

**SEAN M. HAYS, M.S., M.S.**

**PRESIDENT, SUMMIT TOXICOLOGY**

**P.O. Box 427  
Allenspark, CO 80540  
(303)747-0722  
Fax: 747-2086  
shays@summittoxicology.com**

**FIELDS OF EXPERTISE:**

Pharmacokinetic (PK) and Physiologically Based Pharmacokinetic (PBPK) and Pharmacodynamic (PD) Modeling; Setting Acceptable Exposure Limits; Exposure Assessment; Risk Assessment; Risk Communication; Biomonitoring; Chemical and Biomedical Engineering.

**EDUCATION:**

M.S., Chemical Engineering, Colorado State University, 1997.

M.S., Physiology and Biophysics, University of Vermont, 1992.

B.S., Biomedical Engineering, Texas A&M University, 1989.

**CURRENT AND PREVIOUS POSITIONS:**

**President**, Summit Toxicology, Inc., Allenspark, CO (present)

**Principal Scientist**, Intertox, Inc., Seattle, WA (2004).

**Senior Scientist**, Exponent, Inc., Boulder, CO (1999 - 2003).

**Scientist**, ChemRisk, division of McLaren/Hart, Cleveland, OH (1995 - 1999).

**PROFESSIONAL MEMBERSHIPS:**

- International Society of Exposure Analysis
- Society for Risk Analysis

- Society of Toxicology
- American Conference of Governmental Industrial Hygienists
- International Society of Regulatory Toxicology and Pharmacology

#### PEER-REVIEWED PUBLICATIONS:

**Hays, S.M.**, Becker, R., Leung, H.W., Aylward, L.L., and Pyatt, D.W. Biomonitoring equivalents: A screening approach for interpreting biomonitoring results from a public health risk perspective. Accepted, *Regulatory Toxicology and Pharmacology*.

Pyatt, D.W., Aylward, L., and **Hays, S.** 2006 “Is age an independent risk factor for chemically induced acute myelogenous leukemia in children? Accepted, *Journal of Toxicology and Environmental Health, Part B*.

**Hays, S.M.** and Pyatt, D.W. 2006 Risk Assessment for Children Exposed to Decabromodiphenyl (Oxide) Ether (Deca) in the United States.” *Integrated Environmental Assessment and Management*, V2 (1):2-12.

Pyatt, D.W., **Hays, S.** and Cushing, C. 2005 “Do Children Have Increased Susceptibility for Developing Secondary Acute Myelogenous Leukemia?” *Cell Biology and Toxicology*, V153-154:223-229.

Aylward L.L., Brunet R.C., Carrier G., **Hays S.M.**, Needham L.L., Patterson D.G., Gerthoux P.M, Brambilla P. and Mocarelli P. 2004. Concentration-dependent TCDD elimination kinetics in humans: Toxicokinetic modeling for moderately to highly exposed adults from Seveso, Italy and Vienna, Austria and impact on dose estimates for the NIOSH cohort. *J. of Exp. Anal. and Environ. Epidemiol.* 15(1):51-65.

**Hays S.M.**, Cushing C.A., Leung H.W., Pyatt D.W., Hollicky K.C. and Paustenbach D. 2003. Exposure of infants and young children in the U.S. to the flame retardant decabromodiphenyloxyde (DBDPO). *J. of Child. Health* 1: 449-475.

Aylward L.L., Brunet R.C., Carrier G., **Hays S.M.**, Needham L.L., Patterson D.G., Gerthoux P.M, Brambilla P. and Mocarelli P. 2004. Concentration-dependent TCDD elimination kinetics in humans: Toxicokinetic modeling for moderately to highly exposed adults from Seveso, Italy and Vienna, Austria and impact on dose estimates for the NIOSH cohort. *J. of Exp. Anal. and Environ. Epidemiol.* 15(1):51-65.

Aylward L., Kirman C., Cher D. and **Hays S.** 2003. Re: Analysis of dioxin cancer threshold. *Environ. Health Perspectives*, 111: A510.

