism, little or no epidemiology data, poor occupational exposure assessment, little pharmacokinetics information and complete reliance on a single low-dose extrapolation model. Today, it is well recognized that when information on these parameters is available it should be quantitatively accounted for when estimating the risks to humans. Due to many years of focused research, we may now be on the verge of conducting truly state-of-the-art risk assessments of the carcinogenic hazard to humans posed by various levels of exposure to many chemicals including 1,3-butadiene. The proceedings from this International Symposium contain virtually all of what is known about the abovementioned factors that should be incorporated into a risk assessment of this chemical. For many reasons, it is likely that the assessment that will be eventually conducted on 1,3-butadiene will serve as the template for how other chemicals will be studied in the coming years if we expect

to be able to predict with confidence the risks posed by low level exposure.