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Public Workshop

on Perfluoroalkyl or Polyfluoroalkyl Substances (PFASs) and Their Alternatives in Food Packaging

January 14th, 2020 • Facilitator: Asha Setty, Public Participation Specialist

CalEPA

Department of Toxic Substances Control

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Webcast attendees, submit your comments to:

SaferConsumerProducts@dtsc.ca.gov

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Summary of DTSC's findings

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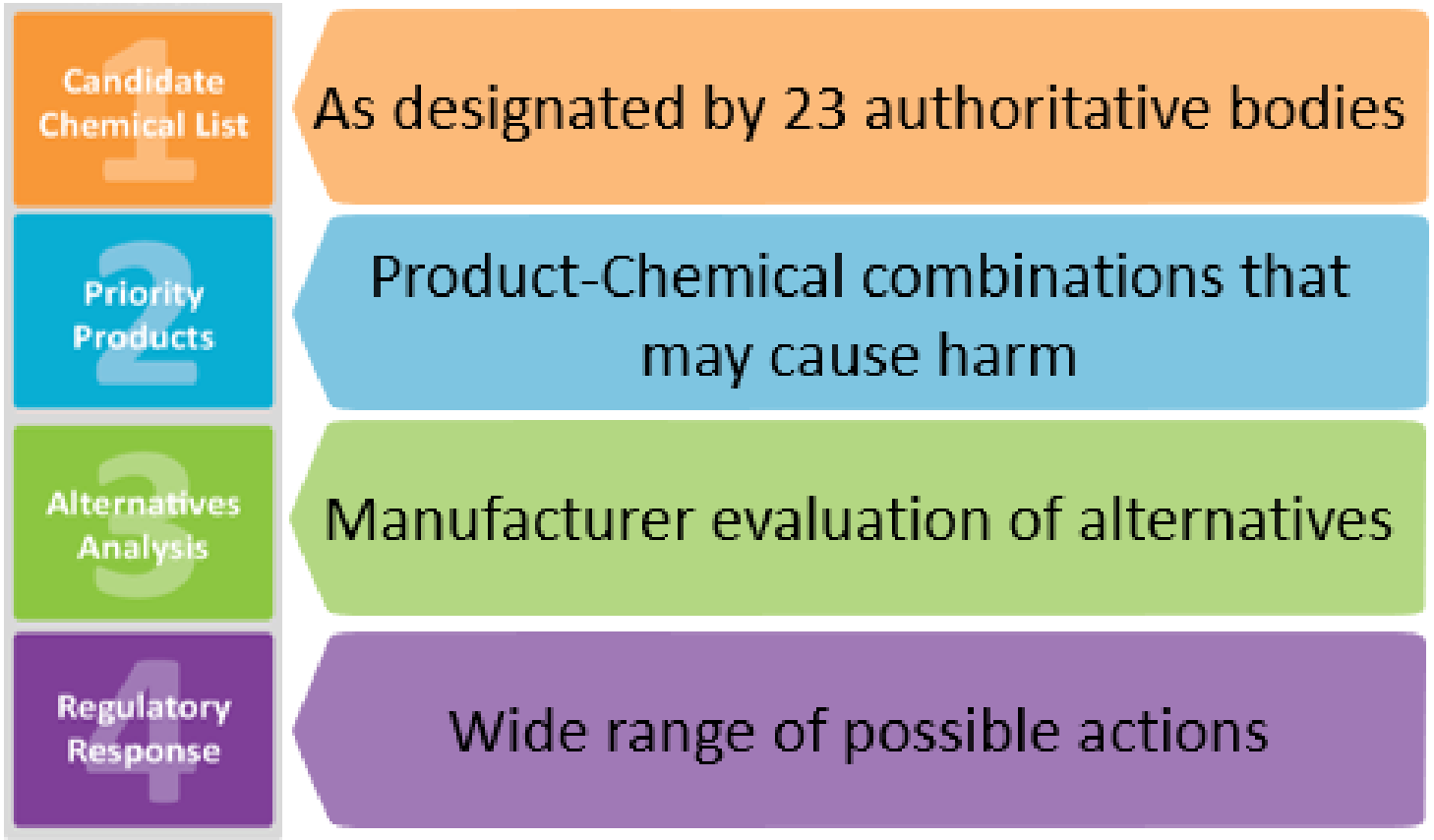
Department of Toxic Substances Control

