



California's Safer Consumer Products Program – A Different Strategy

ASDWA Webinar: TSCA and the States
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Department of Toxic Substances Control



CalEPA

To preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations.



“The mission of DTSC is to protect California’s people and environment from harmful effects of toxic substances by restoring contaminated resources, enforcing hazardous waste laws, reducing hazardous waste generation, and encouraging the manufacture of chemically safer products.”



California Department of Toxic Substances Control
Mission Statement

“Advance the design, development, and use of products that are chemically safer for people and the environment.”



Safer Consumer Products Program
Mission Statement



The challenge is immense...

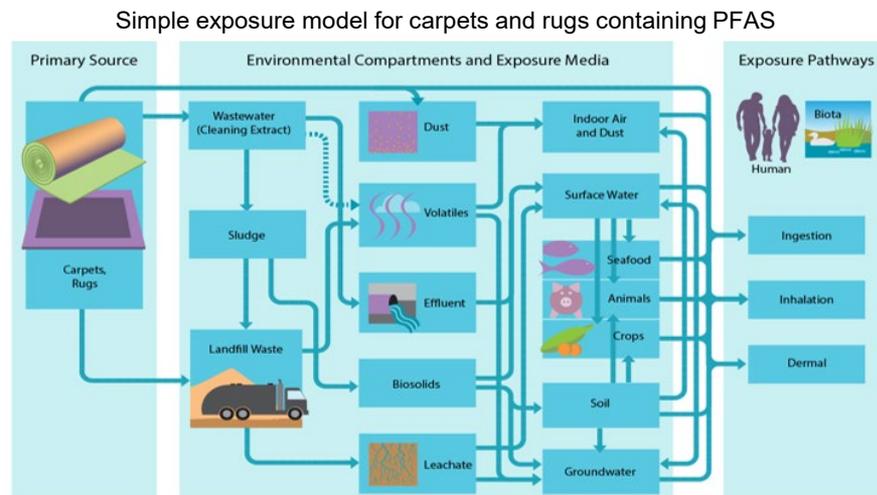
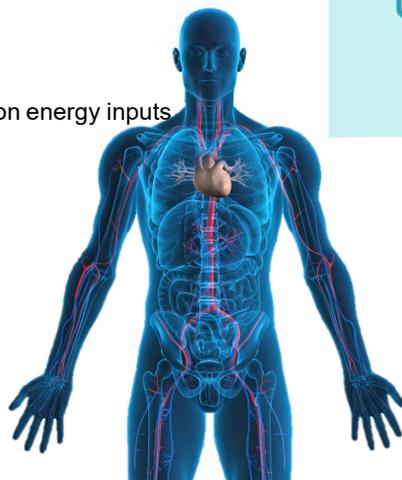
- There are over 80,000 chemicals in commerce and many chemicals used in consumer products are known to cause or contribute to a wide variety of diseases including cancer, asthma, and birth defects, as well as environmental harm.
 - In nail products alone, California's Safe Cosmetics Program database includes over 45,000 products containing at least one of 63 different chemicals known to be carcinogens or reproductive or developmental toxicants.
- The scope of DTSC's authority for consumer products is extremely broad, including all products sold in CA except pesticides, medical/dental products and food products.
- DTSC's regulatory actions may not directly conflict with any other state or federal laws, though most other approaches (and their laws/regulations) are different, allowing space for regulation.
- Federal TSCA preemptions may apply in some cases. Generally only a problem if the action by US EPA is not protective or appropriate.



The California Legislature directed DTSC to develop a new approach to protection from chemical hazards.

