

# Key California Environmental Regulations and Legislation & Impact on EHS



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*Occupational & Environmental Health &  
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# Agenda: How California Chemical Regulations Are Shaping EHS Policy

- California Green Chemistry Initiative
- Other California and State Programs
- Chromium-6 Drinking Water Standard
- TCE and Vapor Intrusion
- Trends and Policy Implications

**AGENDA**

# California's Green Chemistry Initiative

- Governor Schwarzenegger signed Green Chemistry Legislation in 2008
  - Requires “process to identify and prioritize those chemicals or chemical ingredients in consumer products that may be considered as being a chemical of concern”
  - Establishes Toxics Information Clearinghouse



# California's Safer Consumer Products Program

- **Step 1: Chemical List** – The regulations establish an immediate list of Candidate Chemicals (~1,200)
- **Step 2: Products** –DTSC must develop a list of “Priority Products” for which Alternatives Analyses must be conducted



## Overview: The Safer Consumer Products Regulations

All Chemicals  
(100,000+)

Candidate  
Chemicals  
(CCs)  
(~1,200)

Products  
with  
CCs

Priority Products and  
their COCs requiring:

- Alternatives Analyses
- Regulatory Response(s) for selected Alternative and/or Priority Product

• A **Candidate Chemical (CC)** is a chemical that is a candidate for designation as a **Chemical of Concern**.

• Each **Candidate Chemical** exhibits one or more hazard traits and/or environmental or toxicological endpoints.

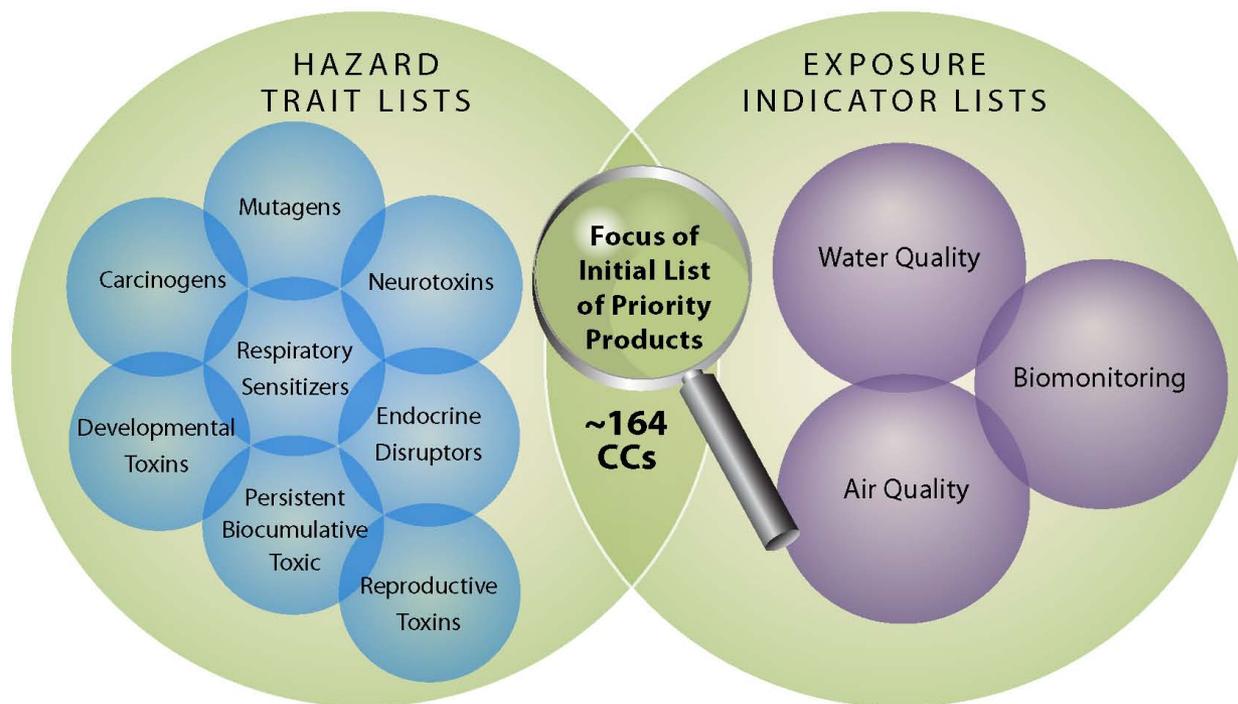
• The **Candidate Chemicals** that will be evaluated for development of the first Priority Products List will be ~230 chemicals that have both listed hazard traits and listed exposure concerns.

