



California's Safer Consumer Products Approach to Chemical Exposure Assessment

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Daphne Molin ■ Anne Cooper Doherty
Safer Consumer Products Program



Department of Toxic Substances Control



Cal/EPA

Background

- Green Chemistry law (2008)
- Safer Consumer Products regulation (2013)

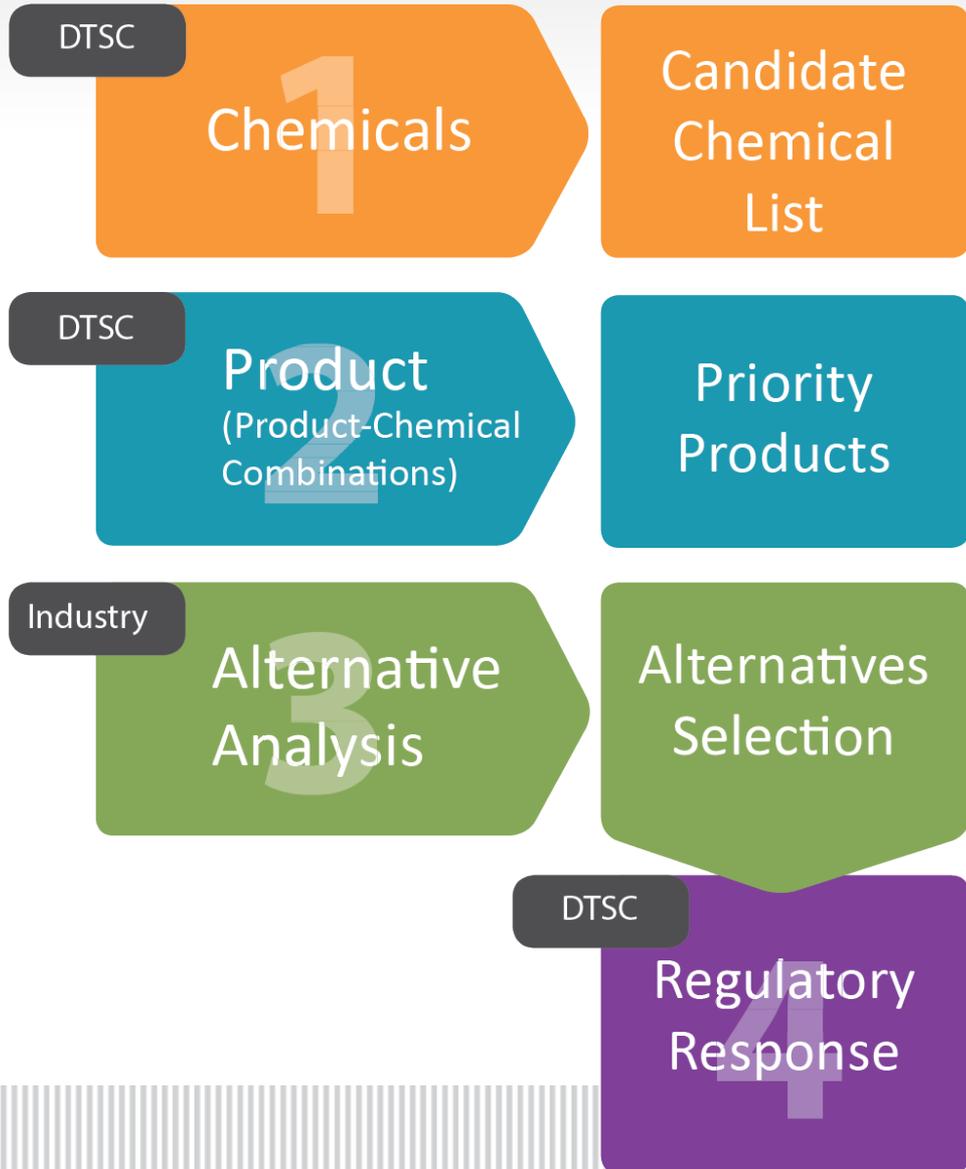


The Framework

- Hazard reduction vs. risk management
- Manufacturer uses Life Cycle Thinking
- Avoid Regrettable Substitution



