PFAS In Food Packaging Alternatives Assessment Project Update

September 22, 2020

DEPARTMENT OF ECOLOGY
State of Washington

PFAS in Food Packaging AA Agenda

- Intro/Welcome
- Background
- Alternatives Assessment Modules
- Peer Review
- Next Steps
- Q&A


Hazardous Waste and Toxics Reduction Program

Focus on: Alternatives to PFAS in Food Packaging

What are PFAS?

Per- and polyfluorinated substances (PFAS) are a class of synthetic chemicals used in hundreds of applications, including food packaging.

PFAS easily contaminate groundwater because they are water-soluble, highly mobile, and difficult to filter out.

Who is exposed to PFAS?

Everyone.

In recent years, PFAS have been detected in Washington lakes, streams, fish, and drinking water wells.

Why does food packaging contain PFAS?

PFAS helps keep grease, oil, and water from penetrating food packaging, such as paper and paperboard. Common examples include:

- Fast food sandwich wrappers.
- Restaurant take-out boxes.

Washington State will ban PFAS in food packaging

In 2018, the Washington State legislature passed a new law that prohibits all per- and polyfluorinated substances (PFAS) in paper food packaging.

This PFAS ban is part of the Toxics in Packaging Law (RCW 70.95G).[1] In 1991, the Washington State legislature passed RCW 70.95G to limit the amount of four toxic metals (mercury, cadmium, lead, and hexavalent chromium) in packaging sold in the state.

In 2018, this law was amended to add PFAS.

When will PFAS be banned in food packaging?

Safer alternatives to PFAS in food packaging must be available before the ban takes effect. The law requires Ecology to study PFAS in food packaging and assess the safety of alternatives. The ban will take effect January 2022, after we:

- Identify safer alternatives.
- Receive feedback from an external peer review.
- Publish the findings to the Washington State Register.

How do I comment on and stay updated?

Ecology and Department of Health are working together to develop a PFAS Chemical Action Plan (CAP).[2] The goal of a CAP is to identify the potential health and environmental effects of persistent, bioaccumulative, and toxic chemicals, and recommend actions to reduce or eliminate those impacts.

We have a PFAS CAP listserv where you can receive updates. To subscribe, visit the CAP Advisory Committee website.[3] We will host periodic conference calls to share updates on the PFAS AA. These updates and any documents will be posted on the CAP website.

[1] http://app.leg.wa.gov/RCW/default.aspx?Cite=70.95G
[2] ecology.wa.gov/PFAS
[3] https://www.western.wa.gov/?wlaw=1961&pageid=57189

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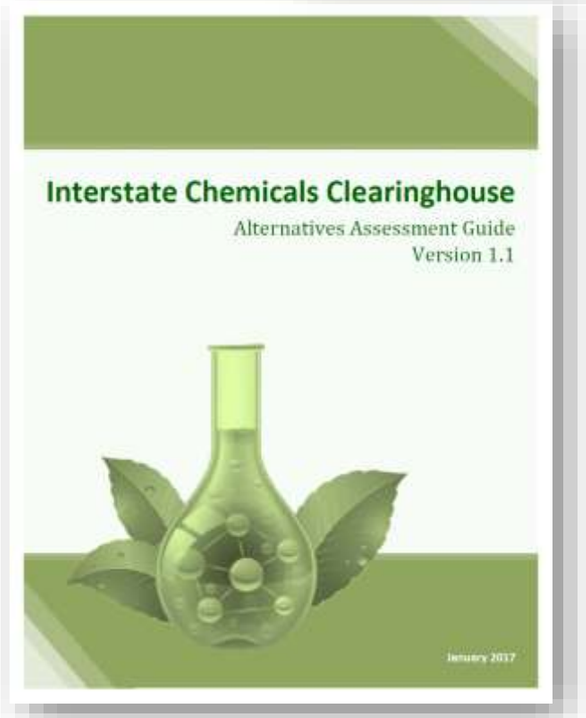


WA Toxics in Packaging Law
RCW 70A.222.070

- Bans PFAS in specific paper food packaging applications following determination that safer alternatives are available
- Ecology conducts alternatives assessment and reports to the Legislature
- An external peer review of the assessment is required