Green chemistry laws passed in 2008 directed DTSC to adopt regulations establishing a process that:

- Evaluates chemicals of concern in consumer products, and their potential alternatives, to determine how best to limit exposure or to reduce the level of hazard posed by a chemical of concern
- Uses “life cycle assessment” considering:
 - A. Product function and performance
 - B. The useful life of the product
 - C. Materials and resource consumption
 - D. Water conservation
 - E. Water quality impacts
 - F. Air emissions
 - G. Production, end user, and transportation energy inputs
 - H. Energy efficiency
 - I. Greenhouse gas emissions
 - J. Waste and end-of-life disposal
 - K. Public health impacts
 - L. Environmental impacts
 - M. Economic impacts



PFASs accumulate in human lungs, kidneys, liver, brain and bone tissue

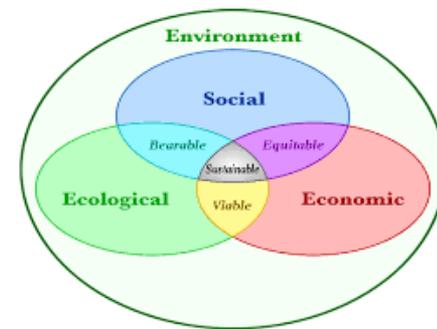
Adverse human health effects:

Kidney and testicular cancer

Thyroid disease

Immune dysregulation

Pregnancy-induced hypertension



SCP's regulatory approach is precautionary and promotes shifts to safer alternatives.

■ The SCP Program:

- Maintains a searchable list of over 3,100 “candidate chemicals” due to their hazard properties that can cause harm. A “list of lists” from 23 other authoritative bodies.

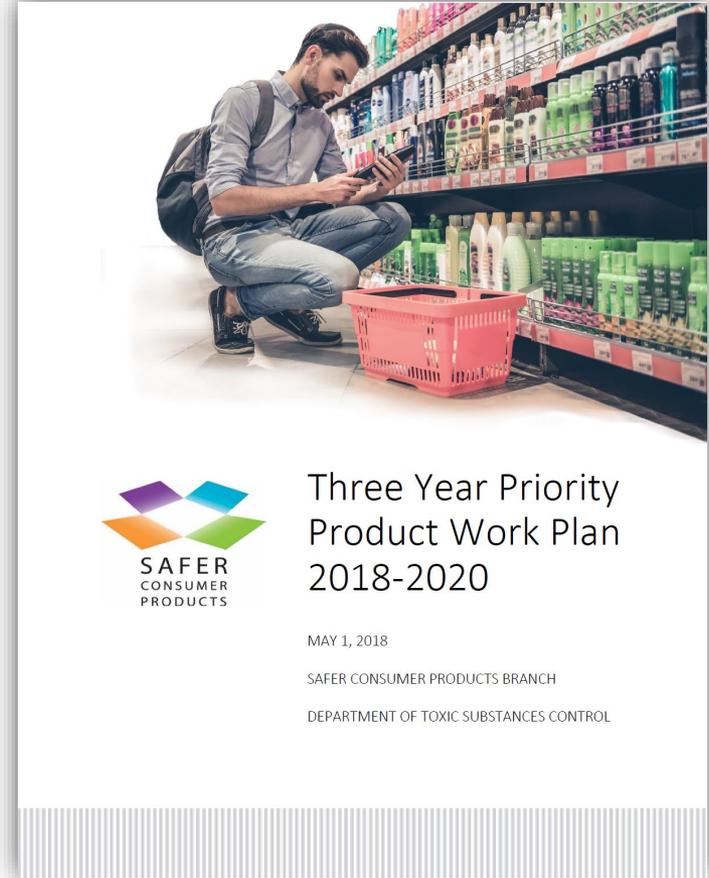
(<https://calsafer.dtsc.ca.gov/cms/search/?type=Chemical>)

- Selects specific “Priority Products” for regulation based on their **potential** to cause harm to people or environment
- Requires manufacturers Priority Products sold in CA to conduct a rigorous and comprehensive **Alternatives Analysis** to identify safer alternatives
- Imposes “**Regulatory Responses**” on manufacturers as needed. These can include requiring research on safer chemicals, providing consumer information or restricting or banning the sale of products if necessary.