Greene J., **Hays S.** and Paustenbach D. 2003. Basis for a proposed reference dose (RfD) for dioxin of 1–10 pg/kg-day: A weight-of-evidence evaluation of the human and animal studies. *Journal of Toxicol. and Environ. Health, Part B* 6: 115-159

- Hays S.M.** and Aylward L.L. 2003. Dioxin risks in perspective: Past, present, and future. *Regul. Toxicol. and Pharmacol.*, 37: 202-217.
- Aylward L.L., **Hays S.M.**, LaKind J.S. and Ryan J.J. 2003. Rapid communication: Partitioning of persistent lipophilic compounds, including dioxins, between human milk lipid and blood lipid: An initial assessment. *J. of Toxicol. and Environ. Health, Part A* 66(1): 1-5.
- Finley B.F., Ownby D.R., and **Hays S.M.** 2003. Airborne Tire Particles in the Environment: A Possible Asthma Risk from Latex Proteins? *Human and Ecological Risk Assessment* 9:1505-1518.
- Aylward L.L. and **Hays S.M.** 2002. Temporal trends in human TCDD body burden: Decreases over three decades and implications for exposure levels. *J. of Exp. Anal. and Environ. Epidemiol.* 12: 319-328.
- O'Flaherty E.J., Kerger B.D., **Hays S.M.** and Paustenbach D.J. 2001. A physiologically based model for the ingestion of chromium(III) and chromium(VI) by humans. *Toxicol. Sci.* 60: 196-213.
- Kirman C.R., **Hays S.M.**, Kedderis G.L., Gargas M.L. and Strother D.E. 2000. Improving cancer dose-response characterization by using physiologically based pharmacokinetic modeling: An analysis of pooled data for acrylonitrile-induced brain tumors to assess cancer potency in the rat. *Risk Analysis* 20: 135-151.
- Hays S.M.**, Elswick B.A., Blumenthal G.M., Welsch F., Conolly R.B. and Gargas M.L. 2000. Development of a physiologically based pharmacokinetic model of 2-methoxyethanol and 2-methoxyacetic acid disposition in pregnant rats. *Toxicol. and Applied Pharmacol.* 163: 67-74.
- Gargas M.L., Tyler T.R., Sweeney L.M., Corley R.A., Weitz K.K., Mast T.J., Paustenbach D.J. and **Hays S.M.** 2000. A toxicokinetic study of inhaled ethylene glycol ether acetate and validation of a physiologically based pharmacokinetic model for rat and human. *Toxicol. and Applied Pharmacol.* 165: 63-73.
- Gargas M.L., Tyler T.R., Sweeney L.M., Corley R.A., Weitz K.K., Mast T.J., Paustenbach D.J. and **Hays S.M.** 2000. A toxicokinetic study of inhaled ethylene glycol monomethyl ether (2-ME) and validation of a physiologically based pharmacokinetic model for the pregnant rat and human. *Toxicol. and Applied Pharmacol.* 165: 53-62.
- Williams P.R.D., Scott P.K., **Hays S.M.** and Paustenbach D.J. 2000. A screening-level assessment of household exposure to MTBE in California drinking water. *Soil Sediment & Groundwater: MTBE Special Issue*: 63-69.
- Williams P.B., **Hays S.M.** and Finley B.L. 2000. Latex allergy: Epidemic or epiphenomenon. *Source to Surgery* 7: 1-4.
- Aylward L.L., Karch N.J., **Hays S.M.** and Paustenbach D.J. 1998. Response to comment on a relative susceptibility of animals and humans to the cancer hazard posed by 2,3,7,8-tetrachlorodibenzo-p-dioxin using internal measures of dose. *Environ. Sci. and Technol.* 32: 551-552.

**Hays S.M.**, Long T.F., Kirman C.R. and Gargas M.L. 1998. Potential uses of PBPK modeling to improve the regulation of exposure to toxic compounds. *Inside EPA's Risk Policy Report 5*: 37–41.

**Hays S.M.**, Aylward L.L., Karch N.J. and Paustenbach D.J. 1997. The relative susceptibility of animals and humans to the carcinogenic hazard posed by exposure to 2,3,7,8-TCDD: An analysis using standard and internal measures of dose. *Chemosphere* 34: 1507–1522.

Verhar H.J.M., Morroni J.R., Reardon K.F., **Hays S.M.**, Garver D.P., Carpenter R.L. and Yang R.S.H. 1997. A proposed approach to study the toxicology of complex mixtures of petroleum products: The integrated use of QSAR, lumping analysis and PBPK/PD modeling. *Environ. Health Perspectives* 105(Suppl.): 179–195.

