Children's Health Protection Advisory Committee

December 8, 2004

Michael Leavitt, Administrator
United States Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

RE: Children's exposures and health risks due to PBDEs

Dear Administrator Leavitt:

At our October 26 -28, 2004 Children's Health Protection Advisory Committee Meeting (CHPAC), we discussed a critical children's environmental health issue: the health risks due to a class of brominated flame retardants known as polybrominated diphenyl ethers (PBDEs). The CHPAC Science Policy Work Group heard presentations from Environmental Protection Agency staff on the emerging PBDE toxicology and exposure data. We also heard a presentation on the Voluntary Children's Chemical Evaluation Program (VCCEP) review from a VCEEP Core Review Panel member. In addition, we learned about EPA's development of a PBDE Action Plan. We commend U.S. EPA's leadership in acknowledging the importance of this issue and in developing a PBDE Action Plan.

The presentations pointed to findings that PBDEs can cause neurodevelopmental and hormonal effects and that the amount of PBDEs in the environment and in human tissues is increasing.[1] As a result of these findings, we feel that it is essential for EPA's Action Plan to give priority to children's exposures and health risks. The CHPAC acknowledges that brominated flame retardants were developed to address a significant danger to children, namely burns, smoke inhalation, and death from fire. While we strongly support all efforts to protect children from fire, we must avoid significant health risks from exposure to fire retardant chemicals.

[1] Birnbaum LS, Staskal DF. (2004) Brominated flame retardants: cause for concern? *Environmental Health Perspectives 112(1):9-17.*
Meironyte D, Noren K, Bergman A. (1999) Analysis of polybrominated diphenyl ethers in Swedish human milk. A time-related trend study, 1972-1997. J Toxicol Environ Health 58:329-341.

We understand that the Action Plan will address research needs on toxic effects, exposures, and health risks. We also understand that two of the three major PBDE's are being phased out at the end of 2004. However, children may still be exposed to deca-PBDE because it is still produced and used, and to penta- and octa-PBDE because they are present in existing products, and because they may form from deca-PBDE.

The toxicology database for PBDEs is rapidly evolving and shows that there are toxic effects that are of particular concern to early life stages.[2] Further, children may receive greater exposures because of unique physiology (higher respiration and inhalation rates), behavior (for example, hand-to-mouth activity), and fire protection regulations on children's clothing and bedding. This underscores the need for future research to have a special focus on children.

We look forward to receiving the PBDE Action Plan, which we anticipate reviewing carefully to ensure it addresses children's health issues. The CHPAC makes the following recommendations:

RECOMMENDATIONS

1. The Action Plan is needed without delay so that the research to address key public health and regulatory questions can proceed in an orchestrated and expedited basis.

2. a) We understand that there are significant data gaps on the effects of PBDE's on children. We think it is important that the PBDE Action Plan promote data gathering in the following areas:

   - Maternal and child exposures to PBDEs including biomonitoring, and identification and clarification of the key pathways of exposure (dietary, indoor air, house dust, human milk);
   - Toxicology studies that will help determine critical windows of vulnerability in early life;
   - Studies on the cumulative effects of PBDE's on children and the synergistic effects of these chemicals with other environmental contaminants, such as PCB's and perchlorates.

   These data need to be gathered on all PBDE's that have already been released into the environment because this class of flame retardants persists in the environment and in human and animal tissue.

   b) In addition, new data are needed on the PBDE flame retardant that will remain in production, deca-PBDE. The Action Plan should advance data collection on the

[2] Birnbaum LS; Staskal DF. (2004) Brominated flame retardants: cause for concern? Environmental Health Perspectives 112(1):9-17.
McDonald TA. (2002) Chemosphere 46:745-755.

environmental fate of deca-PBDE, especially about its potential to degrade to PBDE's that are toxicologically important (e.g., penta and octa-PBDE).

3. The CHPAC urges the EPA to develop strategies and policies to protect children from fire with fire protection products that do not expose children to toxic, bioaccumulative, or persistent chemicals. We believe the EPA can provide incentives for technological innovations that protect children from fire risks that avoid the use of harmful chemicals. We encourage the EPA to work with the Consumer Product Safety Commission on ways to redesign products to minimize the need for flame retardant chemicals. We further encourage the EPA to work with other Federal and State agencies on fire protection initiatives that protect children's health.

Thank you for considering our recommendations. We look forward to prompt release of the Action Plan, which we plan to review, and to working with the EPA in furthering our common goals of protecting children's health.

Sincerely,

Melanie A. Marty, Ph.D., Chair
Children's Health Protection Advisory Committee

Cc: Stephen Johnson, Deputy Administrator
Susan Hazen, Acting Assistant Administrator for Prevention, Pesticides, and Toxic Substances
Jessica Fury, Associate Administrator for Policy, Economics and Innovation
William Sanders, Acting Director, Office of Children's Health Protection
Joanne Rodman, Associate Director, Office of Children's Health Protection