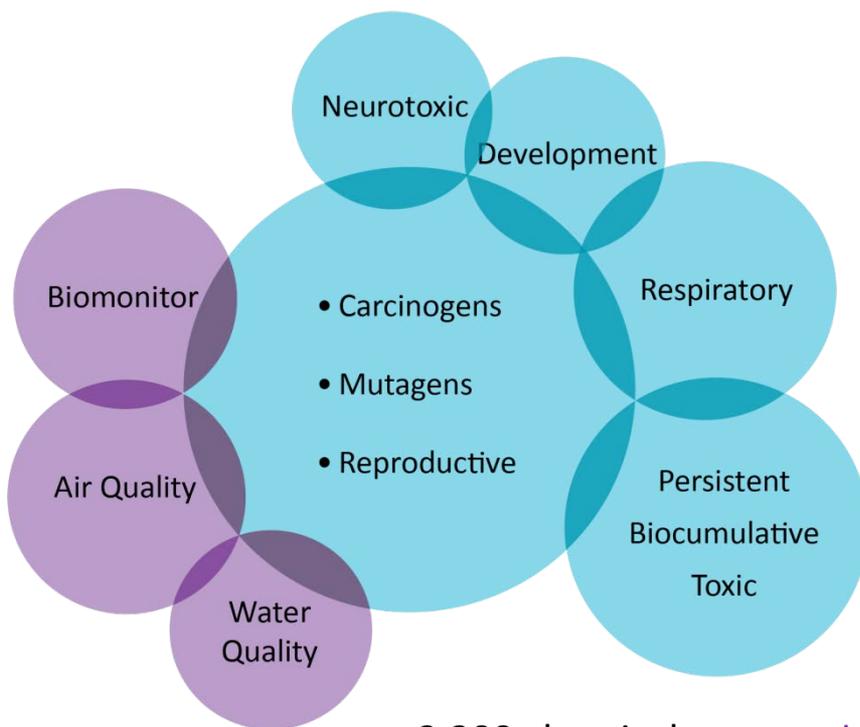
How it Works: The SCP Regulations (2013)



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Candidate Chemicals

23 Authoritative Lists referenced



Such as:

- Prop 65
- US EPA IRIS
- EC SVHC (PBTs)
- CDC 4th Biomonitoring Report

<http://www.dtsc.ca.gov/SCP/ChemList.cfm>



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Picking Products: Key Prioritization Principles

- Potential **exposure** to the Candidate Chemicals in the product

AND

- Potential for exposures to contribute to or cause **significant or widespread adverse impacts**



$$PP \neq \frac{c}{H_0} \int_0^z \frac{1}{\sqrt{\Omega_M(1+z')^3 + \Omega_k(1+z')^2 + \Omega_\Lambda}} dz'$$

 **NO FORMULA**



Example Factors to Consider (Adverse Impacts)

- Hazard Traits
- Aggregate and cumulative effects
- Environmental Fate
- Potential to degrade into a Candidate Chemical
- Structurally or mechanistically similar chemicals



Example Factors to Consider (Exposure Potential)

- Market Presence
- Potential life cycle exposure
- Frequency, extent, and duration of exposure
- Containment of the chemical in the product
- Environmental persistence and accumulation



Proposed Initial Priority Products Selected



**Children's Foam-Padded
Sleeping Products
containing TDCPP/TCEP**



**Paint Strippers
containing Methylene
Chloride**



**Spray Polyurethane Foam
Systems with unreacted
MDI**



Example: TDCPP



Adverse Impacts

- Hazard Traits
 - Carcinogenicity, genotoxicity, developmental toxicity
- Potential to metabolize into a Candidate Chemical
 - 1,3-dichloro-2-propanol (1,3-DCP)
 - 3-chloro-1,2-propanediol (3-MCPD)



Example: TDCPP + Foam



Exposure

- US Sales (2012): ~ 2 million playards, ~570,000 bassinets
- Found in percentage levels (by weight in product)
- Not chemically bonded to foam
- Detected in dust and drinking water