Aylward L.L., **Hays S.M.**, Karch N.J. and Paustenbach D.J. 1996. Relative susceptibility of animals and humans to the cancer hazard posed by exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) using internal measures of dose. *Environ. Sci. and Technol.* 30: 3534–3543.

Lipiro D., **Hays S.M.** and Golpashin E. 1996. Evaluation of source reduction methods through modeling of batch production processes in the coatings and composite plastics industries. *J. of the Air and Waste Management Association*.

Paustenbach D.J., **Hays S.M.**, Brien B.A., Dodge D.G. and Kerger B.D. 1996. Observation of steady-state in blood and urine following human ingestion of hexavalent chromium in drinking water. *J. Toxicol. Environ. Health* 49: 453–461.

Sielken R.L., Reitz R.H. and **Hays S.M.** 1996. Using PBPK modeling and comprehensive realism methodology for the quantitative cancer risk assessment of butadiene. *Toxicology* 113: 231–237.

#### **BOOK CHAPTERS:**

**Hays S.M.** and Finley B.L. 2002. Qualitative health risk assessment of natural rubber latex in consumer products. In Paustenbach D.J. Ed. *Human and Ecological Risk Assessment: Theory and Practice*. New York: John Wiley and Sons.

#### **PUBLISHED ABSTRACTS:**

Pyatt, D.W. and **Hays, S.** 2006 “Age related differences in secondary malignancies in children: Lessons learned from the pediatric clinical experience.” *Toxicological Sciences* V.97, S1, #114.

Pyatt, D.W. and **Hays, S.**, 2005 “Biomarkers of Susceptibility” Annual Meeting Society of Risk Analysis.

**Hays, S.** and Pyatt, D.W. 2005 “Interpreting Biomarkers of Exposure” Annual Meeting Society of Risk Analysis.

Proctor D., Cohen E., Leung H., **Hays S.M.**, Barraj L. and Madl A. 2004. Exposure Assessment for Perchlorate in Drinking Water. Abstract #1754. Final Program and Abstracts. 43<sup>rd</sup> Annual Meeting of Society of Toxicology, Baltimore, MD. March 24.

Madl A., Proctor D., Leung H., Goswami E., **Hays S.M.** and Cohen E. 2004. Derivation of a RfD for Perchlorate: Identifying a Critical Health Endpoint and the Most Sensitive Subpopulation. Abstract #1755. 43<sup>rd</sup> Annual Meeting of Society of Toxicology, Baltimore, MD. March 24.

Leung H., Proctor D., Madl A., **Hays S.M.** and Cohen E. 2004. Scientific Rationale for the Derivation of a RfD for Perchlorate. Abstract #1756. 43<sup>rd</sup> Annual Meeting of Society of Toxicology, Baltimore, MD. March 24.

Yost L., Greene J.F., **Hays S.M.**, Kelsh M. and Sheehan P. 2004. Derivation of a Range of Interim Inhalation Cancer Slope Factors for TCE Using Physiologically Based Pharmacokinetic Modeling. Abstract #1762. 43<sup>rd</sup> Annual Meeting of Society of Toxicology, Baltimore, MD. March 24.

**Hays S.M.** and Paustenbach D.J. 2002. Temporal trends in human TCDD body burden. Vietnam Scientific Conference on Human Health and Environmental Effects of Agent Orange/Dioxin, March 3–6, 2002. Ha Noi, Vietnam.

Proctor D.M., **Hays S.M.**, Ruby M.V., Liu S., Sjong A., Goodman M. and Paustenbach D.J. 2002. Rate of hexavalent chromium reduction by human gastric fluid. Abstract #1700. Final Program and Abstracts. 41st Annual Meeting of Society of Toxicology, Nashville, TN, March 17-21.

Aylward, L., **Hays S.M.** and Finley B. 2002. Temporal trends in intake of dioxins from foods in the U.S. and Western Europe: Issues with intake estimates and parallel trends in human body burden. *Organohalogen Compounds* 55: 235–238.

Fehling K.A., Bono M.A., **Hays S.M.** and Paustenbach D.J. 2001. Identification of a Proposition 65 no significant risk level for coal tar. Abstract #2093. Final Program and Abstracts. 40th Annual Meeting of Society of Toxicology, San Francisco, CA, March 25-29.