Considerations for product selection

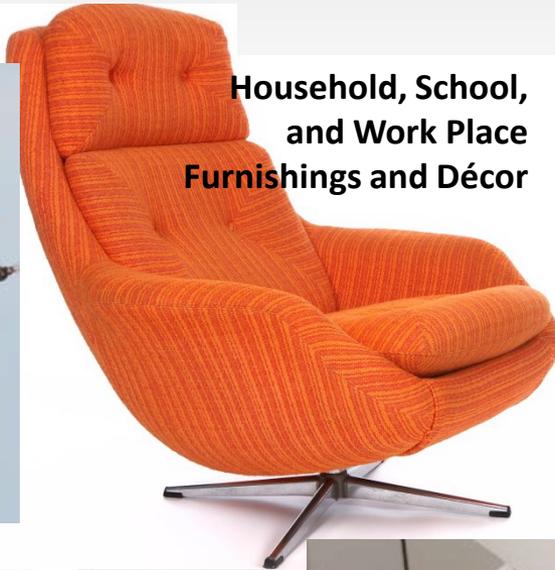
- **Protect Children** – especially from developmental and reproductive toxins, neurotoxicants, and endocrine disruptors
- **Protect Workers** – extended exposures
- **Protect California's valuable and limited water resources and aquatic ecosystems**
- Protect people from chemicals found in the **indoor environment**
- Protect people from chemicals that migrate into food from **food packaging**



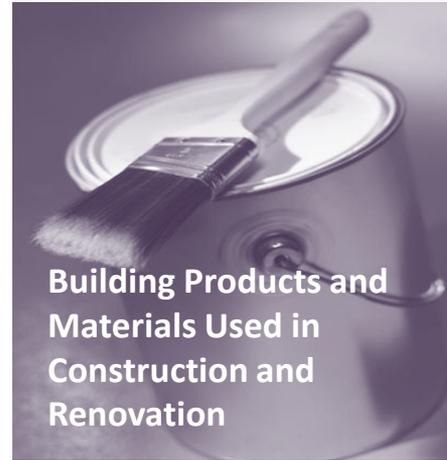
2018-2020 Work Plan Categories



Beauty, Personal Care, and Hygiene Products



Household, School, and Work Place Furnishings and Décor



Building Products and Materials Used in Construction and Renovation



Cleaning Products



Food Packaging



Consumable Office, School, and Business Supplies



Lead-Acid Batteries



Priority Product



Children's foam-padded sleeping products with TDCPP or TCEP flame retardants –

Adopted

Compliance confirmed



Spray Polyurethane Foam with unreacted MDI – **Adopted**

In AA process.



Methylene chloride paint strippers – **Adopted**,
Preliminary AAs approved.
Final AAs due December 2020.

Key Point

Threat of regulation can be effective when alternatives are readily available

“Green chemistry” innovation is still needed

State actions are important when US EPA does not take sufficiently protective action under TSCA



Other Priority Products in the works...



Laundry detergents with NPEs – Proposed



Carpets and rugs with PFAS – Effective date targeted for 4/1/2021



Toluene in nail products - Proposed



Paint strippers with N-methylpyrrolidone – Proposed

2021-2023 ????