Example: TDCPP + Foam



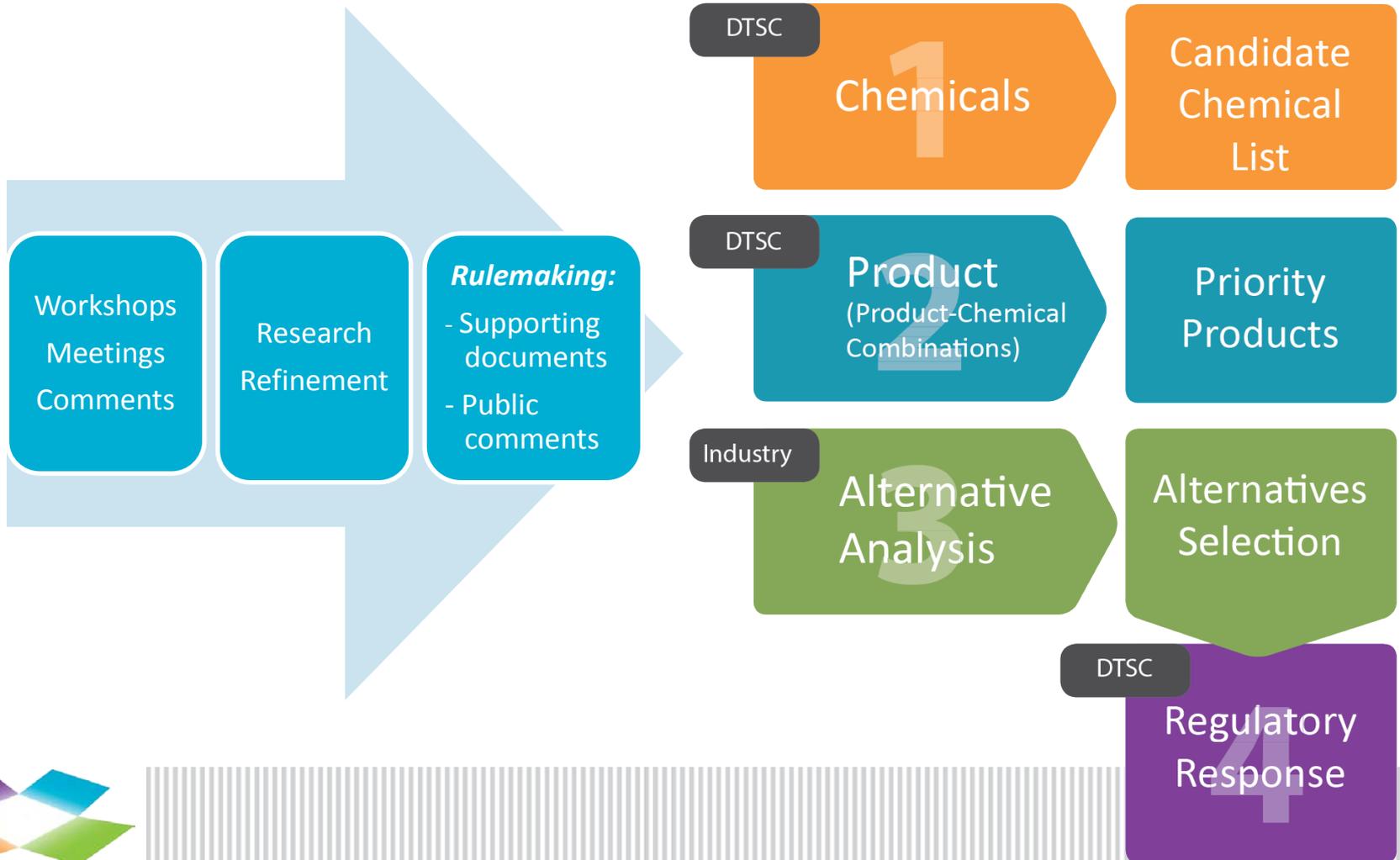
Exposure (cont.)

- Toddlers ingest 100-200 mg dust/day
- TDCPP detected in toddler handwipe samples, human fat, breast milk, & urine
- Air concentrations: day cares > homes
- Detected in San Francisco Bay waters and sediment