**Hays S.M.** and Aylward L.L. 2001. Temporal trends in body-burden suggest that dioxin exposures in the general population have declined significantly. *Organohal. Comp.* 52: 214–216.

**Hays S.M.**, Aylward L.L., Finley B. and Paustenbach D.J. 2001. Implementing a cancer risk assessment for dioxin using a margin of exposure approach and an internal measure of dose. *Organohal. Comp.* 53: 225–228.

- Kirman C., Aylward L.L., Karch N.J., Paustenbach D.J., Finley B. and **Hays S.M.** 2000. Is dioxin a threshold carcinogen? Quantitative analysis of the epidemiological data using internal dose and Monte Carlo methods. *Organohal. Comp.* 48: 219–222.
- Lowney Y., Deubner D., **Hays S.M.**, Chapman P., Kerger B., Shields W. and Paustenbach D.J. 2000. Biomonitoring for beryllium: Experience with a U.S. work force. Abstract 1454. 39th Annual Meeting of the Soc. of Toxicology, Philadelphia, PA.
- Hays S.M.**, Butcher M., Hook G., Lowney Y., Kirman C. and Paustenbach D.J. 2000. Probabilistic distributions for PBPK model parameters. *Toxicologist* 54: 90.
- Kirman C.R., Long T.F., Leber A.P., **Hays S.M.** and Gargas M.L. 2000. Using pharmacokinetic modeling and Monte Carlo methods to improve estimated bioconcentration factors and half-lives for substituted diphenyl-p-phenylene diamines in carp. *Toxicologist* 54: 58.
- Finley B.L., Cher D.J. and **Hays S.M.** 2000. Natural rubber latex: A critical review. *Toxicologist* 54: 247.
- Lowney Y.L., Deubner D., **Hays S.M.**, Chapman P., Kerger B., Shields W. and Paustenbach D.J. 2000. Biomonitoring for beryllium: Experience with a U.S. workforce. *Toxicologist* 54: 310.
- Hays S.M.**, Finley B.L. and Cher D.J. 1999. Natural rubber latex: A critical review. Final Program and Abstracts. Soc. for Risk Analysis Annual Meeting and Exposition, Atlanta, GA.
- Gargas M.L., Kirman C.R., **Hays S.M.** and Voytek P. 1999. Using physiologically based pharmacokinetic modeling to minimize animal testing and associated costs under USEPA's Hazardous Air Pollutants Test Rule. *Toxicol. Sci.* 48 (*Supplement: The Toxicologist*): 141.
- Hays S.M.**, Tyler T.R., Snellings W.M., Weitz K.K., Corley R.A., Kirman C.R. and Gargas M.L. 1999. Physiologically based pharmacokinetic (PBPK) modeling of ethylene glycol ethers and acetates in pregnant rats. *Toxicol. Sci.* 48 (*Supplement: The Toxicologist*): 142.
- Rish W., Kirman C.R., **Hays S.M.**, Gargas M.L., Andersen M.E., Reitz R.H., Guengerich F.P., Green T., McConnell E.E., Buckpit A., Voytek P. and Dugard P.H. 1999. Developing a physiologically based pharmacokinetic model to describe methylene chloride kinetics at the subcellular level. *Toxicol. Sci.* 48 (*Supplement: The Toxicologist*): 143.
- Gargas M.L., Kirman C.R., Dugard P. and **Hays S.M.** 1998. Using expert elicitation to develop a quantitative risk assessment for methylene chloride. Final Program and Abstracts. Soc. for Risk Analysis Annual Meeting and Exposition, Phoenix, AZ.
- Kirman C.R., **Hays S.M.**, Aylward L., Karch N.J. and Paustenbach D.J. 1998. Is TCDD a threshold carcinogen? A quantitative analysis of the epidemiological data. Abstract 1.02. Final Program and Abstracts. Soc. for Risk Analysis Annual Meeting and Exposition, Phoenix, AZ.

Andersen M.E., Gargas M.L., **Hays S.M.**, Clewell H.J. and Paustenbach D.J. 1997. Estimating minimally effective inducing doses (ED01s) of TCDD in livers of rats and humans using physiologically based pharmacokinetics modeling. *Organohal. Comp.* 34: 311–316.