Tire containing zinc



Products that degrade to microplastics



Synthetic turf



The importance of a class approach...PFAS

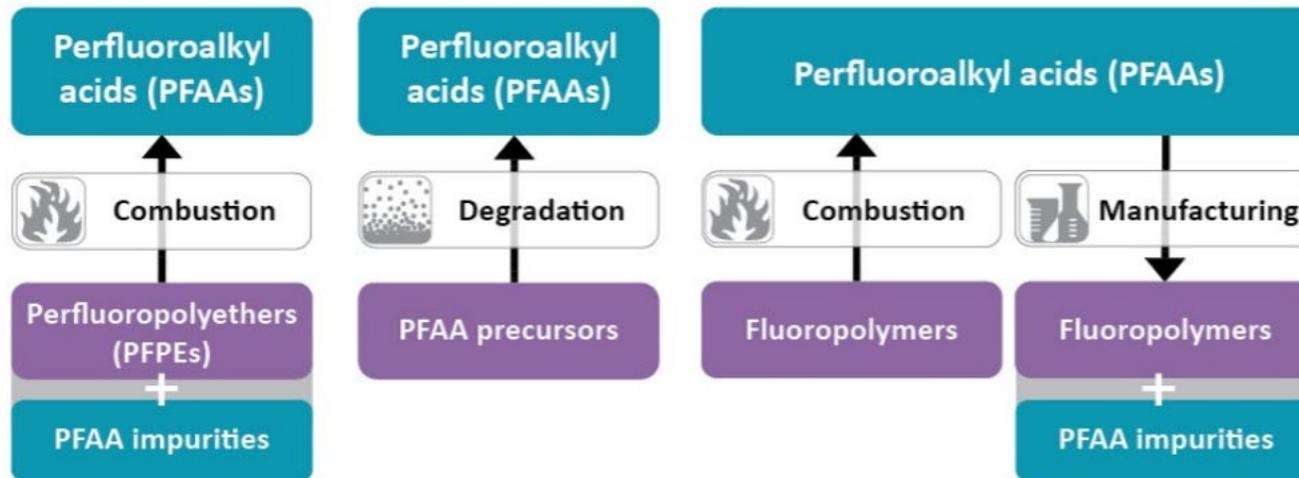


Figure 3: Use of all PFAS subclasses can lead to exposure to PFAAs at some point in the chemicals' life cycle; they either degrade to form PFAAs, release PFAAs if incinerated, or require PFAAs for their manufacture, often resulting in PFAA impurities in the final product. Specifically:

- fluoropolymers are made using PFAAs
- PFPEs and fluoropolymers can contain PFAA impurities
- PFAAs can be released from PFPEs and fluoropolymers during combustion
- PFAA precursors such as fluorotelomer-based substances, including side-chain fluorinated polymers, degrade to PFAAs



Can we move upstream to promote safer products and supply chains?

EXAMPLE: Evaluation of 1, 4-dioxane

Cleaning Products

Laundry detergents, dish detergents



Beauty, Personal Care, and Hygiene Products

Shampoo, body wash, cosmetics



1,4-Dioxane Presence in Products

- Contaminant formed in the production of ethoxylated surfactants and other raw materials
 - Not included on label
 - Often associated with ingredients that end in, or contain, “eth”
 - Sodium laureth sulfate, polyethylene glycols (PEG)

- DTSC product testing

INGREDIENTS: WATER, SODIUM LAURETH SULFATE, DIMETHICONE, COCAMIDE MEA, GLYCOL DISTEARATE, COCO-BETAINE, ALCOHOL, SODIUM BENZOATE, SODIUM CHLORIDE, SODIUM HYDROXIDE, PPG-5-CETETH-20, POLYQUATERNIUM-6, SALICYLIC ACID, HONEY, LINALOOL, PROPOLIS EXTRACT, CAPRIC TRIGLYCERIDE, FRAGRANCE, CARBOMER, GERANIOL, CITRIC ACID, CITRONELLOL, LAURETH-23, LAURETH-4, COUMARIN, LAVENDER OIL, ROYAL JELLY, GLYCERIN, PHYLLANTHUS EMBLICA



