A Public Health Perspective

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Fundamentals of Product Stewardship

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PREVENT HARM & ENVIRONMENTAL HEALTH STRATEGY CENTER
SAFER CHEMICALS, HEALTHY FAMILIES
SAFER STATES

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ENVIROMENTAL HEALTH STRATEGY CENTER
Trends in Chemicals in Breast Milk, Sweden

- PCBs
- DDT Metabolite
- PBDEs

Source: NRDC

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BPA in baby bottles, sippy cups

AVOID

CHOOSE

Receipt? No Thanks!

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U.S. Chemical Production (1947 – 2007)

100 = 2002 Production

Year


Production Index

74 billion pounds of chemicals are produced or imported every day in the United States

SOURCE: Federal Reserve G.17

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Called for a federal chemical policy 50+ years ago:
“The choice, after all, is ours to make. If, having endured much, we have at last asserted our ‘right to know,’ and if knowing, we have concluded that we are being asked to take senseless and frightening risks, then we should no longer accept the counsel of those who tell us that we must fill our worlds with poisonous chemicals; we should look about and see what other course is open to us.” (pp. 277-78)
THE BOTTOM LINE

• Our chemical safety system is badly broken
• People are sick and dying from chemical exposures – disease, disability, early death
• The chemical industry, which has stalled federal chemical policy reform, wants to preempt the states and avoid regulation
• Leadership still falls on state policymakers, European regulators & market leaders
1976 TOXICS SUBSTANCES CONTROL ACT (TSCA)

The law that regulates industrial chemicals was passed 30 years ago and has never been updated.

It does not require health and safety studies for new chemicals. 63,000 chemicals were “grandfathered in” when TSCA was passed, presumed safe.
• **DATA**: Few data call-ins are issued, even fewer chemicals are required to be tested and no minimum data set is required even for new chemicals.

• **BURDEN OF PROOF**: EPA is required to prove harm before it can regulate a chemical.

• **SAFETY ASSESSMENT**: No mandate exists to assess the safety of existing chemicals. New chemicals undergo a severely time-limited and highly data-constrained review.
• **SCOPE OF ASSESSMENT:** Where the rare chemical assessment is undertaken, there is no requirement to assess exposure to all sources of exposure to a chemical, or to assess risk to vulnerable populations.

• **REGULATORY ACTION:** Even chemicals of highest concern, such as asbestos, have not been able to be regulated under TSCA’s “unreasonable risk” cost-benefit standard. Instead, assessments often drag on indefinitely without conclusion or decision.
• **INFORMATION ACCESS**: Companies are free to claim, often without providing any justification, most information they submit to EPA to be confidential business information (CBI), denying access to the public and even to state and local government. EPA is not required to review such claims, and the claims never expire.

• **RULEMAKING REQUIREMENTS**: To require testing or take other actions, EPA must promulgate regulations that take many years and resources to develop.
A Badly Broken Safety System
# TSCA: 38 years of Failure

<table>
<thead>
<tr>
<th>Existing chemicals in commerce in 1979</th>
<th>62,000</th>
</tr>
</thead>
<tbody>
<tr>
<td># of potential concern due to use &amp; design</td>
<td>26,000 (26%)</td>
</tr>
<tr>
<td># with risks reviewed</td>
<td>1,200 (2%)</td>
</tr>
<tr>
<td># with testing required</td>
<td>&lt; 200 (&lt;0.3%)</td>
</tr>
<tr>
<td># with bans or restrictions on use</td>
<td>5</td>
</tr>
</tbody>
</table>
EPA couldn’t even ban asbestos

Joe Darabant, Johns-Manville Plant in H Building
from Breath Taken: The Landscape & Biography of Asbestos
Bill Ravanesi 1990 & Center for Visual Arts in the Public Interest, Inc.
20,000 New Chemicals Introduced

• After undergoing only a review by EPA that is time-limited and data-constrained

Example: Firemaster 550 replaced PentaBDE:

TBB now known to be:

• Persistent
• Bioaccumulative
• Toxic

TBB, 183658-27-7

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## OCCUPATIONAL HEALTH IMPACTS

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Annual Incidence, Occupat. Disease</th>
<th>Attributable to Chemical Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaths</td>
<td>&gt; 60,000 (US)</td>
<td>6,566 (CA)</td>
</tr>
<tr>
<td>Asthma (EU)</td>
<td>80,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Dermatitis (EU)</td>
<td></td>
<td>40,000</td>
</tr>
<tr>
<td>COPD (EU)</td>
<td></td>
<td>10,000</td>
</tr>
<tr>
<td>Cancer (EU)</td>
<td></td>
<td>4,300</td>
</tr>
</tbody>
</table>

Wilson et al. (2006) Green Chemistry in California, Cal Policy Research Center
## ENVIRONMENTAL HEALTH IMPACTS

<table>
<thead>
<tr>
<th>Disease / Disorder in Children</th>
<th>Attributable to Chemical Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>10% to 35%</td>
</tr>
<tr>
<td>Cancer</td>
<td>2% to 10%</td>
</tr>
<tr>
<td>Neurobehavioral</td>
<td>5% to 20%</td>
</tr>
</tbody>
</table>


- Impaired fertility and reproductive harm


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“Our children should not be used as guinea pigs. It’s time to update the law to protect them.”
The Drivers for TSCA Reform

• State-based chemical regulation
• National health-based campaign
• Consumer market demand
• Downstream corporate policies
• International policy leadership
Take Action: Tell the nation's top ten retailers to get tough on toxic chemicals in consumer products!

