

MEMORANDUM

TO: Linda S. Adams
Acting Secretary for Environmental Protection

FROM: Joan E. Denton, Ph.D.
Director

DATE: January 28, 2011

SUBJECT: ADOPTION OF REVISED TOXICITY EQUIVALENCY FACTORS
(TEF_{WHO-05}) FOR PCDDs, PCDFs, AND DIOXIN-LIKE PCBs

In accordance with Health and Safety Code, Section 44300 *et seq.* (The Air Toxics Hot Spots Information and Assessment Act), the Office of Environmental Health Hazard Assessment (OEHHA) hereby adopts the attached amendment to Appendix C of the Technical Support Document (TSD), "*Air Toxics Hot Spots Program Technical Support Document for Cancer Potencies*". This amendment updates the Toxicity Equivalency Factors (TEFs) for polychlorinated dibenzo-*p*-dioxins (PCDDs) and dibenzofurans (PCDFs), and for dioxin-like polychlorinated biphenyls (PCBs) to the most recent values (TEF_{WHO-05}), which were derived by the World Health Organization in 2005.

OEHHA is required to develop guidelines for conducting health risk assessments under the Air Toxics Hot Spots Program (Health and Safety Code Section 44360(b)(2)). On May 29, 2008, OEHHA adopted the TSD for cancer potencies referred to above, replacing an earlier version of that TSD which had been adopted in 1999. This TSD presents methodologies for cancer risk assessment conducted under the Air Toxics Hot Spots program, including explicit consideration of possible differential effects on the health of infants, children and other sensitive subpopulations, in accordance with the mandate of the Children's Environmental Health Protection Act (Senate Bill 25, Escutia, Chapter 731, Statutes of 1999, Health and Safety Code Sections 39669.5 *et seq.*).

Both the current and previous versions of the TSD included cancer potencies for chlorinated dioxins and dibenzofurans and for polychlorinated biphenyls, and an Appendix entitled "*Toxicity Equivalency Factors for Polychlorinated Dibenzo-*p*-dioxins and Dibenzofurans*" (this appears as Appendix C in the current version of the TSD). The report describing the newly adopted factors (TEF_{WHO-05}) is a replacement for Appendix C. These new TEFs should be used in cancer risk assessments for dioxin-like compounds prepared for the Air Toxics Hot Spots program. In analyses of historical

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data that lack measurements of individual PCB congeners, it may be necessary to use the alternative procedure described in the TSD for cancer risks associated with PCB mixtures.

A draft of the revised Appendix C was released on August 7, 2009 to solicit public comment. The document was then reviewed by the State's Scientific Review Panel on Toxic Air Contaminants (SRP). It was presented to the SRP at its meeting on January 21, 2011, at which the SRP approved the new version of Appendix C with some minor changes. Appendix C as approved by the SRP is attached.

If you have any questions, please call me at (916) 322-6325 or Dr. Andrew G. Salmon at (510) 622 3191.

Attachment:

TECHNICAL SUPPORT DOCUMENT FOR CANCER POTENCY FACTORS,
APPENDIX C: Use of the Toxicity Equivalency Factor ($TEF_{WHO\ 05}$) Scheme for
Estimating Toxicity of Mixtures of Dioxin-Like Chemicals