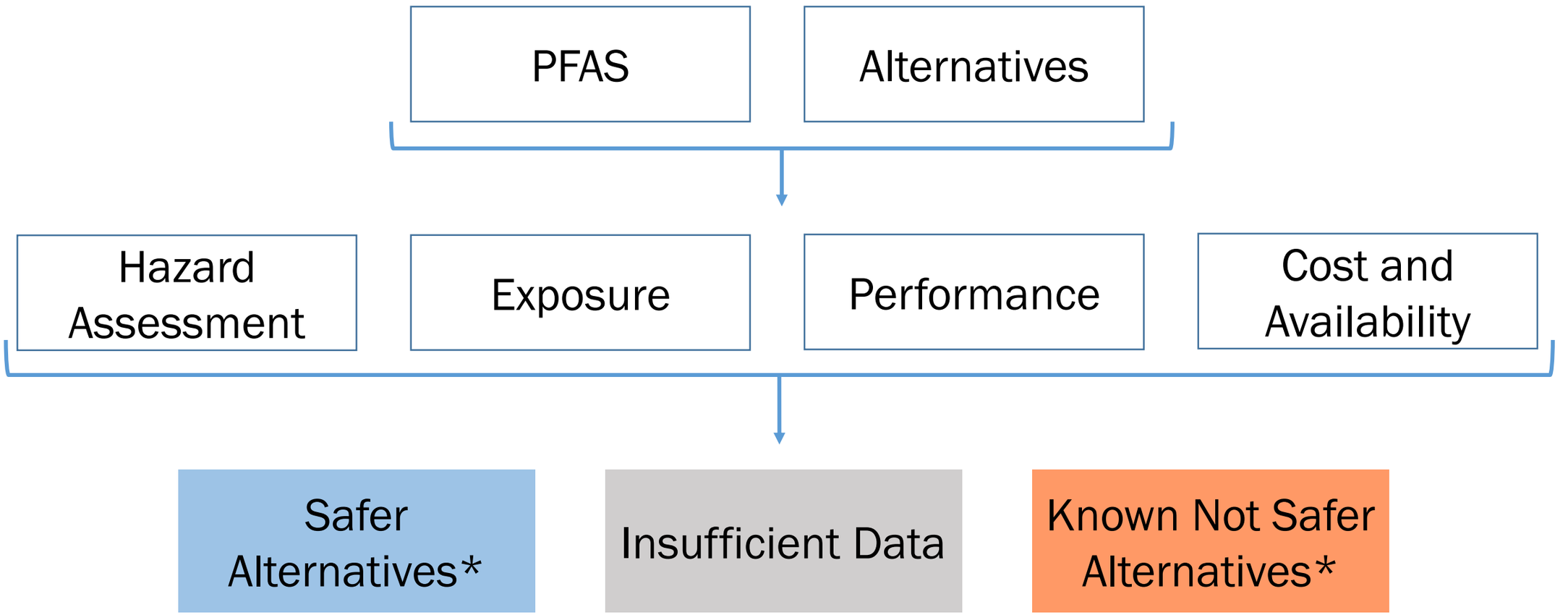
General Alternatives Assessment Process

- Priorities:
  - Reducing chemical hazard instead of prioritizing exposure reduction.
  - Minimizing regrettable substitutions.

- Considers (at minimum) hazard, exposure, performance, and cost and availability

General Alternatives Assessment Process

- Based on Interstate Chemicals Clearinghouse Alternatives Assessment Guide v1.1



* Safer alternative is defined by criteria in RCW 70A.222.070

Assessment Scope

- Category 1: Food Contact Paper
  - Wraps & Liners
  - Bags & Sleeves
- Category 2: Dinnerware
  - Plates
  - Bowls
  - Trays
  - Boats
- Category 3: Containers
  - Pizza boxes
  - Fry cartons
  - Clamshells
  - Food Containers

Photos: catalog.westernpaper.com (deli paper) earth-to-go.com (tray) westrock.com (food container)

Assessment Scope

Food Contact Paper	Dinnerware	Containers
Wax coated paper	Polylactide (PLA) foam as primary material	PLA coated paper
Silicone coated or infused paper	Clay coated paper	PVOH coated paper
Uncoated paper	Polyethylene (PE) coated paper	PE coated paper
Polyvinyl alcohol (PVOH) coated paper	Polyethylene terephthalate (PET) coated paper	Clay coated paper
Ethylene vinyl alcohol (EVOH) coated paper	PVOH coated paper	PLA plastic as primary material
–	PLA coated paper	PLA foam as primary material
–	EVOH coated paper	EVOH coated paper
–	Uncoated paper	–

