SAFER CONSUMER PRODUCTS

Lessons Learned from Alternatives Assessment Examples Review for California's Safer Consumer Products Alternatives Analysis

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Safer Consumer Products framework

1 Candidate Chemical List	As designated by 23 authoritative bodies
2 Priority Products	DTSC selects Product-Chemical combinations that may cause harm
3 Alternatives Analysis	Manufacturer evaluation of alternatives
4 Regulatory Response	DTSC considers range of possible responses

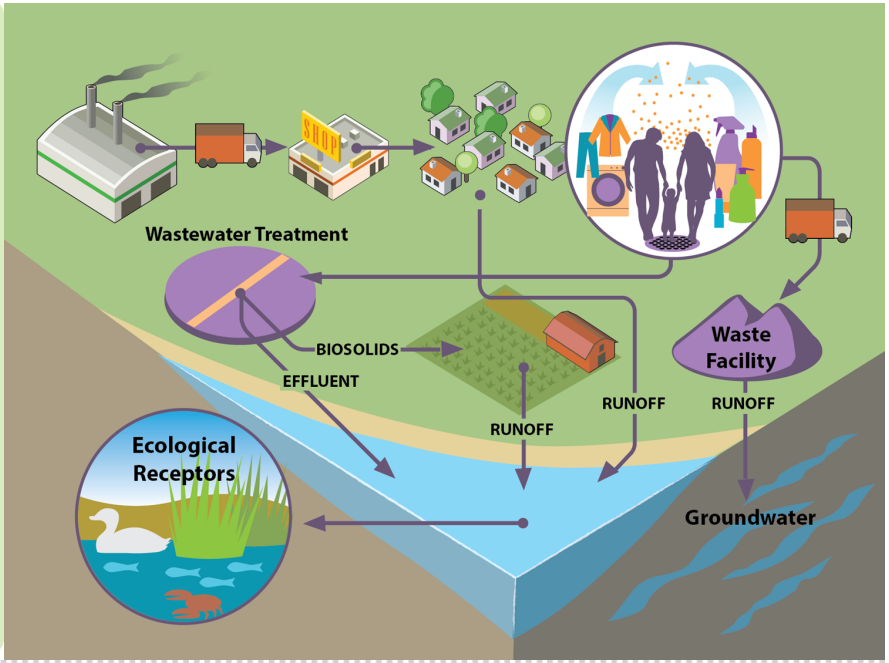
California Code of Regulations, Title 22 Chapter 55. Safer Consumer Products Sections 69501 through 69510

Alternatives Analysis
(Industry Step)

3 Alternatives Selection

Key questions to be addressed

- Is it necessary?
- Is it safer?
- Is it worth it?

