



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

MAY 17 2011

THE ADMINISTRATOR

Nancy K. Kim, Ph.D.
Chairwoman
Science Advisory Board Polycyclic Aromatic
Hydrocarbon Mixtures Review Panel
Science Advisory Board, 1400F
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Dear Dr. Kim:

Thank you very much for your March 17, 2011, letter to convey the Science Advisory Board Polycyclic Aromatic Hydrocarbon Mixtures Review Panel's comments following meetings in June, September and December 2010 to review the U.S. Environmental Protection Agency's February 2010 draft of the "Development of a Relative Potency Factor Approach for Polycyclic Aromatic Hydrocarbon Mixtures." We at the EPA greatly appreciate the panel's thorough review and constructive guidance. As we revise the draft, we are carefully considering your comments and recommendations as well as those offered by the public.

Some of the more notable revisions planned for the draft are:

- Inclusion of a historical perspective and strengthened scientific rationale for the use of an RPF approach for PAH mixtures.
- Evaluation of an alternative approach in which a target PAH that was tested with benzo[a]pyrene could serve as a surrogate for BaP in studies where BaP was not tested concurrently. This may allow additional data from studies of high quality to be included.
- Inclusion of a quality assessment with a set of predetermined criteria for each individual study prior to RPF development.
- Inclusion of more details on the assumptions regarding the distribution of data used in the multistage cancer model and further details on the parameterization of the model.
- Evaluation of additional modeling strategies for continuous data, such as polynomial or nonlinear models.
- Evaluation of alternative methods for deriving final RPFs across studies, including the use of a geometric mean.
- Elimination of RPFs that would be based solely on cancer-related endpoint data.
- Expansion of the uncertainty section to include a discussion on bioavailability, a comparison of cancer-risk estimates of complex mixtures using the RPF approach and bioassay data, and a discussion of the uncertainty that arises from the limitation of an incomplete characterization of complex mixtures.

In addition, we have begun a discussion with the National Institute of Environmental Health Sciences' National Toxicology Program to pursue developing a whole mixtures approach for PAHs to potentially validate the RPF approach and to serve as a possible replacement for the RPF approach in the future.

I wish to reiterate my gratitude to you and the panel members for your review of the draft. Your work has been invaluable in guiding our revisions and helping to ensure that we use the best available science.

Sincerely,



Lisa P. Jackson

cc: Dr. Paul Anastas
Ms. Becki Clark
Dr. Lynn Flowers
Dr. Vincent Cogliano



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

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THE ADMINISTRATOR

Deborah L. Swackhamer, Ph.D.
Chairwoman
Science Advisory Board, 1400F
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Dear Dr. Swackhamer:

Thank you very much for your March 17, 2011, letter to convey the Science Advisory Board Polycyclic Aromatic Hydrocarbon Mixtures Review Panel's comments following meetings in June, September and December 2010 to review the U.S. Environmental Protection Agency's February 2010 draft of the "Development of a Relative Potency Factor Approach for Polycyclic Aromatic Hydrocarbon Mixtures." We at the EPA greatly appreciate the panel's thorough review and constructive guidance. As we revise the draft, we are carefully considering your comments and recommendations as well as those offered by the public.

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Sincerely,

A handwritten signature in blue ink, appearing to read 'Lisa P. Jackson', with a large, stylized initial 'L'.

Lisa P. Jackson

cc: Dr. Paul Anastas
Ms. Becki Clark
Dr. Lynn Flowers
Dr. Vincent Cogliano