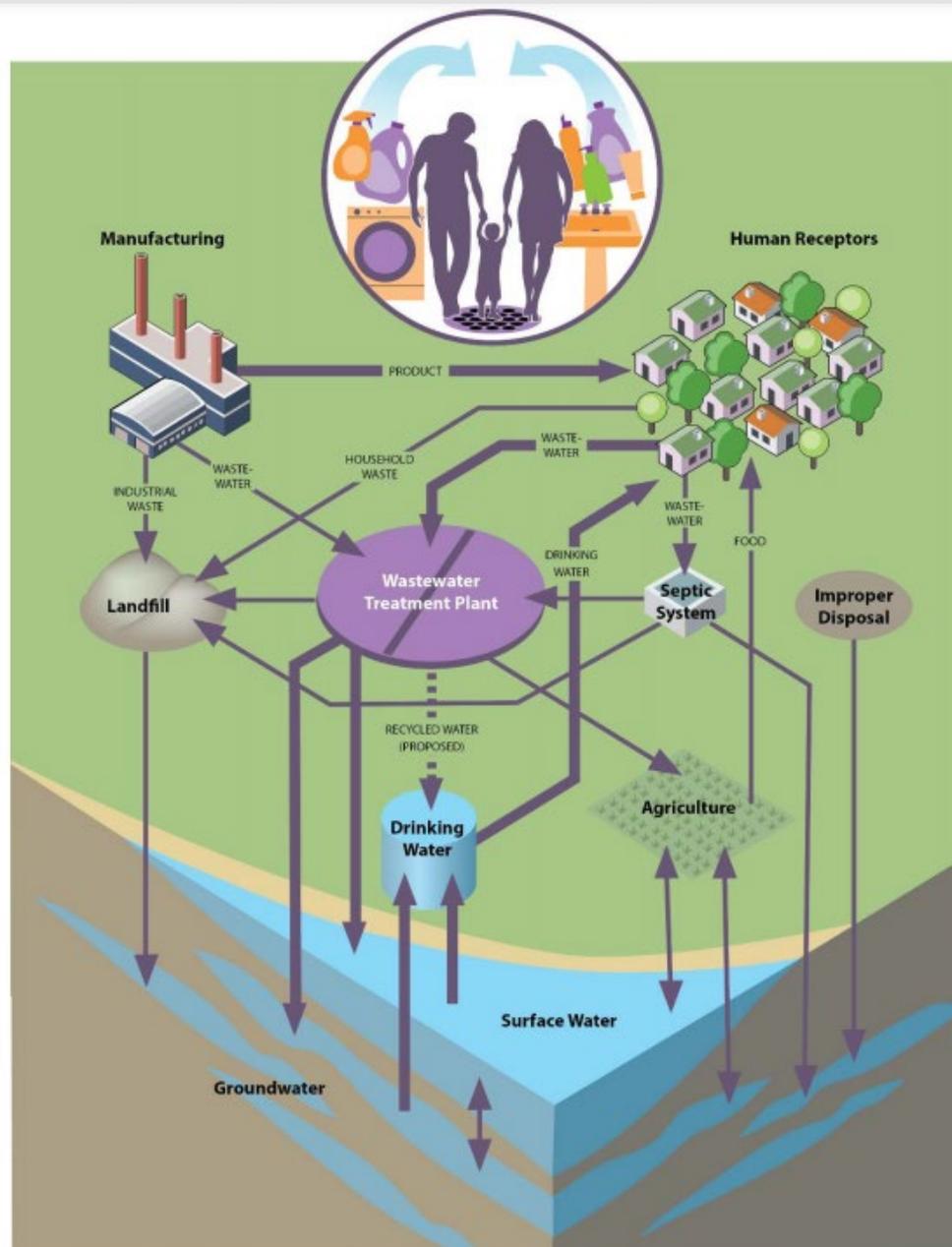
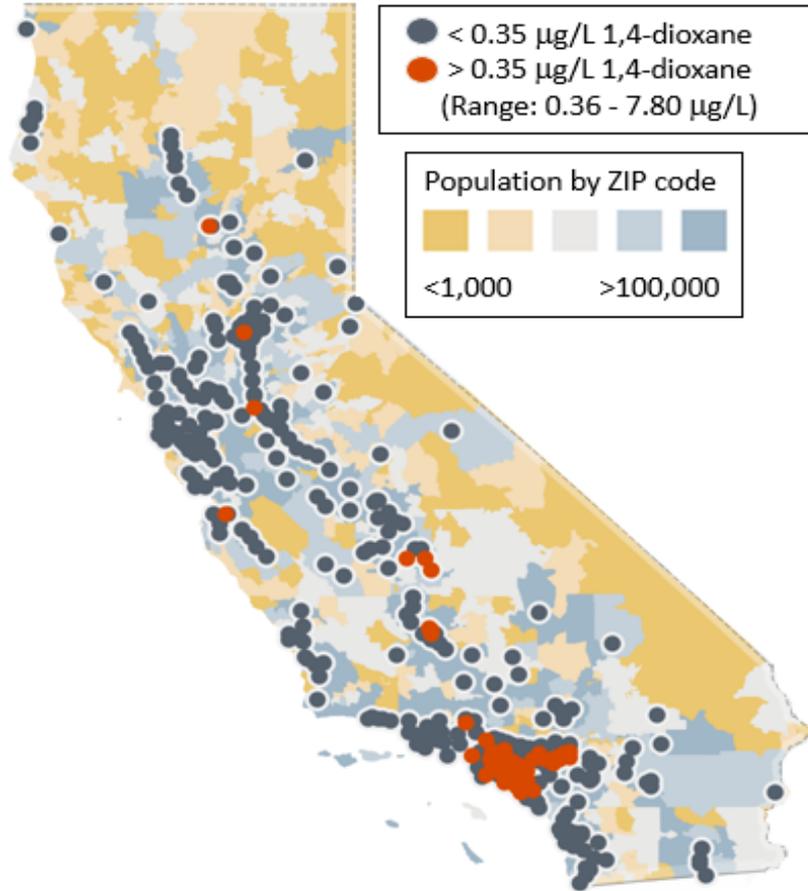