FIRST NAME *
LAST NAME *
EMAIL *
ZIP/POSTAL CODE *

* Required fields

Read the letter to retailers.

Send your letter now

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Why Mind the Store?

Because with great market power comes great responsibility.

www.preventharm.org
Product Testing
Our partners tested various backyard products and found 10 toxic chemicals you should watch out for.

The Hazardous 100+
BPA, formaldehyde, phthalates, and other toxic chemicals do not belong in products, in our homes, or in our bodies.

Action Center
Tired of playing chemical detective in the store, deciphering endless food labels? Take it to your store manager!

The Top 10 Retailers
Find out what the nation's leading retailers have already done to get toxic chemicals out of the products in their stores.

Why Mind the Store?
What does it mean to Mind the Store? See what retailers can do to really get tough on toxics and keep their customers safe.

Blog Posts
Follow the campaign, find out how major retailers are responding, get tips for a less toxic a lifestyle and more.
Ask of Retailers  (April 2013)

“We request that you determine whether any of the Hazardous 100+ are present in the products you sell, including products parts and packaging, and if so, that you develop a public action plan within the next twelve months that includes a timeline to address these chemicals, including reducing, eliminating or safely substituting the chemicals as appropriate.”

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Top Ten US Retailers

1. Walmart
The world's biggest multinational retailer, with "superstores" selling everything from clothes and electronics to furniture and groceries. Learn more »

2. Kroger
Largest grocery store chain in the country, owns a number of brands including Ralph's, Smith's, City Market, Food 4 Less, Dillons, and Fred Meyer. Learn more »

3. Target
One of the largest "superstore" retailers in the country, selling apparel, health and beauty products, electronics, and hardware supplies. Learn more »

4. Walgreens
Largest drugstore chain in the U.S., sells prescription and over the counter drugs, and an assortment of consumer goods and services. Learn more »
5. Costco
Largest membership-warehouse club in the U.S., stocking a wide range of items including clothing, furniture, food, and appliances. Learn more »

6. The Home Depot
Largest home-improvement retailer, sells everything from appliances and patio furniture, to power tools and remodeling equipment. Learn more »

7. CVS Caremark
One of the largest drugstore chains in the U.S., sells prescription drugs and general merchandise including beauty products and convenience foods. Learn more »

8. Lowe's
Major home improvement retailer, sells a range of products including appliances, building supplies, hardware, furniture, and nursery products. Learn more »

9. Best Buy
World's largest consumer electronics retailer, sells consumer electronics and a variety of related merchandise, in addition to home appliances. Learn more »

10. Safeway
Second largest supermarket chain in North America, owns brands including Carr's, Dominick's, Pak'n Save, Randall's, Tom Thumb, Vons, and Pavilions. Learn more »

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The Hazardous 100+

Chemicals in consumer products

Triclosan
This pesticide is found in products like toothpaste, cutting boards, yoga mats, hand soap, and cosmetics. It is a hormone disruptor and encourages the growth of drug-resistant bacteria.
See rap sheet »

Phthalates
Chemicals linked to low testosterone, birth defects and cancer are used to soften vinyl plastic and can be found in products like school supplies and flooring.
See rap sheet »

PFCs
PFCs are a class of carcinogenic chemicals used to repel oil and water from clothing, carpeting, furniture, food packaging, and non-stick surfaces on cookware.
See rap sheet »

Parabens
Parabens have been identified as endocrine disruptors by the EU, Maine and Washington. They mimic the hormones that control functions like growth and sexual development.
See rap sheet »

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- **State of California** — "List of Chemicals Known to Cause Cancer or Reproductive Toxicity" [i.e. the Prop 65 list] (884 substances) — Office of Environmental Health Hazard Assessment;

- **State of Maine** — "Designated Priority Chemicals" (2 substances) and "List of Chemicals of High Concern" (49 substances) — Department of Environmental Protection and Center for Disease Control and Prevention;

- **State of Minnesota** — "List of Priority Chemicals" (9 substances) — Pollution Control Agency and Department of Health;

- **State of Washington** — "List of Chemicals of High Concern to Children" (66 substances) — Department of Ecology and Department of Health;

- **United States** — "Existing Chemicals Action Plans" (10 substances) — Environmental Protection Agency; and

- **European Union** — "Authorisation List" (14 substances) and "Candidate List of Substances of Very High Concern for Authorisation" (138 substances) — European Chemicals Agency.
Flame retardants
Chemicals linked to cancer and damage to reproductive and nervous systems are lurking in couches, mattresses, electronics, appliances, and more.
See rap sheet »