Aylward L.L., **Hays S.M.**, Czernek J., Brien B., Paustenbach D.J. and Karch N.J. 1997. Relative doses of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) using alternative dosimetrics: comparison of the NIOSH and ranch hand populations. *Organohal. Comp.* 34: 6–9.

**Hays S.M.**, Aylward L.L., Mocarelli P., Needham L.L., Brambilla P., Gerthoux P.M., Patterson D.G., Czernek J., Paustenbach D.J. and Karch N.J. 1997. Comparative dose-response of the NIOSH and Seveso populations to the carcinogenic hazard of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) using alternative dosimetrics. *Organohal. Comp.* 34: 305–310.

Paustenbach D.J., **Hays S.M.**, El-Sururi S., Underwood P. and Ku R. 1997. Comparing the predicted uptake of TCDD based on exposure calculations with the actual uptake: A case study of residents of Times Beach, MO. *Organohal. Comp.* 34: 25-31.

**Hays S.M.**, Aylward L.L., Karch N.J. and Paustenbach D.J. 1997. The relative susceptibility of animals and humans to the carcinogenic hazard posed by exposure to 2,3,7,8-TCDD: an analysis using standard and internal measures of dose. *Chemosphere* 34: 1507–1522.

Verhar H.J.M., Morroni J.R., Reardon K.F., **Hays S.M.**, Garver D.P., Carpenter R.L. and Yang Y.S.H. 1997. A proposed approach to study the toxicology of complex mixtures of petroleum products: the integrated use of QSAR, lumping analysis and PBPK/PD modeling. *Environ. Health Perspect.* 105: 179–195.

Aylward L.L., **Hays S.M.**, Karch N.J. and Paustenbach D.J. 1996. Relative susceptibility of animals and humans to the cancer hazard posed by exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) using internal measures of dose. *Environ. Sci. Technol.* 30:3534–3543.

Lipiro D., **Hays S.M.** and Golpashin E. 1996. Evaluation of source reduction methods through modeling of batch production processes in the coatings and composite plastics industries. *J. Air Waste Manage. Assoc.*

Paustenbach D.J., **Hays S.M.**, Brien B.A., Dodge D.G. and Kerger B.D. 1996. Observation of steady-state in blood and urine following human ingestion of hexavalent chromium in drinking water. *J. Toxicol. Environ. Health* 49: 453–461.

Sielken R.L., Reitz R.H. and **Hays S.M.** 1996. Using PBPK modeling and comprehensive realism methodology for the quantitative cancer risk assessment of butadiene. *Toxicology* 113: 231–237.

**Hays S.M.**, Scott P., Fehling K., Proctor D. and Gargas M.L. 1996. A detailed comparison of the various models used to predict blood lead concentrations for a given exposure scenario. *Fundam. Appl. Toxicol.* 30(Supplement: The Toxicologist):248.

Paustenbach D.J., **Hays S.M.**, Kerger B.D. and Finley B. 1996. An analysis of inter-individual variability in uptake and elimination of chromium from human volunteers. *Fundam. Appl. Toxicol.* 30(Supplement: *The Toxicologist*): 35.

Reardon K.F., **Hays S.M.** and Yang Y.S.H. 1996. The modeling of diffusion-limited compounds in physiologically-based pharmacokinetic (PBPK) models. *Fundam. Appl. Toxicol.* 30(Supplement: *The Toxicologist*): 249.

**Hays S.M.**, Reardon K.F and Yang Y.S.H. 1995. An a priori physiologically-based pharmacokinetic/pharmacodynamic model of benzo(a)pyrene. *Toxicologist* 15: 270.

Heinrich M.D., **Hays S.M.**, Ramsdell H.S., Tessari J.D. and Yang Y.S.H. 1993. A physiologically based pharmacokinetic model for the interaction of vinyl chloride and ethanol. *Toxicologist* 14: 41.

#### PRESENTATIONS:

2005. Hays S.M. New Applications for the Lead PBPK Model. Presented at the 44<sup>th</sup> Annual Meeting of Society of Toxicology. New Orleans, LA. March 7, 2005.

2005. Hays S.M. Lead PBPK Modeling. Invited presentation at the USEPA Lead NAAQS Scientific Update Symposium. Chapel Hill, NC. February 3, 2005.

2004. **Hays S.M.**, Belzer R.B. and Pleus R.C. New Information on Decabromodiphenyl Ether (DBDPE) and How It Changes Our Interpretations of Risk. Presented at BFR 2004, an International Workshop on Brominated Flame Retardants, Toronto, Ontario, Canada. June 9.