- Also considered reusable food packaging

Hazard Evaluation (IC2 Guide Level 2)

- GreenScreen evaluation
  - Based on EPA Safer Choice hazard criteria
  - 18 endpoints for human and environmental health
  - Translates into four benchmarks from 1 Avoid to 4 Prefer

TABLE 1. **Example GreenScreen Hazard Summary Table for a Chemical**

Group I Human					Group II and II* Human									Ecotex		Fate		Physical	
C	M	R	D	E	AT	ST		N		SnS*	SnR*	IrS	IrE	AA	CA	P	B	Rx	F
						SINGLE	REPEATED*	SINGLE	REPEATED*										
DG	*L*	*L*	**M**	**M**	DG	*L*	*L*	**M**	**M**	**L**	**L**	**L**	**L**	*L*	*L*	*vH*	*M*	*L*	*L*

Glossary of GreenScreen® Hazard Endpoint Abbreviations

AA Acute Aquatic Toxicity
AT Acute Mammalian Toxicity
B Bioaccumulation
C Carcinogenicity
CA Chronic Aquatic Toxicity
D Developmental Toxicity
E Endocrine Activity
F Flammability
IrE Eye Irritation
IrS Skin Irritation
M Mutagenicity and Genotoxicity
N Neurotoxicity
P Persistence
R Reproductive Toxicity
Rx Reactivity
SnS Sensitization (Skin)
SnR Respiratory Sensitization
ST Systemic/Organ Toxicity

* *Repeated exposure*

Hazard Evaluation (IC2 Guide Level 2)

- Hazard evaluations depend on available chemical information

- PFAS evaluated for hazard concerns using GreenScreen®

- Alternatives assessed using:
  - EPA Safer Chemicals Ingredients List (low concern)
  - GreenScreen® chemical hazard assessment
  - Neither (insufficient data)

Exposure Evaluation (IC2 Guide Level 1)

- Performed after hazard evaluation

- Questions to determine if exposure evaluation is needed (from IC2 AA Guide):

Was the alternative determined to be of low concern during the hazard evaluation?

Does the alternative have persistence, bioaccumulative, and/or toxic properties of concern?

Performance Evaluation (IC2 Guide Level 1)

- The alternatives under assessment should “perform as well as or better than PFAS chemicals” (RCW 70A.222.070)
- Additional questions from IC2 AA Guide:

Being used for same or similar function?

Available on the commercial market?

Promotional materials state this provides the desired function?

Cost & Availability Evaluation (IC2 Guide Level 1 and RCW 70A.222)

- Additional considerations: “the safer alternatives must be readily available in sufficient quantity and at a comparable cost” (RCW 70A.222.070)
- Additional questions from IC2 AA Guide:

Is the alternative currently used in the application of interest?

Is the alternative currently offered for sale for the application of interest?

Is the price of the alternative close to the current?

Preliminary Findings of Safer

- For each food packaging application, made a finding of safer for each alternative substance assessed

Alternative Substance	Hazard Module	Exposure Module	Performance Module	Cost & Availability	Safer Alternative?
Alternative 1	BM-3	Not applicable	Favorable	Favorable	Yes
Alternative 2	BM-3	Not applicable	Favorable	Not Favorable	No

Peer Review Process

- Findings must be “supported by feedback from an external peer review of the department's alternatives assessment” (RCW 70A.222.070)
- Washington State Academy of Sciences assembled committee and is overseeing the review
- Committee member bios posted to EZView site

Current Timeline

August – Early October 2020 – WA State Academy of Sciences Peer Review

Late October - November 2020 – Final Ecology/Health AA Review and Response to Peer Review Comments

December 2020 – Submit notice to WA State Register; Legislative Report

Next Steps

- Monthly listserv/website updates through 2020

- Next year's AA scope:
  - Applications where no safer alternative was found
  - New applications not previously assessed

Reminder: Stakeholder Release Survey

- To be publicly identified as a stakeholder in the published report please fill out the Stakeholder Release Survey.
- Will not disclose non-replies
- Please note, participation could be confirmed even for stakeholders who did not respond/affirmatively asked to not be disclosed via a public disclosure request (applies to any internal, educational, promotional, or commercial uses across Ecology websites, publications, platforms, etc.)

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EZView Website:
https://www.ezview.wa.gov/site/alias__1962/37610/pfas_in_food_packaging_alternatives_assessment.aspx

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