

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



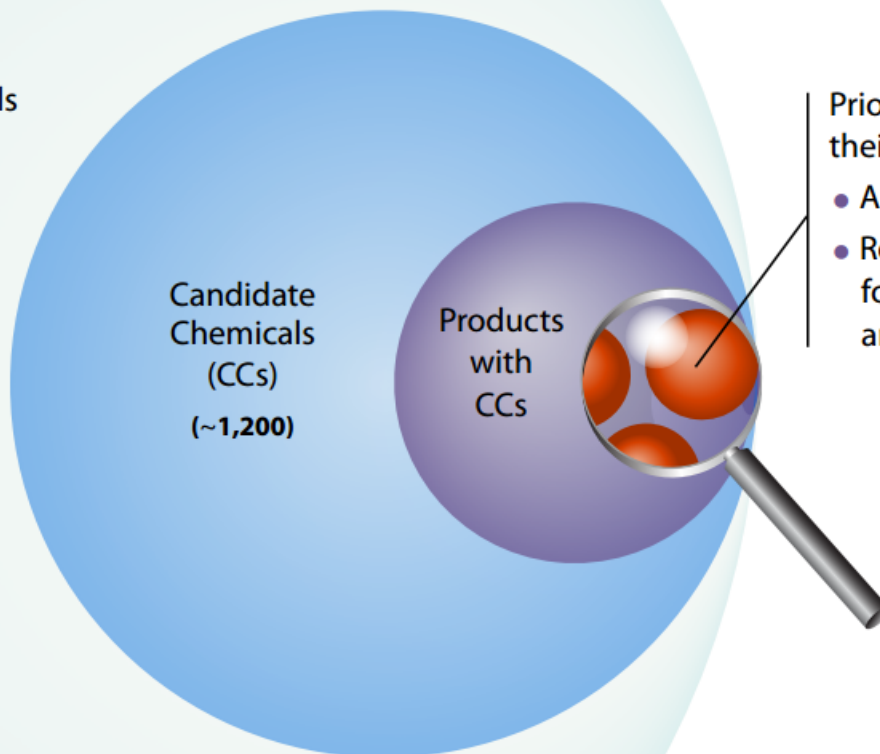
California's Safer Consumer Products Program

- **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+)



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.

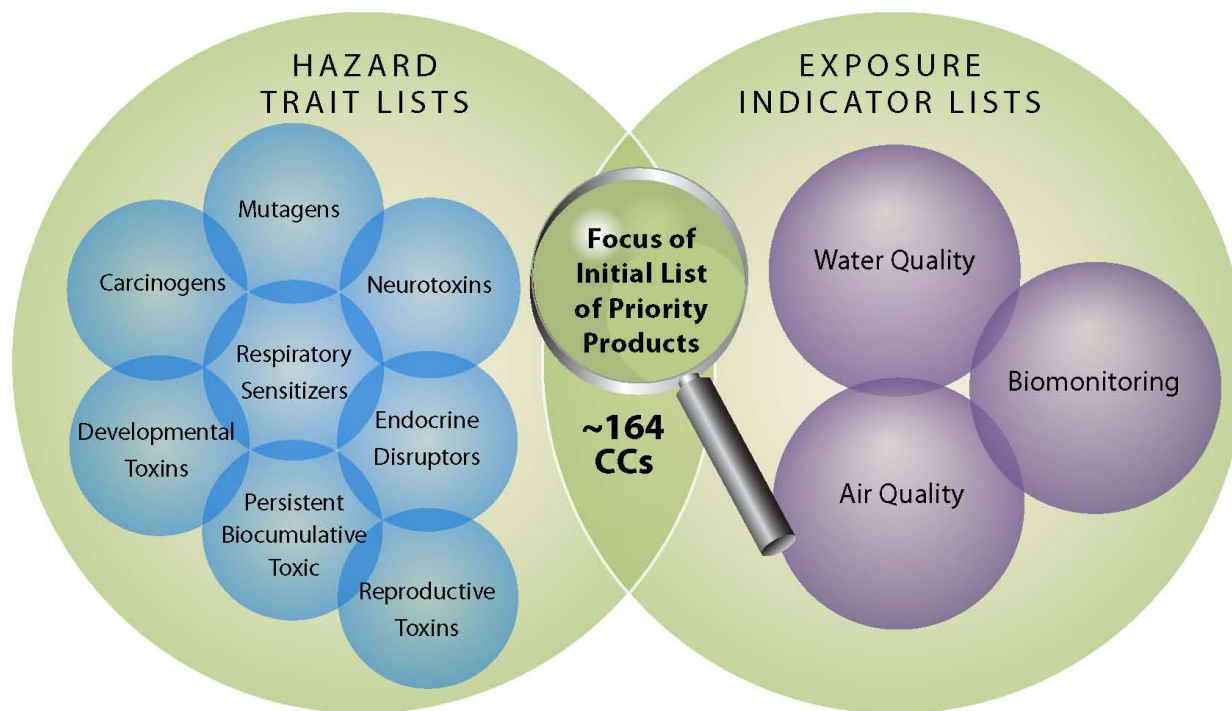
• The **Candidate Chemicals** that will be evaluated for development of the first Priority Products List will be ~230 chemicals that have both listed hazard traits and listed exposure concerns.