Figure 4. Exposure pathways of 1,4-dioxane, focusing on exposures most relevant for consumer products. Bold arrows emphasize the potential impacts of consumer products on the drinking water exposure pathway. The dotted line relates to the future direct use of treated wastewater as drinking water.



1,4-Dioxane in California Drinking Water



Counties with 1,4-dioxane detections in drinking water sources and systems

County	Max. detect (µg/L)	% of CA Population
Los Angeles	53	26%
Orange	26.7	8%
Santa Barbara	16	1%
Monterey	3.9	1%
San Diego	1.2	8%
Sacramento	1.1	4%
Total		48%

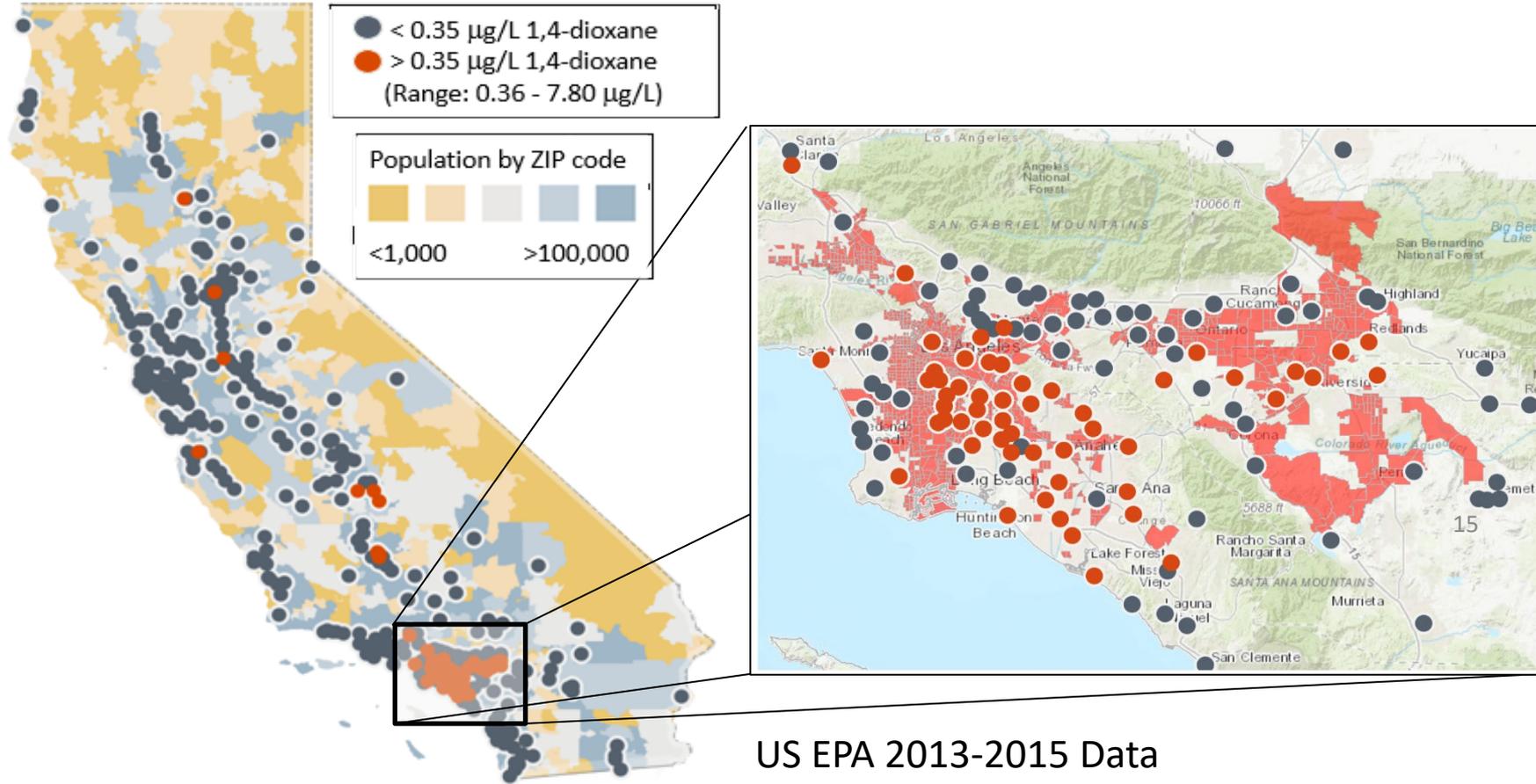
State Water Board data (2003-2018)**

US EPA 2013-2015 Data*

* <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>
