

# Green Chemistry at Work

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## Environment California's "stake" in Green Chemistry

- Started our Toxics program in 2002
- Long-term goal: comprehensive chemical policy reform
  - Wrote "Moving Toward a Green Chemical Future" in July 2008
  - Wrote "Green Chemistry at Work" in April 2010
- Short-term goal: advocate for measures that protect Californians from individual toxic chemicals
  - Sponsored PBDE (2003) and phthalate (2008) legislation
  - Tested baby furniture for formaldehyde (2008)
  - Sponsoring "Toxic Trio"-free Nail Salon ordinance in San Francisco (current)

# Caring about Green Chemistry

- How do you engage the public in Green Chemistry, when people think it is
  - complicated
  - boring
  - “wonky” ...

or all of the above?

**You make it RELEVANT!!!**

# Klean Kanteen

Basic assessment of a “Nalgene” type water bottle:

- doesn't break
- doesn't leak
- easily refillable

So does it need to be *plastic*? **NO**

Klean Kanteen introduces *stainless steel* bottles w/ polypropylene caps



# method Products

From method's website:

“At the core of our business is the [Cradle to Cradle](#) design philosophy. This philosophy is pretty simple. It says that it's OK to use high-tech materials, products, and gadgets that make our lives better, we just need to design products so those materials can be infinitely re-used. At method, we call that reincarnation. We want every product to have a past and a future. Like bottles made from old bottles, and non-toxic cleaners that biodegrade instead of toxic chemicals that don't.”

# CleanWell

Developed natural, biodegradable disinfectant oil (beginning with oregano and thyme) used to make hand cleaners and surface cleaners ... without *triclosan* (linked to dioxin, an endocrine disruptor, and suspected of creating bacterial resistance to antibiotics)



# Nubar

- The “Toxic Trio” – toluene (repro and developmental toxicant), dibutyl phthalate (endocrine disruptor) and formaldehyde (carcinogen, asthmagen)
- Nubar makes nail polish, base coat and top coat without the Toxic Trio. DBP is banned in cosmetics by the EU, so Nubar can export its TT-free products to Europe.



# Kaiser Permanente



- Reducing exposure to phthalates (reproductive toxicant) at Kaiser hospitals
  - Replacing IV bags and medical tubing in neonatal ICU

Harvard School of Public Health study found that sick infants receiving intensive therapy with DEHP-containing PVC devices were exposed to levels 25 times higher than those of the general population.

- using PVC- and phthalate-free carpeting

Health Care Without Harm: [www.noharm.org](http://www.noharm.org)

# Columbia Forest Products



- Formaldehyde: carcinogen; listed under Prop. 65, emissions regulated by the CA Air Resources Board
- PureBond® is a formaldehyde-free adhesive composed primarily of soy flour and water
  - mimics the protein that marine mussels use to attach themselves to rocks and other hard surfaces



## **Green Chemistry at Work**

Leading California Businesses Demonstrate  
How to Make Products Safe from the Start

