



Human Health Hazard Indicators Workshop
March 15-16, 2010
California Environmental Protection Agency Headquarters
1001 I Street, Sacramento, CA



Green chemistry is the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. A key component is product reformulation to replace hazardous chemicals with less hazardous ones. A major obstacle is the lack of data from standard toxicity tests for determining the safety of a chemical. Absent a full toxicological database, other information—e.g., from short term tests, structure activity relationships, and the emerging high throughput assays—may help in chemical hazard evaluations.

This workshop explores indicators of human health hazards for carcinogenicity, developmental toxicity and endocrine disruption. A second workshop on indicators of environmental hazards and exposure potential will be held May 10-11 at University of California (UC) Berkeley. A recent Green Chemistry law (SB 509, 2009) requires Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA) to evaluate and specify the hazard traits, toxicological endpoints and other relevant data to be included in California's Toxics Information Clearinghouse, which will be constructed by the Cal/EPA's Department of Toxic Substances Control.

Workshop sponsors: OEHHA, UCLA Law and Environmental Health Sustainable Technology Policy Program, UC's Berkeley Center for Green Chemistry (BCGC), UC Center for Occupational and Environmental Health, UC Toxic Substances Research and Teaching Program (TSRTP).

To register for the March workshop, please send your name, email address and affiliation to: elina.nasser@ucla.edu To view the webcast of the March workshop, follow the instructions provided on the day of the workshop at <http://www.calepa.ca.gov/Broadcast>



Monday, March 15, Byron Sher Auditorium

8:30 Welcome

George Alexeeff, Deputy Director for Scientific Affairs, OEHHA
John Knezovich, Director, UC TSRTP

8:40 Workshop Introduction

Melanie Marty, Chief, Air Toxicology and Epidemiology Branch, OEHHA

Session 1: State of the Science on Identifying Chemical Hazards

Moderator: Melanie Marty, OEHHA

8:55 Keynote: Emerging methods for determining chemical hazards

Chris Portier, National Institute of Environmental Health Sciences (NIEHS)

9:40 Chemical reactivity as a fundamental indicator of chemical toxicity

John Froines, UCLA Department of Environmental Health Sciences

10:15 Break

10:30 Computational toxicology screening methods

Dale Johnson, UC Berkeley (UCB) and Emiliem, Inc

11:05 Screening methods used by the pharmaceutical industry

Dinah Misner, Roche Pharmaceuticals Palo Alto

11:40 Panel Discussion and Q&A

Chris Portier, NIEHS
John Froines, UCLA
Dale Johnson, UCB and Emiliem
Dinah Misner, Roche Palo Alto

12:30 Lunch

Monday, March 15, continued

Session 2: Human Health Hazard Indicators for Specific Endpoints

1:30 Goals for Session
Session Moderator: Lauren Zeise, *OEHHA*

Carcinogenicity

1:35 Towards Toxicity Testing in the 21st Century: Applying the New Global and Systematic Testing Paradigm to Identify Potential Human Carcinogens
Luoping Zhang, *UCB School of Public Health*

2:00 Assay indicators of risk factors for breast carcinogenicity
Megan Schwarzman, *UCB School of Public Health and UC BCGC*
Gina Solomon, *UC San Francisco & Natural Resources Defense Council*

2:25 Discussion of Carcinogenicity Indicators

Developmental Toxicity

2:40 *In vitro* and other methods for identifying developmental neurotoxicants
Pamela Lein, *UC Davis School of Veterinary Medicine*

3:05 Computational toxicology and short-term assays for identifying developmental toxicants
Tom Knudsen, *US EPA National Center for Computational Toxicology*

3:30 Discussion of Developmental Toxicity Indicators

3:45 Break

Endocrine disruption

4:00 In vivo and in vitro screening for thyroid hormone disruptors
Kevin Crofton, *US EPA, National Health and Environmental Effects Laboratory*

4:25 Screening assays for estrogen and androgen related endpoints
Paul Foster, *NIEHS and NTP*

4:50 Discussion of Endocrine Disruption Indicators

5:05 Adjourn Day 1

Tuesday, March 16, Sierra Hearing Room

Session 3: Moving Forward with Human Health Hazard Indicators

8:30 Goals for the Session
Session Moderator: Meg Schwarzman, *UCB School of Public Health and UC BCGC*

8:40 Hazard Traits, Endpoints, Indicators and Other Relevant Data
Melanie Marty and Lauren Zeise, *OEHHA*

9:00 Panel Discussion

Panelists:

George Alexeeff, *OEHHA*
Kevin Crofton, *US EPA*
Paul Foster, *NIEHS*
John Froines, *UCLA*
Dale Johnson, *UCB and Emiliem*
Tom Knudsen, *US EPA*
Pamela Lein, *UCD*
Dinah Misner, *Roche Palo Alto*
Chris Portier, *NIEHS*
Gina Solomon, *UCSF and NRDC*
Pamela Spencer, *Dow Chemical Company*
Tracey Woodruff, *UCSF*
Luoping Zhang, *UCB*

Discussion Question

Which assays and models are sufficiently well developed to indicate potential for carcinogenicity, developmental toxicity or endocrine disruption?

10:15 Break

10:30 Continue Discussion

12:00 Workshop summary and wrap-up
George Alexeeff, *OEHHA*

12:15 Adjourn