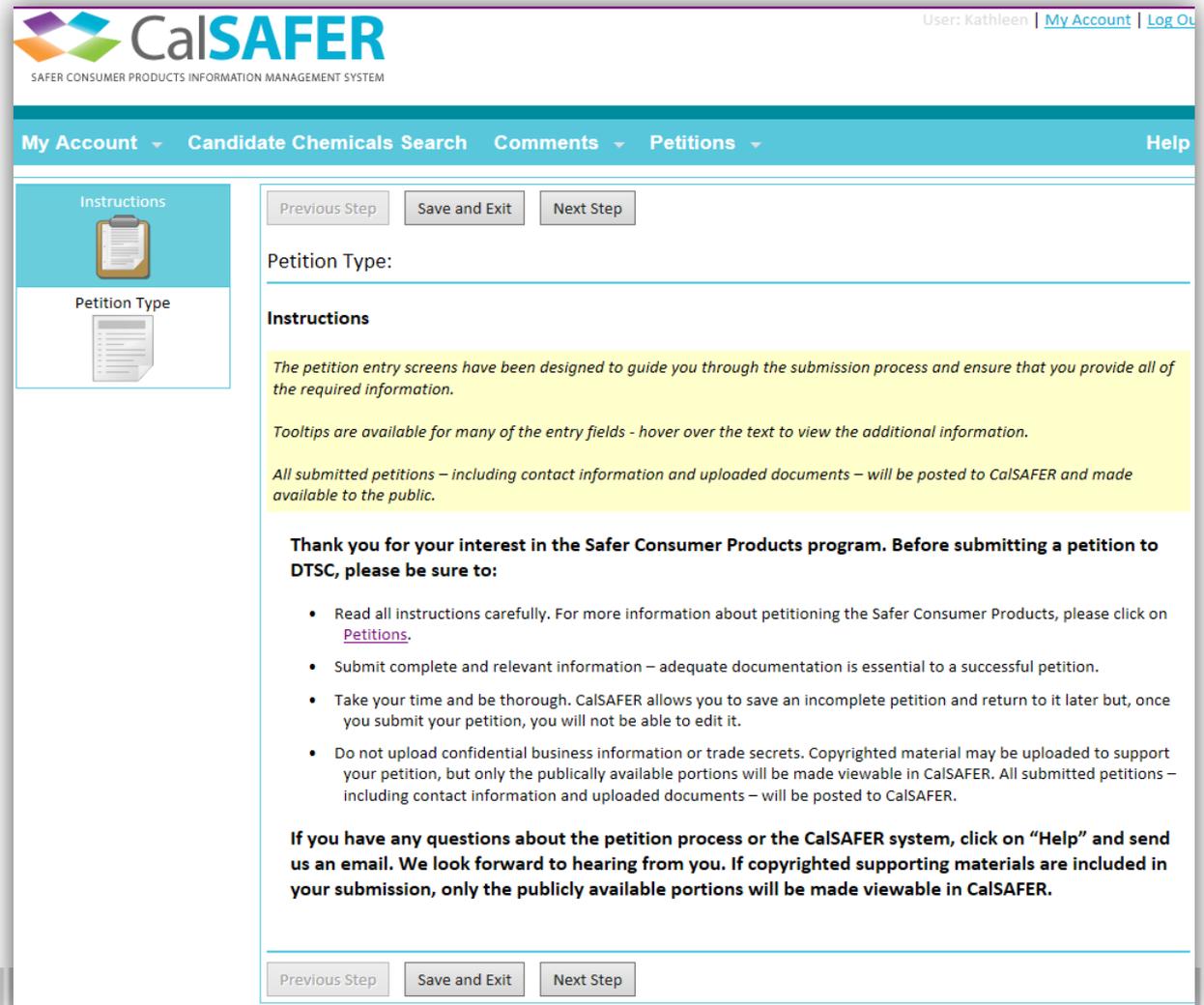
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Adopting Priority Products



Want to engage in our process?

Petition to add Candidate Chemicals or Priority Products



The screenshot displays the CalSAFER web interface. At the top, the logo for CalSAFER (SAFER CONSUMER PRODUCTS INFORMATION MANAGEMENT SYSTEM) is visible, along with user information: "User: Kathleen | [My Account](#) | [Log Out](#)". A navigation bar includes "My Account", "Candidate Chemicals Search", "Comments", "Petitions", and "Help".

The main content area is titled "Petition Type" and includes a sidebar with "Instructions" and "Petition Type" icons. The main content area contains the following text:

Previous Step Save and Exit Next Step

Petition Type:

Instructions

The petition entry screens have been designed to guide you through the submission process and ensure that you provide all of the required information.

Tooltips are available for many of the entry fields - hover over the text to view the additional information.

All submitted petitions – including contact information and uploaded documents – will be posted to CalSAFER and made available to the public.

Thank you for your interest in the Safer Consumer Products program. Before submitting a petition to DTSC, please be sure to:

- Read all instructions carefully. For more information about petitioning the Safer Consumer Products, please click on [Petitions](#).
- Submit complete and relevant information – adequate documentation is essential to a successful petition.
- Take your time and be thorough. CalSAFER allows you to save an incomplete petition and return to it later but, once you submit your petition, you will not be able to edit it.
- Do not upload confidential business information or trade secrets. Copyrighted material may be uploaded to support your petition, but only the publically available portions will be made viewable in CalSAFER. All submitted petitions – including contact information and uploaded documents – will be posted to CalSAFER.

If you have any questions about the petition process or the CalSAFER system, click on "Help" and send us an email. We look forward to hearing from you. If copyrighted supporting materials are included in your submission, only the publicly available portions will be made viewable in CalSAFER.

Previous Step Save and Exit Next Step

<https://calsafes.dtsc.ca.gov>



Thank you

Daphne.Molin@dtsc.ca.gov

<http://www.dtsc.ca.gov/SCP>

SaferConsumerProducts@dtsc.ca.gov

<https://calsafer.dtsc.ca.gov> (petitions)