• A **Chemical of Concern (COC)** is a Candidate Chemical that is the basis for a product-chemical combination being listed as a Priority Product.

Department of Toxic Substances Control

January 2013

## Initial Candidate Chemical List



Department of Toxic Substances Control

September 2013

# California's Safer Consumer Products Program



## ■ Step 3: Alternatives Analysis

- Responsible entities (manufacturers, importers, assemblers, and retailers) must notify DTSC when their product is listed as a Priority Product.
- DTSC posts this information on its web site
- Manufacturers (or other responsible entities) must perform an Alternatives Analysis (AA) for the product
- Adverse health impacts and environmental impacts considered, as well as product life cycle

**A**LTERNATIVES

# California's Safer Consumer Product Program

## ■ Step 4: DTSC Regulatory Responses

- Require labeling
- Restrict sale and/or use
- Ban sale
- Require engineered safety measures
- Require end-of-life (disposal) management
- Require R&D program
- “any other outcome the agency determines accomplishes the requirements of this law”



## Who is Liable?

- Manufacturers, importers, distributors, retailers
- Primary obligation is on manufacturer
- Downstream distributors and retailers largely depend on contracts for protection
  - Certifications
  - Indemnities



## Proposed Initial List of Priority Products



- **Target List (Sept 2013):**
  - Paint and varnish strippers, and surface cleaners with methylene chloride
  - Spray polyurethane foam (SPF) systems containing unreacted diisocyanates
  - Children's foam-padded sleeping products containing TDCPP (tris(1,3-dichloro-2-propyl) phosphate)

## Sept 2014 Draft Priority Product Work Plan

- Identifies 7 product categories that DTSC will evaluate for the Priority Products list in the next 3 years



## Sept 2014 Draft Work Plan's Seven Target Product Categories

- Beauty, personal care and hygiene products
- Building products, specifically paints, adhesives, sealants and flooring
- Household, office furniture and furnishings
- Cleaning products
- Clothing
- Fishing and angling equipment
- Office machinery



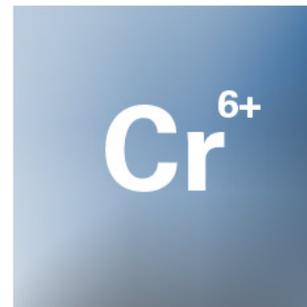
## Examples of Chemicals in Beauty Products

- **Beauty, personal care and hygiene products** (Skin Products, Personal Hygiene Products, Hair Products, Cosmetics/Fragrances)
  - Aldehydes, formaldehyde
  - Alkyl phenols & ethoxylates
  - Azo dyes, coal tars, lead, and lead acetate
  - Phthalates
  - Triclosan
  - Toluene



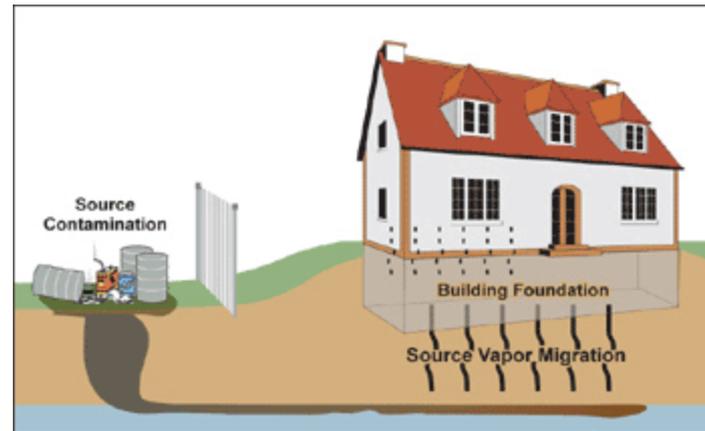
## Drinking Water Standard for Chromium-6