• 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

ALTERNATIVES

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



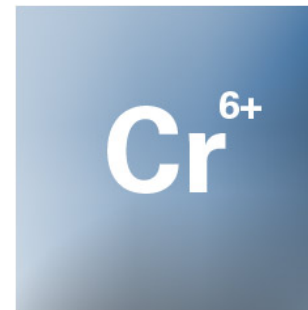
Examples of Chemicals in Beauty Products

- **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



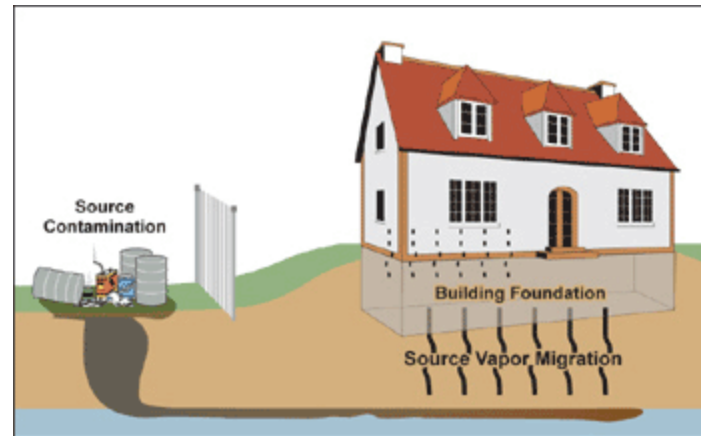
Drinking Water Standard for Chromium-6

- 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 1st 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