The Safer Consumer Products Framework



A Priority Product is a product-chemical combination that meets these criteria:

- There are potential **exposures** to a Candidate Chemical in the product

AND

- One or more exposures have the potential to contribute to or cause **significant or widespread adverse impacts**

Preliminary screening results

Definitions and scope	Potential for exposure	Potential adverse impacts	Potential alternatives

Scope of product: Food packaging materials

Any product containing PFASs placed into commerce in California that may be marketed or sold for the purpose of:

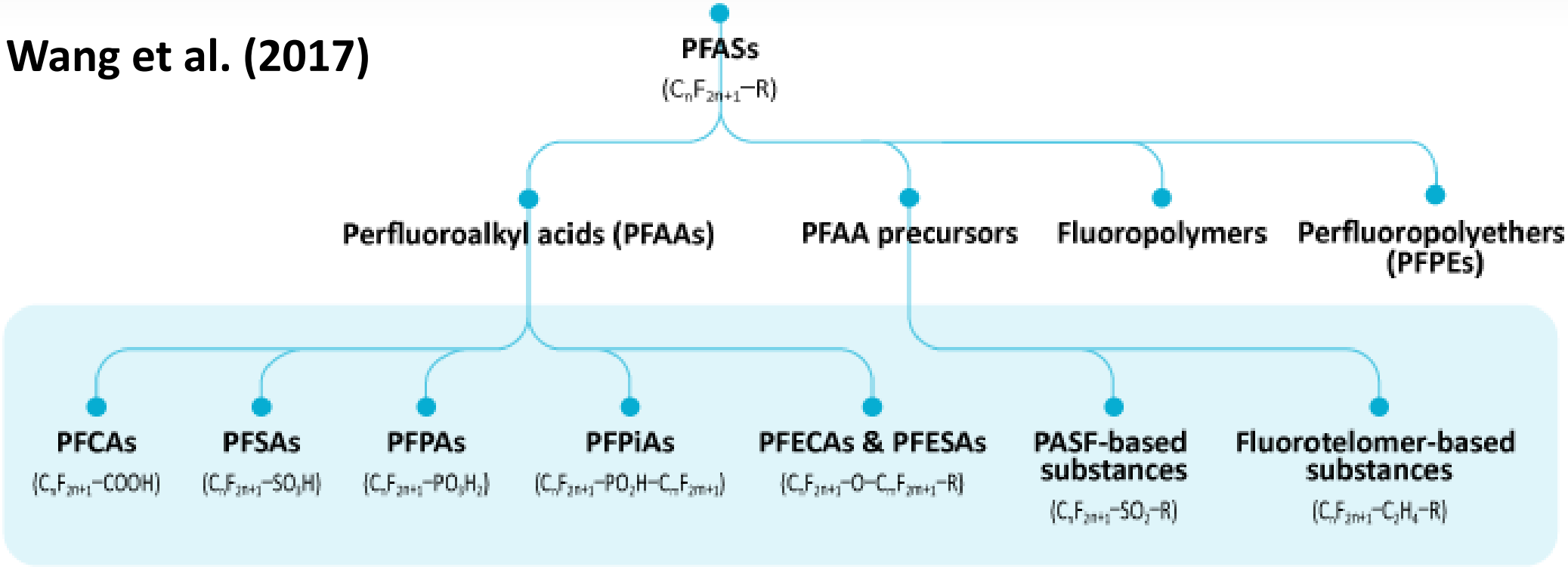
- making paper, paperboard, or molded fiber resistant to oil, grease, and water; or
- releasing the molded fiber food packaging products from the formation mold

Scope of Candidate Chemical: Perfluoroalkyl and polyfluoroalkyl substances (PFASs)

- PFASs are a class of nearly 5,000 man-made chemicals with at least one fully fluorinated carbon atom.
- All are Candidate Chemicals for the SCP program, due to listing by Biomonitoring California as Priority Chemicals in 2015.

Four main PFAS categories

Wang et al. (2017)



Presence in Products

- There are currently 30 approved notifications for use in food contact substances under the FDA regulations.
  - This accounts for 19 distinct PFAS compositions from six manufacturers.
- Products are common in California homes and workplaces:
  - Paper and paperboard products including bakery bags, deli wrappers, microwave popcorn bags, french fry boxes, takeout containers, and pizza boxes.
  - Molded fiber products including bowls, soup containers, clamshells, plates, and food trays.