- Effective July 1, 2014, Maximum Contaminant Level (MCL) of 10 ppb for chromium-6 in public drinking water (previously 50 ppb)
- California is first jurisdiction to regulate chromium-6 separately from total chrome in drinking water
- Chromium-6 is a “known human carcinogen”, if inhaled
- Lawsuit has been filed alleging that the California Department of Public Health did not adequately consider the costs of compliance



## TCE in Indoor Air

- EPA Region 9 and California now looking at TCE in indoor air



- 2013 IRIS risk assessment cited as evidence that TCE causes birth defects in women exposed in 1<sup>st</sup> trimester to very small amounts of TCE for periods as short as 24 hours
- Major re-evaluation of federal Superfund sites and new DTSC and SF Water Board policies

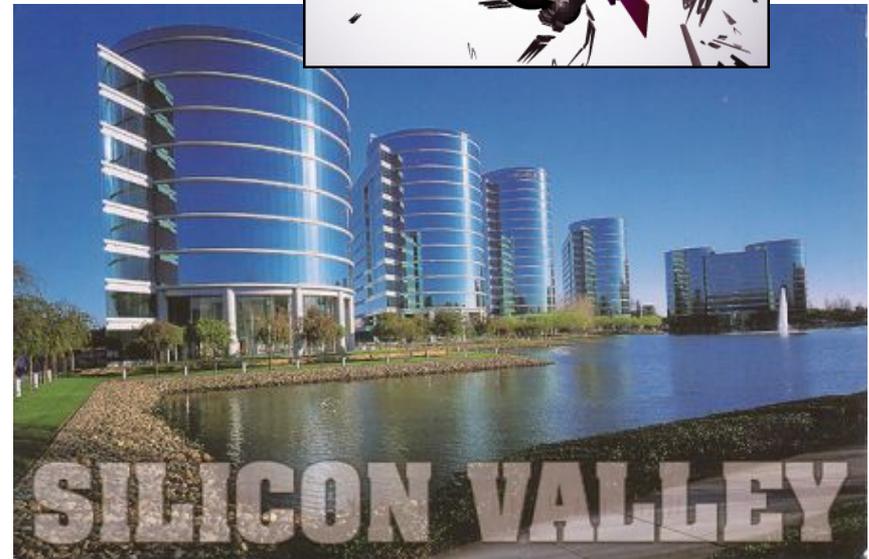
## Case Study: MEW Superfund Site



- After \$150 million cleanup, remedy reopened for vapor intrusion
- Homes and commercial buildings tested – only a few showed intrusion
- Estimated additional \$19 million in VI remedy
- Potential “evacuation” causing alarm

## TCE in Indoor Air

- New standards are very low: 7 ug/l commercial for “accelerated response” and 21 ug/l for “urgent” response
- Federal OSHA PEL: 537,000 ug/l
- Cal/OSHA PEL: 134,000 ug/l
- Significant scientific controversy about the P. Johnson study and finding of teratogenicity
- Huge implications:
  - Costs of investigation and mitigation
  - Scope (Superfund, RCRA, DOD and state sites)
  - Disruption to building owners, tenants, occupants



## Trends

- Plethora of chemical regulations in California
  - **Exposure Based:** Proposition 65 (1986)
  - **Detection Based:** California Cosmetics Disclosure Law
  - California Green Chemistry
  - Various Bans
    - Lead in candy, wheel weights, jewelry
    - BPA in children's products
    - VOCs in personal care products
  - Rigid Packaging Container Act
  - Electronic Waste Disposal
  - Alameda County Pharmaceutical Ordinance



## Other States Are Experimenting Too

### ■ The Big Three

- California (Comprehensive Framework)
- Washington (Child Safe Products – reporting only)
- Maine (Toxic Chemicals in Child Products – more regulatory tools)

