Key California Environmental Regulations and Legislation & Impact on EHS

Karen J. Nardi

2014 CIHC CONFERENCE
Occupational & Environmental Health & Safety Practice in the 21st Century
December 3, 2014
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
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

Candidate Chemicals (CCs)
(~1,200)

Products with CCs

- 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

HAZARD TRAIT LISTS
- Mutagens
- Neurotoxins
- Carcinogens
- Respiratory Sensitizers
- Developmental Toxins
- Persistent Biocumulative Toxic
- Reproductive Toxins

EXPOSURE INDICATOR LISTS
- Water Quality
- Biomonitoring
- Air Quality

Focus of Initial List of Priority Products
~164 CCs

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
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

Green Chemistry
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\textsuperscript{st} 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
Policy Implications
What Does It All Mean?

- Major challenges for international supply chain management
  - The economy is global, so is the supply chain
  - Products, not just stationary industries are regulated
  - The most stringent standard often controls
  - Testing, labeling and certification are complex
  - Independent consultants and IT solutions help
  - Chemical disclosure is being forced
  - Retailers are becoming non-governmental regulators
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