Monitoring data

PFASs are ubiquitous in:

- the environment
- plants, animals, and humans
- human food and drinking water

Conceptual exposure model

- Migration
- Composting
- Landfill leachate
- Recycling

PFASs or their degradants exposure potential hazard traits

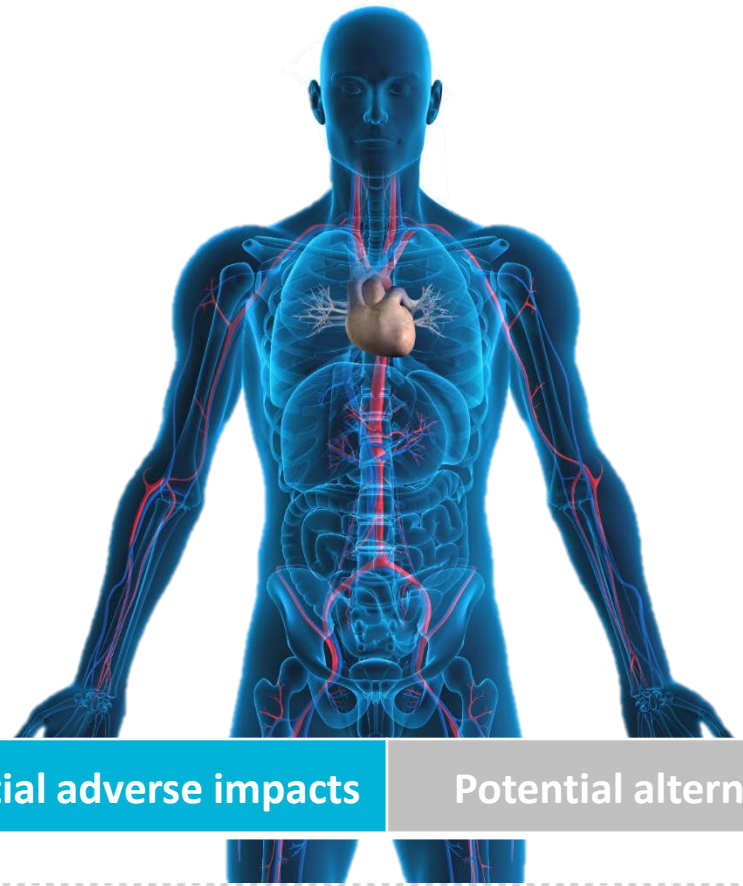
- Environmental persistence
- Mobility in the environment
- Bioaccumulation

PFASs or their degradants display exposure potential hazard traits

- Environmental persistence
- Mobility in the environment
- Bioaccumulation
- Lactational and transplacental transfer

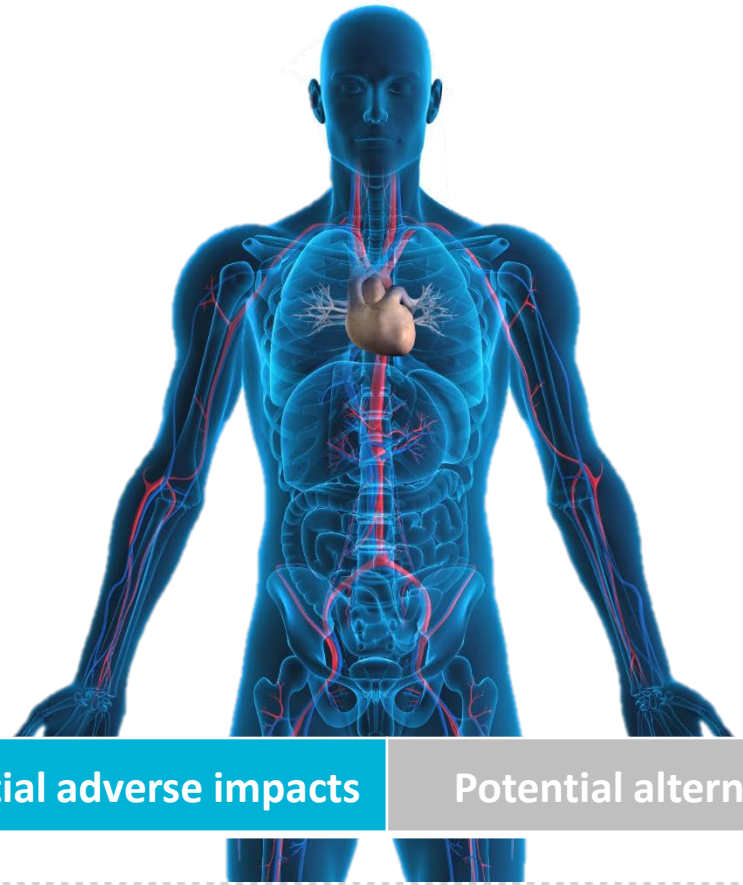
Known toxicological hazard traits of longer-chain PFAAs