PFCs
PFCs are a class of carcinogenic chemicals used to repel oil and water from clothing, carpeting, furniture, food packaging, and non-stick surfaces on cookware.
See rap sheet »

BPA/BPS
These notorious hormone disrupting chemicals are found in polycarbonate plastics, garden hoses, food can linings, cash register receipts—and unfortunately—in our bodies.
See rap sheet »

Heavy Metals
Exposure to toxic metals in air, water, toys, electronics, jewelry, and other products have been linked to cancer, developmental disorders, and other health problems and diseases.
See rap sheet »
## The Hazardous 100+ List of Chemicals of High Concern

### Hazardous 100 List (Last updated: 7/17/13)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CASRN</th>
<th>Chemical Acronym or Synonym</th>
<th>Authoritative Lists (see key below)*</th>
<th>Primary Type of Toxicity</th>
<th>Reference for Toxicity Information (see key below)</th>
<th>Primary Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel &amp; nickel compounds*</td>
<td>7440-02-0</td>
<td></td>
<td>CALIFORNIA</td>
<td>MAINE</td>
<td>MINNESOTA</td>
<td>WASHINGTON</td>
</tr>
<tr>
<td>Benzyl butyl phthalate</td>
<td>85-68-7</td>
<td>BBP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Di-(2-ethylhexyl) phthalate</td>
<td>117-81-7</td>
<td>DEHP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Dibutyl phthalate</td>
<td>84-74-2</td>
<td>DBP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Diethyl phthalate</td>
<td>84-66-2</td>
<td>DEP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Dibisobutyl phthalate</td>
<td>84-69-5</td>
<td>DIBP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Dibisocetyl phthalate*</td>
<td>26761-40-0</td>
<td>DIDP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Diisononyl phthalate*</td>
<td>28553-12-0</td>
<td>DINP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Di-n-hexyl phthalate</td>
<td>84-75-3</td>
<td>DnHP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Di-n-octyl phthalate</td>
<td>117-84-0</td>
<td>DnOP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Di-n-pentyl phthalate</td>
<td>131-18-0</td>
<td>DnPP</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>1,3-Butadiene</td>
<td>106-99-0</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>2,4-Diaminotoluene</td>
<td>95-80-7</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>2,4-Dinitrotoluene</td>
<td>121-14-2</td>
<td>DNT</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>4,4'-Methylenebis(2-Chloroaniline)</td>
<td>101-14-4</td>
<td>MBOCA</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>4,4'-Diaminodiphenylmethane</td>
<td>101-77-9</td>
<td>MDA</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>4,4'-Oxydianiline</td>
<td>101-80-4</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Acrylonitrile</td>
<td>107-13-1</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Bisphenol A</td>
<td>80-05-7</td>
<td>BPA</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Epichlorohydrin</td>
<td>106-89-8</td>
<td>ECH</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Propylene oxide</td>
<td>75-56-9</td>
<td>PPO</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Styrene</td>
<td>100-42-5</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Toluene diisocyanate*</td>
<td>26471-62-5</td>
<td>TDI</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Triglycidyl isocyanurate</td>
<td>2451-82-9</td>
<td>TGIC</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>75-01-4</td>
<td>VC or VCM</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
Progress to Date

• Walmart - Issued its “Policy on Sustainable Chemistry in Consumables”

• Target - Issued its “Product Sustainability Standard”

• Several Retailers - In-person meetings with dialog toward action

• Others - The conversation has started
<table>
<thead>
<tr>
<th>Scope</th>
<th>Walmart</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRODUCTS</strong></td>
<td>Household cleaning, personal care, beauty and cosmetics</td>
<td>Household cleaning, personal care, beauty, and baby care</td>
</tr>
<tr>
<td><strong>CHEMICALS</strong></td>
<td>10 high priority chemicals</td>
<td>&gt; 1,000 - high level health concerns</td>
</tr>
<tr>
<td>Elements</td>
<td>Walmart</td>
<td>Target</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>KNOW</td>
<td>Suppliers provide list of ingredients to third party</td>
<td>Suppliers provide list of ingredients to third party</td>
</tr>
<tr>
<td>DISCLOSE</td>
<td>YES, online by 2015, on package 2018</td>
<td>NO, but... transparency scores higher (up to 20%)</td>
</tr>
<tr>
<td>Elements</td>
<td>Walmart</td>
<td>Target</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td><strong>ASSESS &amp; AVOID HAZARDS</strong></td>
<td>For the 10: continuous reduction, restriction, elimination</td>
<td>NO, but ... avoidance scores higher (up to 50%)</td>
</tr>
<tr>
<td><strong>CONTINUOUS IMPROVEMENT</strong></td>
<td>Publicly report on progress by Jan 2016</td>
<td>NO, but ... will create incentives for high scorers</td>
</tr>
</tbody>
</table>
What Success Requires

• Customer demand
• Strategic partnerships
• Leveraged impact
• Own 100% of solution
When you reach the top of the mountain, keep climbing