

*NIEHS WETP National Trainers' Exchange: Training Today for a Safer Tomorrow*

March 28-29, 2012, Fort Lauderdale, FL.

**SAMPLE: POST-CONFERENCE PROCEEDINGS**

**WORKSHOP SESSION SUMMARY**

**NIEHS NATIONAL TRAINERS' EXCHANGE**

**MARCH 2012**

**1. Session Title and Presenter's Contact Information:**

"Innovative Approaches to Teaching Green Chemistry to Workers"

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**2. Workshop Summary**

This workshop will demonstrate a new curriculum designed to help worker and community allies increase their awareness of green chemistry principals, and to engage as advocates for safer alternatives to toxic chemicals. Participatory activities that identify individual chemical usage and exposure issues will be used as a framework upon which to build knowledge of sustainability concepts. Energy consumption, water usage, pollution prevention and waste minimization will be described in terms of the global impacts of chemical mass production. Toxicity testing and chemical policy will be tied to worker health. Learning tools will be employed to motivate participants about opportunities for chemical policy reform and encourage participation in advocacy and change. Participants will workshop recent case studies that illustrate gaps in chemical safety regulation and use them to develop learning modules specific to different work environments. All are encouraged to share approaches that have been successful in making abstract concepts accessible to diverse audiences and to bring suggestions for ways to motivate activism.

**3. Methods**

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This workshop begins with an overview presentation on green chemistry policies and sample case studies. The main issues discussed included:

- Introduction and overview of our Green Chemistry training program
- Green Chemistry curriculum:
  - Roles of EPA, OSHA, FDA, and CPSC
  - The status of US chemical safety policy
  - Recent chemicals of concern
- Case study of Bisphenol A
  - What can we do?
  - Participation activity: Using the PLUM database

The workshop then introduces A Public Library of Materials, or “Plum”, which is an online tool intended to assist the adoption of safer materials for sustainable industry. Workers and businesses need tools to identify and reduce the chemical hazards in products, processes and workplaces, and to implement safer alternatives. Plum will make relevant information about thousands of industrial chemicals quickly accessible. An extensive set of scientific and regulatory authoritative lists, which identify chemicals known to be hazardous to human or environmental health, will be integrated in Plum’s web database. Plum will enable meaningful ways of navigating searching and filtering this information.

The class is divided into 3 groups to do a Small Group Activity. Each group will receive a sample product (common household products such as cleaning, auto, plumbing fluids, etc.). Each group will take a few minutes to review the information on the product (label, ingredients, etc.). They will then be instructed to find a chemical name about which they want to find more information.

The entire group goes through Plum using the following examples:

- Bisphenol A (BPA, CAS # 80-05-7, p.8 of search)
- 1,4 Dioxane (Dioxane, CAS# 123-91-1)
- n-hexane (Hexane, CAS# 110-54-3)

The class then tests Plum to find information about the chemicals of concern in their sample products. We discuss possible uses for this in the workplace and what other kinds of information would be useful include in Plum (e.g. trade names, common uses).

#### **4. Main Points**

**Key lessons from the workshop:**

## *NIEHS WETP National Trainers' Exchange: Training Today for a Safer Tomorrow*

March 28-29, 2012, Fort Lauderdale, FL.

- Reviewed Green Chemistry curriculum components focusing on chemical policy framework and participatory activity.
- Reviewed EPA 'Gatekeeper' Programs: Toxic Substance Control Act and OSHA HazCom Standard.
- Provided overview of Workplace Exposures & Chronic Disease, Human and Economic Costs of Occupational Disease, and Public Exposures.
- Analyzed case studies of Brominated Flame Retardants and Bisphenol A
- Examined occupational exposure examples of asbestos and n-hexane. Demonstrate ineffectiveness of regulatory process.
- Briefly reviewed California Green Chemistry Initiatives
- Introduced Plum database and chemical product activity to test information accessibility.
- Facilitated open discussion of occupational relevance of green chemistry issues and tools.

### **Responses from the participants**

- Several union safety representatives briefly summarized some green chemistry policies that they had seen implemented in large scale manufacturing facilities, namely: the phase out of asbestos brake pads at GM, and the substitution of BPA in heat treated papers at Appleton Papers.
- Following these comments, there was a discussion of the wide range of disparities between large employers with internal EH&S resources (and centralized procurement programs) verses more informal workplaces, lacking EH&S resources and health information.
- One audience member insisted that NIOSH ERCs could train H&S professionals to eliminate most workplace exposures.
- One audience member indicated that our historical overview of BPA was good, but could better emphasize the activism that was responsible for many of the milestones where its toxicity was re-evaluated.
- There was some discussion on the level of protection already in place for workers via existing regulations (TSCA), information sources (e.g. MSDS). Some believed it was sufficient, others argued it was inadequate.
- One participant introduced a new website tool drawn from Plum that improved the interface and more specifically addressed a worker audience.

***NIEHS WETP National Trainers' Exchange: Training Today for a Safer Tomorrow***

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- Some felt that Plum was useful in providing information, but would be difficult for average workers to understand and use.

## **5. References**

Wilson M, Chia C, Ehlers B. 2006. *Green Chemistry in California: A Framework for Leadership in Chemicals Policy and Innovation. Special Report to the California Senate Environmental Quality Committee and Assembly Committee on Environmental Safety and Toxic Materials.* University of California, California Policy Research Center. [[pdf](#)]

Public List of Materials: A Resource for Chemical and Material Hazard Information.  
<http://plm.berkeley.edu/>

## **6. Workshop Handouts/ Resources**

[http://www.chemsec.org/images/stories/publications/ChemSec\\_publications/Former\\_SIN\\_List\\_2.0\\_110930.pdf](http://www.chemsec.org/images/stories/publications/ChemSec_publications/Former_SIN_List_2.0_110930.pdf)

[http://www.oehha.ca.gov/prop65/prop65\\_list/files/P65single031612.pdf](http://www.oehha.ca.gov/prop65/prop65_list/files/P65single031612.pdf)

[http://www.chemsec.org/images/stories/2011/chemsec/111214\\_Bisphenol\\_A\\_in\\_reliniq\\_of\\_water\\_pipes\\_ChemSec.pdf](http://www.chemsec.org/images/stories/2011/chemsec/111214_Bisphenol_A_in_reliniq_of_water_pipes_ChemSec.pdf)