- Carcinogenicity
- Cardiovascular toxicity
- Endocrine toxicity
- Immunotoxicity
- Reproductive toxicity

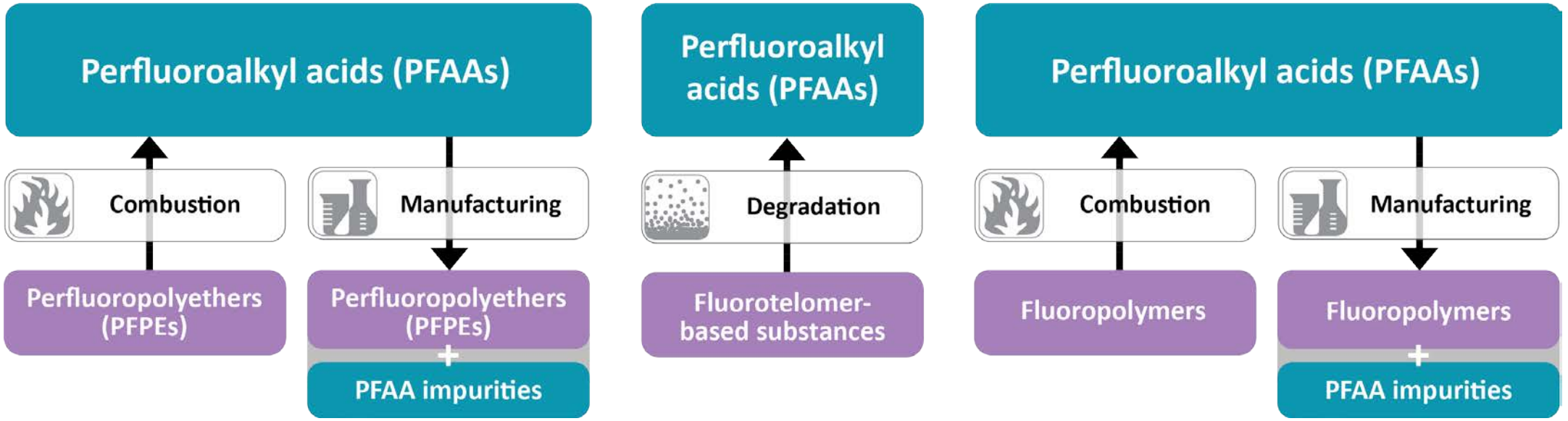


Emerging toxicological hazard traits of shorter-chain PFAAs

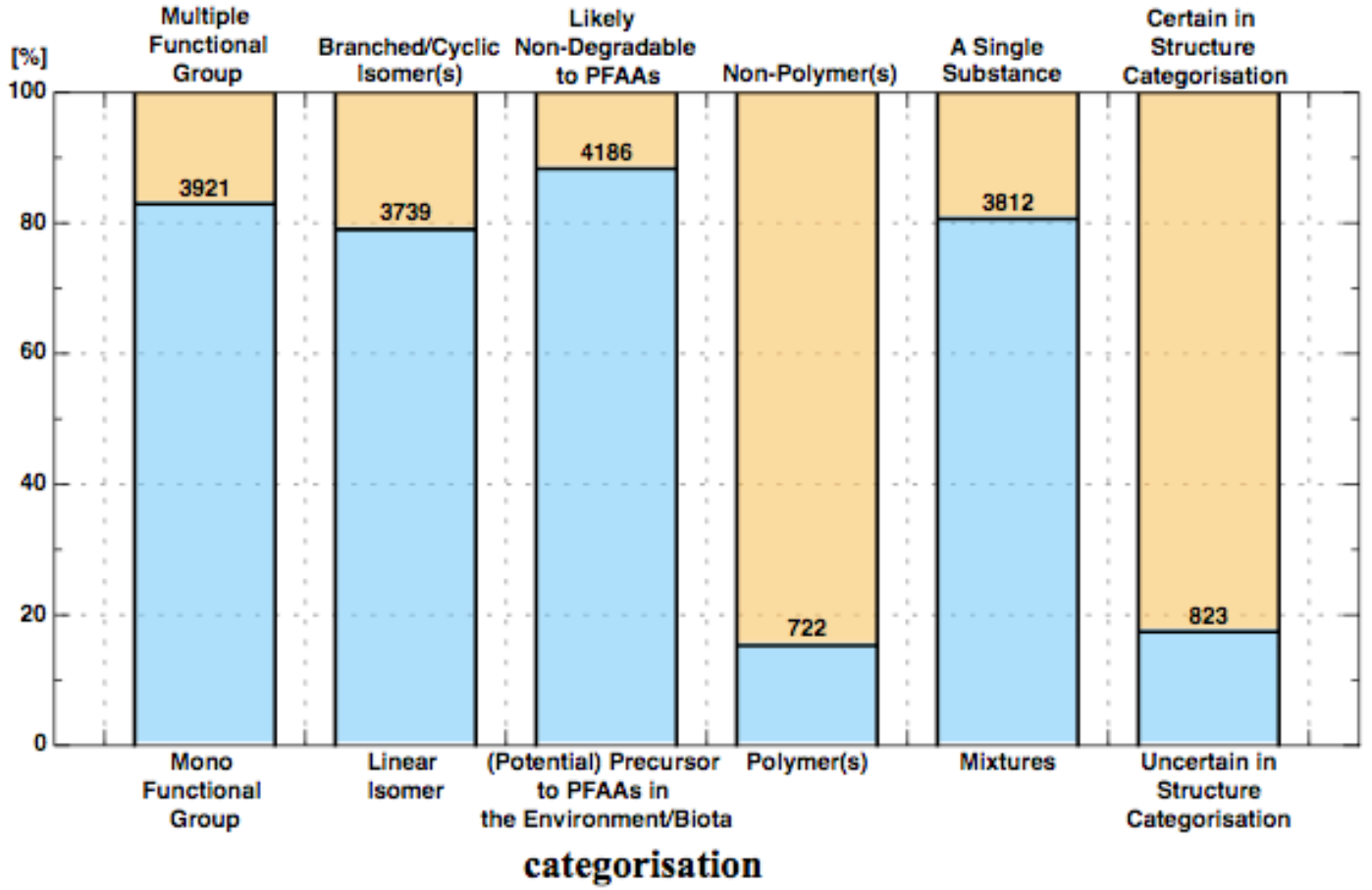
- Developmental toxicity
- Endocrine toxicity
- Hematotoxicity
- Hepatotoxicity
- Neurodevelopmental toxicity
- Ocular toxicity
- Reproductive and developmental toxicity



All PFASs are either of concern or have degradation, reaction, or metabolism products of concern



Over 80 percent of PFASs may degrade to PFAAs



Organisation for Economic Co-operation and Development

TOWARD A NEW COMPREHENSIVE GLOBAL DATABASE O
POLYFLUOROALKYL SUBSTANCES (PFASs):