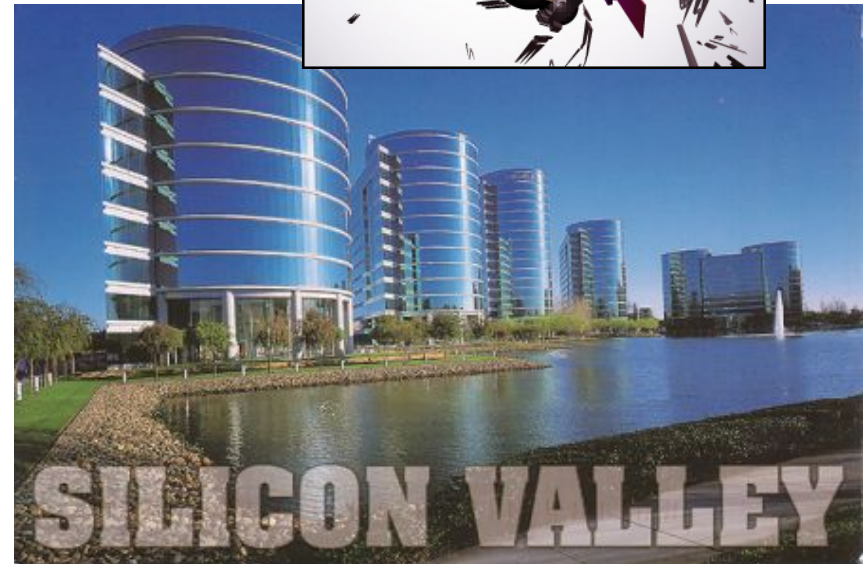
Case Study: MEW Superfund Site



- 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

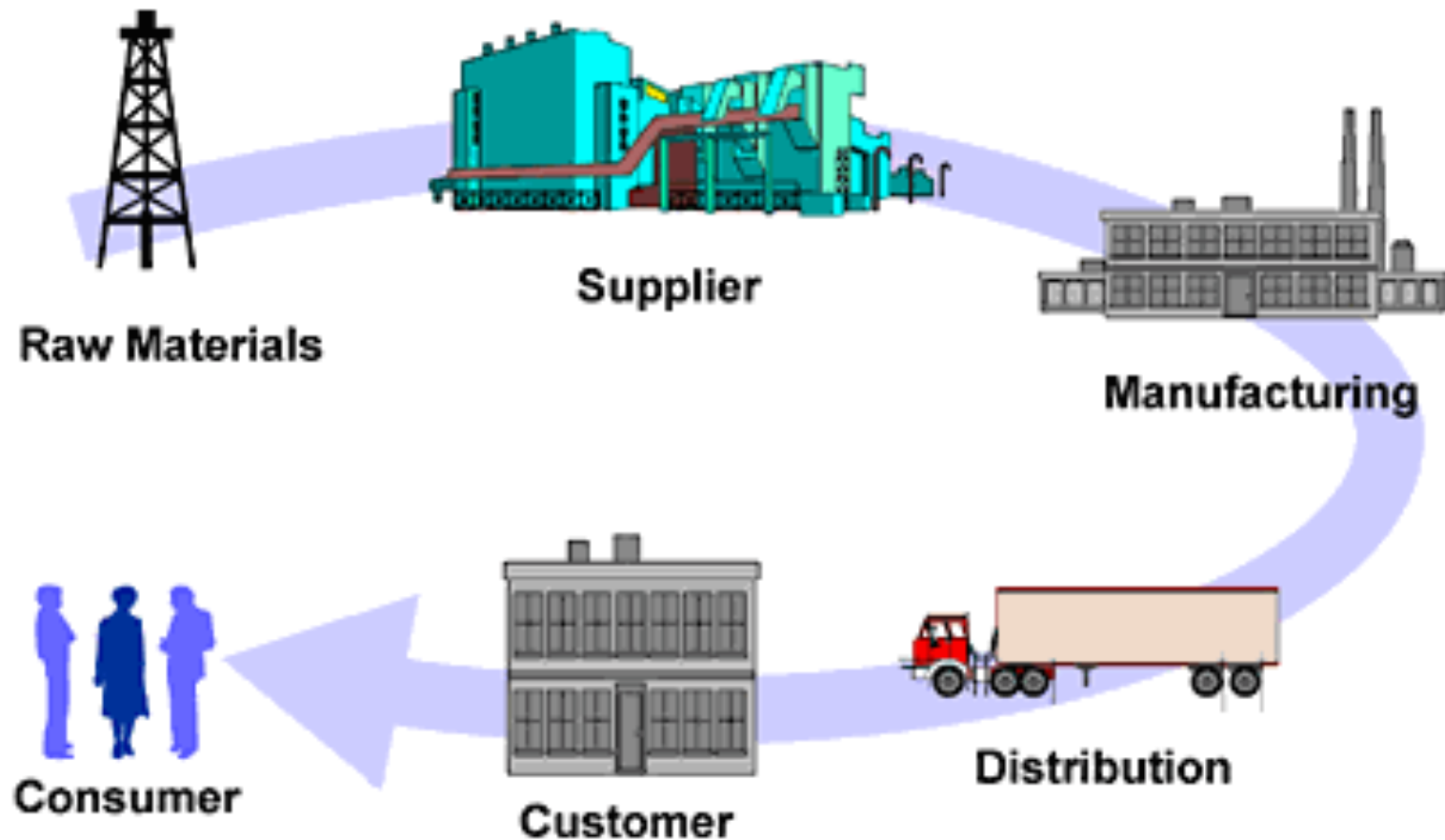
- California (Comprehensive Framework)
- Washington (Child Safe Products – reporting only)
- Maine (Toxic Chemicals in Child Products – more regulatory tools)

■ 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

