



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

EPA-SAB-EHC-89-036 *

September 19, 1989

OFFICE OF
THE ADMINISTRATOR

Honorable William K. Reilly
Administrator
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Subject: Science Advisory Board's preliminary review of mixture issues relating to some Phase II drinking water regulations of the Office of Drinking Water

Dear Mr. Reilly,

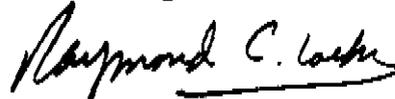
The Halogenated Organics Subcommittee of the Science Advisory Board's Environmental Health Committee has completed its preliminary review of mixture issues relating to three contaminants for which regulations are currently being developed. This review was conducted early in the deliberations of the Office of Drinking Water (ODW) with the objective of providing them with some general directions for their thinking about the state of knowledge of the scientific background concerning how to estimate the health effects of complex chemical mixtures. The three contaminants of immediate interest to ODW were; polycyclic aromatic hydrocarbons, plasticizers (including phthalates and adipate esters) and gasoline. This review was based on a briefing paper presented to the Subcommittee which met in Washington, D.C., November 9-10, 1988. The Subcommittee reached conclusions resulting in suggestions for both the plasticizers and gasoline. Some informal suggestions and comments were given at the meeting for all three contaminants.

Regarding the plasticizers, the Subcommittee concluded that the health assessments for diethyl hexyl phthalate (DEHP) and diethyl hexyl adipate (DEHA) should be conducted separately. This suggestion is based on the lack of adequately defined mechanisms that would provide a rationale for treating these substances equivalently. DEHP is classified as a group B2 carcinogen in the EPA weight of evidence scheme, while DEHA is tentatively classified as a group C carcinogen. Results from future mechanistic studies may necessitate reexamination of this recommendation. A thorough literature search might resolve the question of whether any additional phthalates or adipates should be of concern.

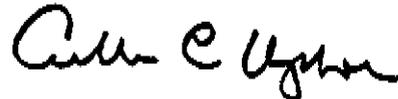
There was a clear agreement among the Subcommittee members that only a few of the many components of gasoline are of major health significance. Since benzene is invariably a component of gasoline, and is generally the most soluble component, and is a known carcinogen which is already regulated, and since there are no known synergistic or antagonistic effects between the components of gasoline, the Subcommittee suggests that benzene is the most appropriate component for risk assessment. The toxicity of water soluble contaminants (xylenes, toluene, ethylbenzene, n-hexane) could be evaluated using EPA's mixtures guidelines. Gasoline additives, such as methyl tributyl ether, could be considered on an individual component basis.

We appreciate the opportunity to conduct this particular scientific review. Since this is only preliminary advice, the Agency may wish to respond formally at this time or wait until the time of its proposed regulations for these contaminants.

Sincerely,



Raymond Loehr
Chairman
Executive Committee



Arthur Upton
Chairman
Environmental Health
Committee



Martha Radike
Vice-Chairman
Halogenated Organics
Subcommittee

U.S. Environmental Protection Agency
Science Advisory Board
Halogenated Organics Subcommittee
November 9-10, 1988 Meeting

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