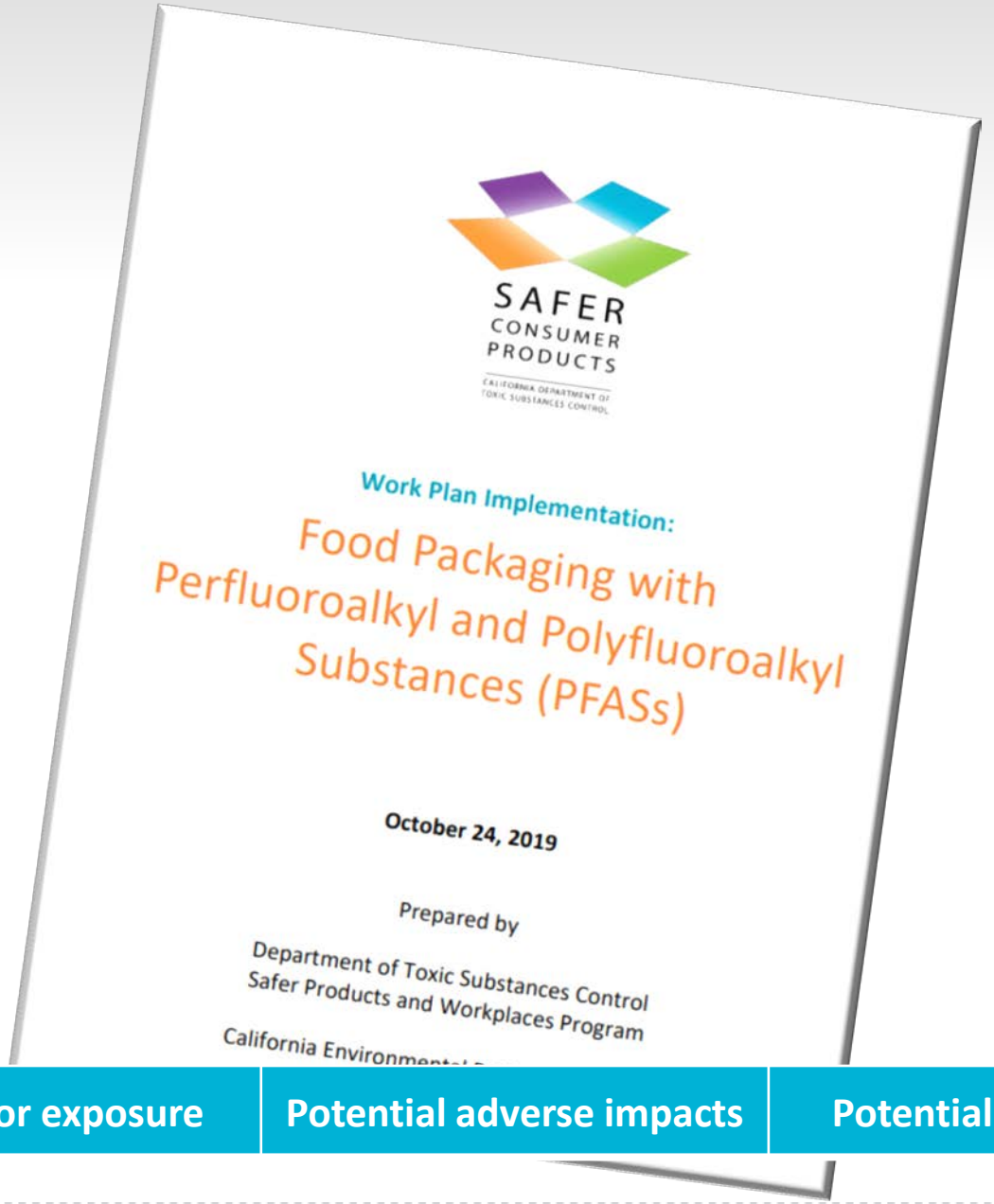
SUMMARY REPORT ON UPDATING THE OECD 2007 LIST OF PER
POLYFLUOROALKYL SUBSTANCES (PFASs)

Potential adverse impacts to sensitive subpopulations, endangered species, and sensitive habitats

Potential alternatives

- Alternative materials (e.g. palm leaf, bamboo, polylactic acid (PLA))
- Alternative processing
- Alternative coatings (e.g. PLA, clay, bio-wax)
- Chemical barriers (e.g. starch, aqueous dispersions of copolymers or waxes, chitosan)

Submit your comments on CalSAFER.dtsc.ca.gov by 11:59 pm on January 14th, 2020



Definitions and scope	Potential for exposure	Potential adverse impacts	Potential alternatives

Contact information

- Join our E-list to get updates: http://bit.ly/scpupdates
- General questions: SaferConsumerProducts@dtsc.ca.gov
- Media inquiries: Sanford.Nax@dtsc.ca.gov
- Technical questions: Andre.Algazi@dtsc.ca.gov and Simona.Balan@dtsc.ca.gov
- Meeting requests: Heather.Kessler@dtsc.ca.gov

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