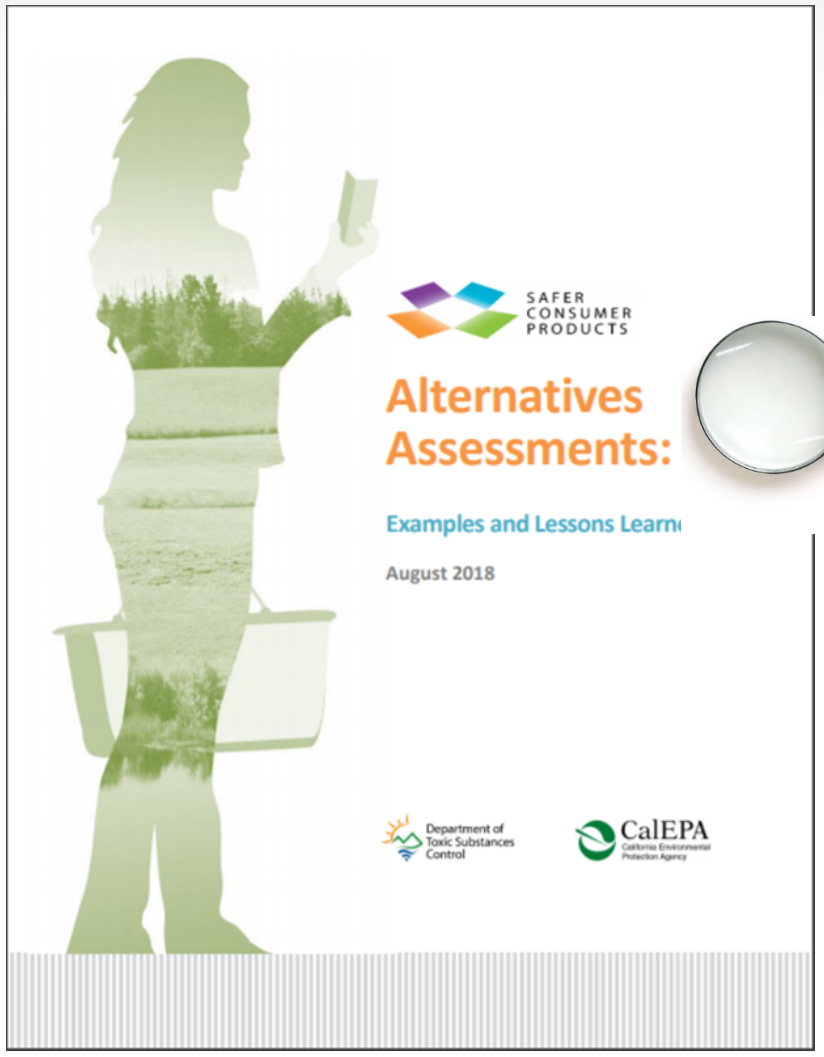


Factors to be considered in Alternatives Analysis

- Adverse environmental impacts
- Adverse public health impacts
- Adverse waste and end-of-life effects
- Environmental fate
- Materials and resource consumption impacts
- Physical chemical hazards
- Physicochemical properties
- Associated exposure pathways and life cycle segments
- Product function and requirement
- Economic impacts

Division 4.5, Title 22, California Code of Regulations Chapter 54 Green Chemistry Hazard Traits, Toxicological and Environmental Endpoints and Other Relevant Data

Evaluation of AA examples



Approach of the study

1. Compile 50+ existing AA examples
2. Conduct in-depth review for 13 examples
3. Prepare commentary for individual examples
4. Summarize lessons learned and recommendations

- Function and product performance
- Identification of alternatives
- Identification of relevant factors
- Hazard and exposure
- Life cycle and economic impacts
- Initial screening and decision making
- Data gaps and uncertainties

SAFER CONSUMER PRODUCTS

- SCP Home
- News & Press Releases
- SCP Program Overview
- Candidate Chemicals
- Priority Products
- Priority Product Work Plan
- Alternatives Analysis
- Regulatory Response
- Workshops & Events
- Petitions
- SCP Resources
- Green Ribbon Science Panel

ANNOUNCEMENTS

- Alternatives Analysis Guide, Version 1.0
- Paint Stripper with Methylene

Alternatives Analysis Examples

The California Department of Toxic Substances Control (DTSC) has reviewed 13 publicly available examples of alternatives assessments prepared by various industry groups and regulatory agencies. DTSC's goal was to identify areas within each example that illustrate various aspects of the SCP Alternatives Analysis regulatory requirements. More in-depth information on each example is available by clicking the "View Commentary" link. For details on how the examples were reviewed and the areas recommended for improvement, please visit the Alternatives Assessments: Examples and Lessons Learned document.

Important Note: These examples and the accompanying document are advisory in nature, informational in content, and intended to assist responsible entities that are conducting an Alternatives Analysis. The evalu of examples does not constitute a standard or regulation, and creates no new legal obligation. It does not alter or determine compliance responsibilities set forth in statutory and regulatory requirements.

Alternatives Assessment Examples Review

ID	Examples	Areas Highlighted
1	NPE in all-purpose cleaner Author: BizNGO Date: November 2013	• Product requirements • Identification of relevant factors • Initial screening • Life cycle impacts • Data gaps and uncertainty View commentary
2	Bisphenol A in thermal paper Author: Design for the Environment, US EPA Date: September 2015	• Product requirements • Identification of alternatives • Human health hazard • Data gaps and uncertainty • Decision making

Individual Evaluation

Purpose of the Report: This report uses existing information to model a two-stage Alternatives Analysis in accordance with the Safer Consumer Product (SCP) regulations.

Report Summary: The proposed Priority Products analyzed in the report are all-purpose cleaners containing the Chemical of Concern nonylphenol ethoxylates, or NPE, as a surfactant. The report summarizes the performance requirements for all-purpose cleaners and the surfactant's function in the Priority Product. Nine alternative surfactants are identified and analyzed as potential replacements for NPEs.

Key Findings:

Product requirements: The report presents good examples that explain the function of the Chemical of Concern in the Priority Product along with the function of the Priority Product as a cleaner. The report also provides a good discussion of the performance requirements for the Priority Product.

Identification of relevant factors: The report presents qualitative discussions to justify the relevance of comparison factors contributing to adverse impacts, along with associated exposure pathways and life cycle segments. It also demonstrates how to use a comparative hazard screening method, GreenScreen, to determine the relevance of various hazard factors. The report tabulates the results of factors considered for relevance, methods used to determine relevance, and data gaps.

https://dtsc.ca.gov/SCP/Alternatives_Analysis_Examples.cfm

Is it necessary ?

Lessons learned

- Lack of discussion on function of chemicals - necessity
- Limited scope of alternatives identified
- Challenge to compare non-chemical alternatives

Recommendations

- Functional substitution
- Start with a broad range of alternatives
- System approach

Is it safer ?