 ** https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/EDTlibrary.html

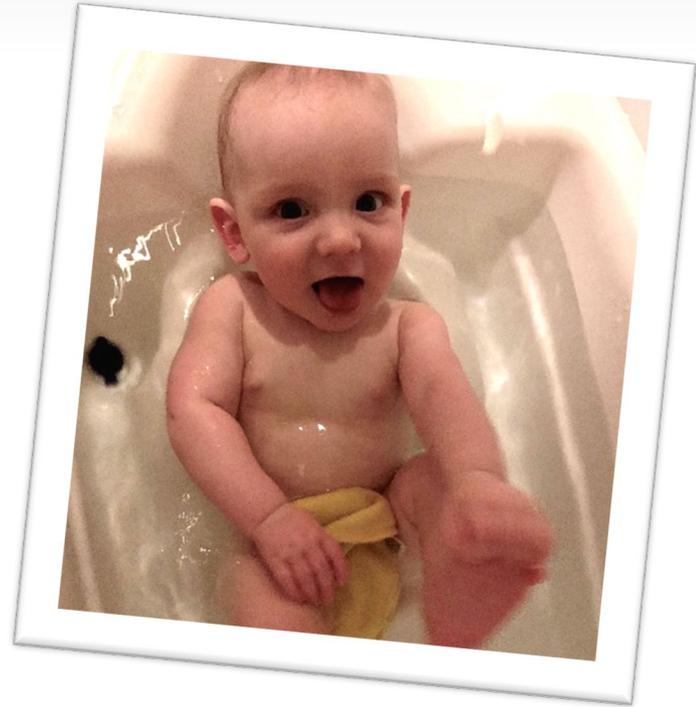


Sensitive Sub-Populations: Environmental Justice Communities



Sensitive Sub-Populations: Children

- Present in children's products
 - Different product use patterns
 - Higher surface area/body weight ratio
 - Increased diffusion through skin
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- **How do we approach this challenge, and can we make a meaningful impact?**



Some closing thoughts...

- What they said! Communication, coordination, collaboration, transparency are critical
- Limited resources require strategic action; e.g. class approach and leveraging market forces
- TSCA has great potential, but we need to preserve historic state roles and protections from preemption when more protective actions are needed

