



Sapphire News

The Sapphire Group Conducts Workshop on the Use of PBPK Modeling in Dose-Response Analysis

At the 2003 Toxicology and Risk Assessment Conference, the attendees were given the opportunity to gain hands-on experience in the use of physiologically-based pharmacokinetic (PBPK) modeling to calculate the relevant measure of dose. The Sapphire team of Drs. Mike Gargas and Lisa Sweeney and Mr. Chris Kirman presented case studies drawn from their cancer and non-cancer risk assessment work with the compounds methylene chloride, 1,3-butadiene and acrylonitrile.

The students conducted pharmacokinetic simulations with the PBPK computer models and were able to distinguish different internal measures of dose (e.g., peak blood concentrations of the compound or metabolite and amount metabolized), then compare these to responses to those observed in laboratory animals and occupationally exposed humans. The objective was to increase the students familiarity and comfort with PBPK modeling and the importance of an appropriate measure of dose as a component of risk assessment.

This is the second year that The Sapphire Group has conducted these workshops at the conference. The 2003 Toxicology and Risk Assessment Conference was sponsored by Tri-Service Toxicology; the U.S. EPA Office of Research and Development, National Center for Environmental Assessment; U.S. Army Center for Health Promotion and Preventive Medicine; Air Force Office of Scientific Research; Agency for Toxic Substances and Disease Registry, Division of Toxicology; the National Institute for Occupational Safety and Health with the cooperation of the National Research Council/National Academy of Sciences. Approximately 240 scientists from government, academia, non-profit organizations, and industry attended the meeting.