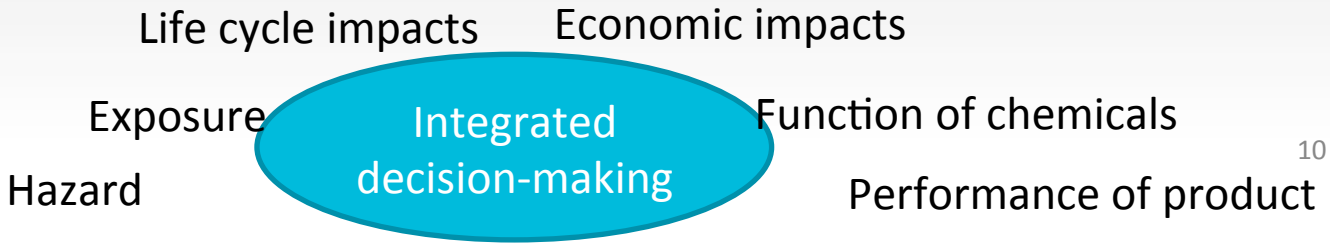
Lessons learned

- Subset of human health endpoints
- Less coverage on ecological impacts
- Less coverage on terrestrial ecosystems
- Focus on use phase
- Incomplete exposure pathways
- Data challenges
- Different perspective and analytical focuses

Recommendations

- Start with a broad range of factors
- Life cycle perspective
- Conceptual model
- Identification of relevant factors
- Stakeholder engagement and knowledge sharing
- Research needs for minimum data sets

Is it worth it?



Lessons learned

- Multidimensional trade-offs are not fully integrated
- Limited by nature of alternative assessment frameworks
- Lack of explicit discussion on value choice and decision making

Recommendations

- Incorporate explicit decision-making process and rationale
- Recognize uncertainty as an integral component of decision making
- Documentation and transparency

Is it worth it ? (Cont.)

Adverse Impacts

- What are the adverse public health and environmental impacts?

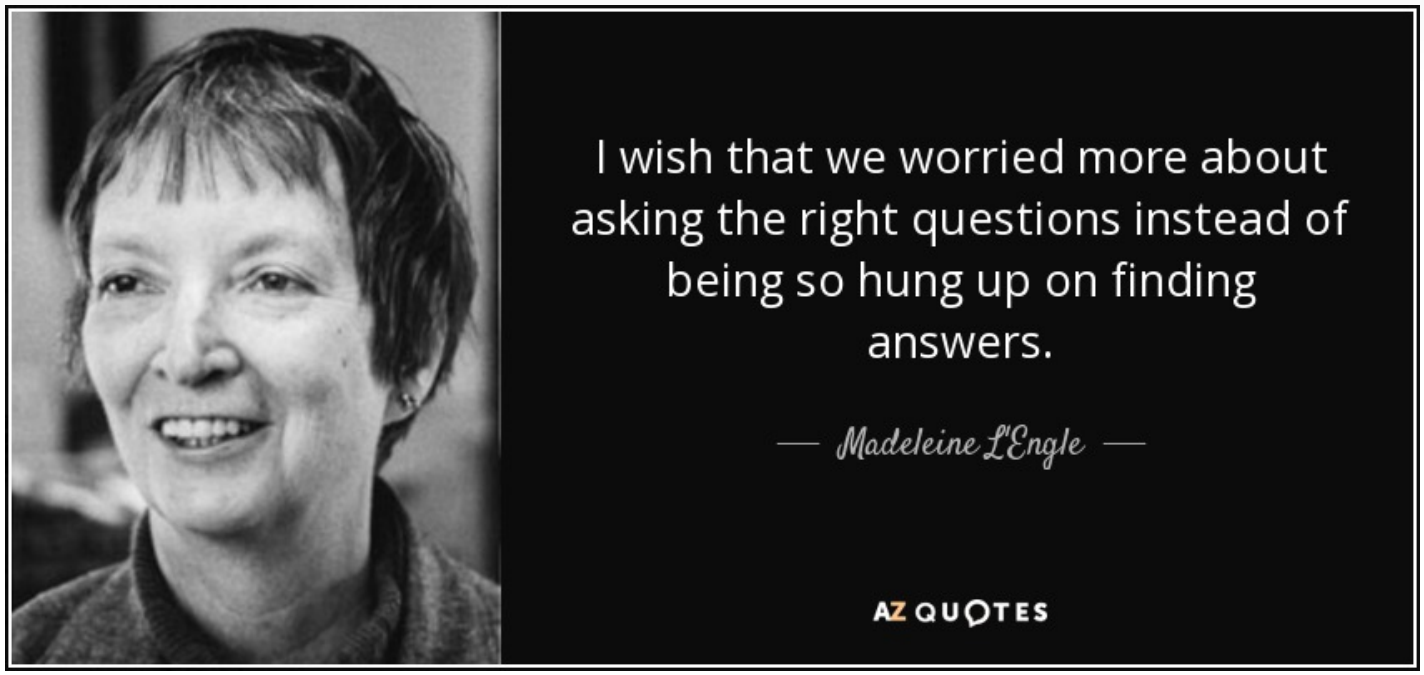
Government & non-profit organizations

- What are the impacted organizations that manage waste, oversee cleanup, and protect natural resources, water quality and wildlife?

Economic impacts

- Monetize and compare

Summary



- Ask the right questions
- Involve the right people
- Get the right science
- Adopt the safer alternatives

Thank you for your attention

Any questions or comments, please contact:

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