American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

Robert T. Drew, Ph.D.
Director
Health and Environmental Sciences Department
(202) 682-8308
(202) 682-8270 (FAX)

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Dr. John Doull
Department of Pharmacology,
Toxicology & Therapeutics
University of Kansas Medical Center
3901 Rainbow Blvd.,
Kansas City, KS 66103-7417

Dear Dr. Doull:

The American Petroleum Institute (API) wishes to bring to your attention several aspects of the presentation by Dr. Robert Spirtas entitled, "New TLV for Benzene" at the Benzene '95 Conference on June 20, 1995. This talk was presented as a description of the rationale for the current proposed TLV of 0.3 ppm for benzene. Dr. Spirtas was listed on the program as representing ACGIH.

API is extremely concerned because the rationale in the presentation by Dr. Spirtas bore little resemblance to the rationale presented in the written documentation for the intended change dated March 20, 1995, copies of which were made available to the audience by Dr. Spirtas. Three major points that Dr. Spirtas made during his presentation in support of the current proposed change are not found in the official, written documentation.

- Dr. Spirtas indicated that the TLV Committee decided to use all leukemias as the endpoint for determining a TLV rather than AMLs because changes in the ICD coding for leukemia over time affected the reliability of cell-type-specific analyses. This explanation is incorrect and is not found in the written documentation.

- One explanation Dr. Spirtas gave for rejecting of the full likelihood analysis of Dr. Crump was the possibility that the data were not normally distributed. This objection is not in the written documentation either. Dr. Spirtas subsequently agreed with Dr. Crump (in a telephone conversation after the conference) that there is no requirement that the data themselves be normally distributed. He agreed with Dr. Crump that the distribution of the residuals between observed and expected leukemia rates would be expected to be normal.

- Dr. Spirtas further rejected the entire Crump analysis in favor of an SMR approach because the lifetime occupational risk calculated by one of the nonlinear forms of the Crump model exhibited a large variation in predicted leukemia incidence in response to different exposure estimates suggesting that the model is unstable. While the appropriateness of using a risk-model that is sensitive to the exposure input variable can be debated, the API's concern is again that this criticism does not appear in the written documentation.

Hearing such a presentation and contrasting it to the rationale published by the ACGIH for the proposed benzene TLV is disturbing in that we do not know what arguments we are attempting to address in our comments to the TLV Committee. It appears from Dr. Spirtas' talk that in responding to points raised in the documentation, we may not be addressing all of the concerns of the TLV Committee.

Finally, one other comment by Dr. Spirtas was possibly the most disturbing of all. In discussing the Crump full likelihood analysis of the Pliofilm data, he stated an additional reason for rejecting that analysis in favor of the SMR-based estimates was that the latter were simpler and could be explained to a worker. Dr. Spirtas stated that he did not know how the Crump model could be explained to a worker population and that he wasn't sure that he understood it himself. You have stated many times in referring to the approach used by the TLV Committee that, "...we follow the data...". API agrees that scientific data should be the basis for any TLV and hopes that ACGIH is not abandoning this approach in favor of setting a benzene TLV based upon the "data that anyone can follow".

API would like to request that the manuscript submitted by Dr. Spirtas for publication in the proceedings of the Benzene '95 Conference be revised to be consistent with the written documentation for the benzene TLV as issued by the TLV Committee. If the final manuscript contains inaccuracies and inconsistencies such as the ones listed, then the manuscript should either be withdrawn or contain a disclaimer clearly indicating it to be the opinion of one member of the TLV Committee rather than that of the entire body.

As was evident at the Benzene '95 Conference there is growing consensus that AML is the only leukemia type associated with benzene exposure, and that the dose response is clearly nonlinear. We are unhappy with the widening disconnect between the growing base of scientific knowledge about benzene-induced leukemia and the proposed change for the benzene TLV. Dr. Spirtas' oral presentation at Benzene '95 further widens this disconnect. API, nonetheless, hopes that we can continue our open dialogue with the TLV Committee to arrive at a TLV for benzene that has a firm foundation in science and protects the health of exposed workers.

Sincerely,

Robert T. Drew, Ph.D.

cc: Mr. William Wagner