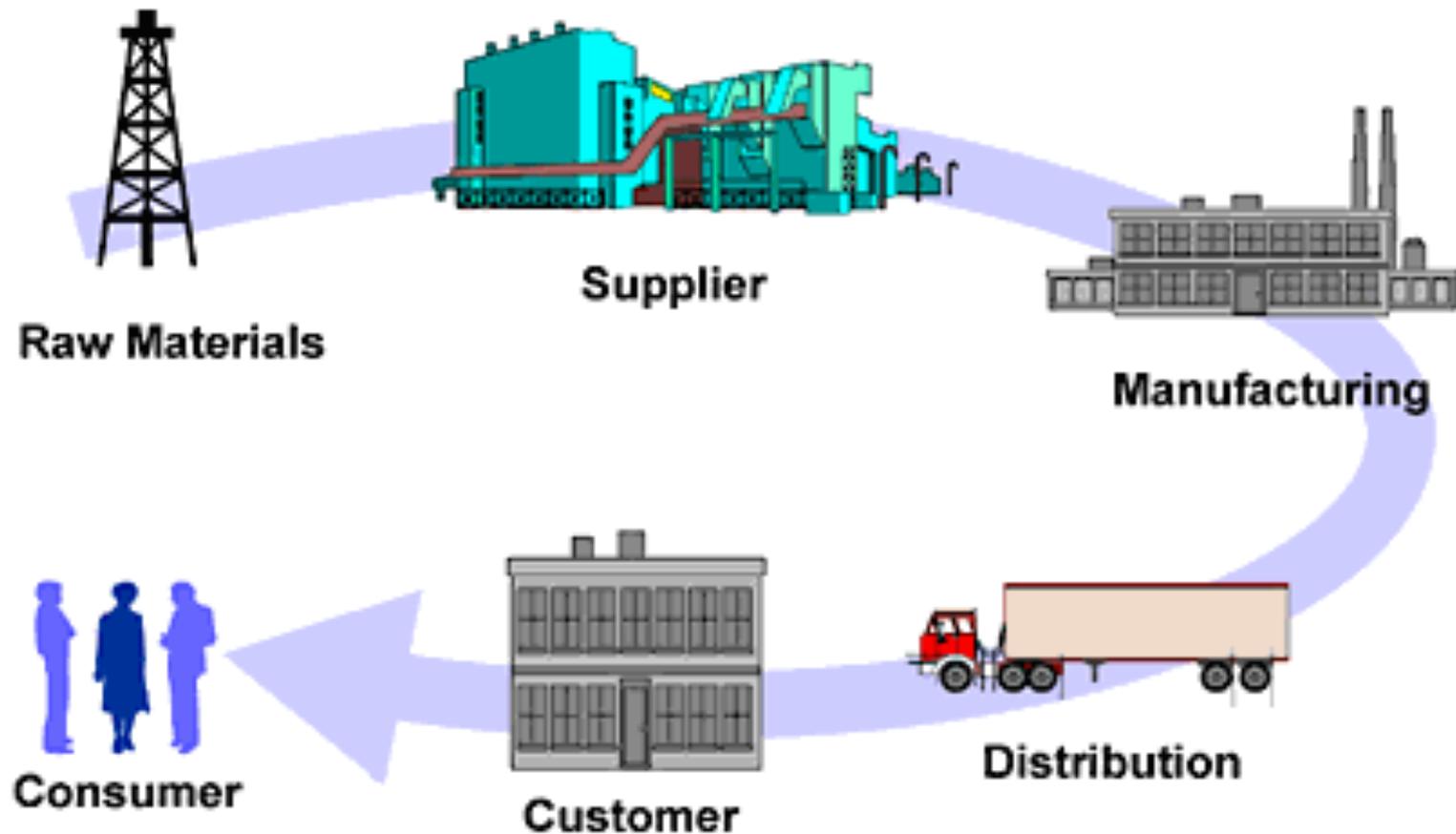
### ■ The Little Five

- Connecticut
- Massachusetts
- Michigan
- Minnesota
- Vermont





# The International Supply Chain



# Managing Chemicals: International Supply Chain

## Step One

- Survey retailer standards/approved chemical list
- Search for most restrictive laws and regulations

## Step Two

- Develop list of restricted chemicals
- Create standards/product specifications

## Step Three

- Develop testing and supplier certifications
- Develop label review protocol

# Policy Implications

## What Does It All Mean?



- State chemical regulations:
  - Laboratories for experimentation?
  - Or undue burdens on commerce and pre-empted by federal programs?
- Trade secret protection is challenging
  - Solutions: Black box certification, NDA disclosure, turn-key consulting businesses
- Expect more plaintiff litigation on chemicals in products
- Expertise of industrial hygienists now needed for chemical exposure assessment and alternatives analysis