

The U.S. EPA Science Advisory Board Evaluation (2001) of the EPA Dioxin Reassessment¹

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The U.S. Environmental Protection Agency (EPA) began a "reassessment" of the risks posed by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD or dioxin) and related chemicals in 1991 and issued an interim report in 1994. In 1995, the Science Advisory Board (SAB) reviewed this document and requested revisions. After considerable additional work, EPA issued its final draft report in September 2000. A new EPA SAB reviewed this draft and issued its recommendations in June 2001. This group of scientists offered suggestions to EPA on the following topics, which are discussed in some detail in this article: classification as a "known" human carcinogen, how to estimate the carcinogenic potency, the possible significance of the noncancer hazard, the proper dose metric for cancer and non-cancer effects, the uncertainties inherent in the toxicity equivalency factor approach, use of the margin of exposure approach, adequacy of the exposure assessment, body burden calculations, risks to breast feeding children, nonmonotonic responses (U- or J-shaped dose-response curves, or hormetic effect), the possible significance of naturally occurring dioxin-like chemicals, and risks to special populations. The basis for the recommendations, as generally presented in the SAB report, is described here. A discussion of some of the recently published work within the regulatory and scientific communities that has been issued since the SAB report is also presented. © 2002 Elsevier Science (USA)

Key Words: dioxin; polychlorinated biphenyl; Environmental Protection Agency; toxicology; risk assessment; Science Advisory Board.