2002. Aylward L.L. and **Hays S.M.** Humans as bio-indicators of dioxin levels: Temporal trends. Presented at the Society for Risk Analysis Annual Meeting, New Orleans, LA, December 11.

2001. **Hays S.M.** and Aylward L.L. Temporal trends in body-burden suggest that dioxin exposures in the general population have declined significantly. Presented at 21<sup>st</sup> International Symposium on Halogenated Environmental Organic Pollutants and POPs (Dioxin 2001), Gyeongju, South Korea. September 2001.

2001. **Hays S.M.**, Aylward L.L., Finley B. and Paustenbach D. Implementing a cancer risk assessment for dioxin using a margin of exposure approach and an internal measure of dose. Presented at 21st International Symposium on Halogenated Environmental Organic Pollutants and POPs (Dioxin 2001), Gyeongju, South Korea. September 2001.

2000. **Hays S.M.** and Paustenbach D.J. Using PBPK modeling in the regulation of toxic compounds. Invited presentation: Symposium on The Practical Applicability of Toxicokinetic Models in the Risk Assessment of Chemicals, The Hague, The Netherlands. February 17 & 18.

1998. **Hays S.M.**, Tyler T.R., Kirman C.R., Corely R.A. and Gargas M.L. Physiologically based pharmacokinetic (PBPK) modeling of ethylene glycol ethers and

acetates. Presentation at Society for Risk Analysis Annual Meeting, Phoenix, AZ. December 7.

1997. **Hays S.M.**, Finley B., Long T. and Ownby D. Environmental exposure to dry rubber: review of the literature. Presented at the Aspen Allergy Conference, Aspen, CO. July 23.

1996. **Hays S.M.** Life cycle impact assessment (LCIA) a possible tool in your EMS tool chest. Presentation at Integrated Environmental Management: A Cost-Effective Strategy, Hudson, OH. March 29.

1995. **Hays S.M.**, Reitz R.H. and Sielken R.L.. Quantitative cancer risk assessment of butadiene. Presentation at 1<sup>st</sup> International Symposium on the Evaluation of Butadiene & Isoprene Health Risks, Blaine, WA. June 27-29.

1995. Paustenbach D.J., **Hays S.M.**, Aylward L., Karch N., Golden R., Leung H.W. and Kerger B. The relative susceptibility of animals and humans to the carcinogenic hazard posed by the exposure to 2,3,7,8-TCDD: an evaluation of different dosimetric measures. Presented at the 15<sup>th</sup> International Symposium on the Chlorinated Dioxins and Related Compounds, Edmonton, Canada.

1994. **Hays S.M.** Physiologically based pharmacokinetic/pharmacodynamic (PBPK/PD) modeling of complex mixtures: a case study utilizing polycyclic aromatic hydrocarbons. Presentation at 4<sup>th</sup> Annual Colorado Institute of Research in Biotechnology Symposium, Fort Collins, CO. September 13.

## REGULATORY TESTIMONY

- Committee on Natural Resources science hearing testimony on Bill LD 1790 “An Act To Reduce Contamination of Breast Milk and the Environment from the Release of Brominated Chemicals in Consumer Products” February 12, 2004: State of Maine Legislature, Augusta, Maine. Presented findings from decabromodiphenyl ether VCCEP risk assessment.
- California Assembly Environmental Safety and Toxic Materials Committee hearing testimony on Assembly Bill 302 (Ban of polybrominated diphenyl ethers). April 22, 2003: Sacramento, CA. Presented findings from decabromodiphenyl ether VCCEP risk assessment.
- Voluntary Children’s Chemical Evaluation Program (VCCEP) Peer Consultation Meeting, April 2-3, 2003: Cincinnati, OH. Defense of VCCEP Data Summary for Decabromodiphenyl Ether (a brominated flame retardant).
- National Academy of Sciences (NAS) Committee “Implications of Dioxin in the Food Supply” February 2002: Washington, DC. Testified on “Dioxin body burden trends and the resulting implications for understanding current and future dietary exposures”.

## **PEER REVIEW PANELS**

- USEPA STAR grant proposal review committee: Reproductive and developmental toxicology studies.

*This document was last updated October 1, 2006*