The webinar will begin shortly.

# Safer Products for Washington:
# Paints (9:30 a.m.)
# Thermal paper (12 p.m.)

Implementing RCW 70A.350: The Pollution Prevention for Healthy People and Puget Sound Act

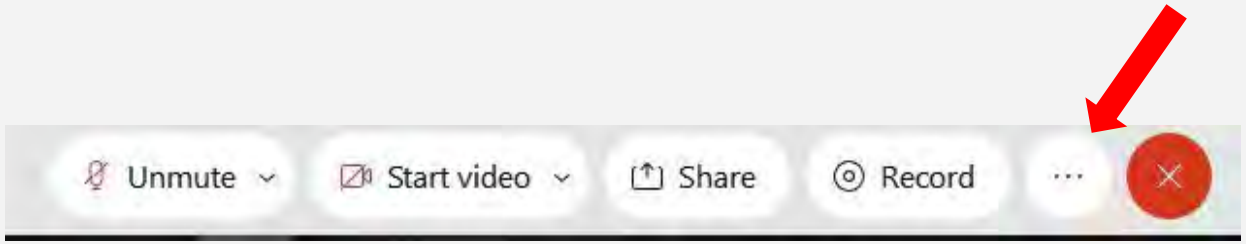
JUNE 1, 2021

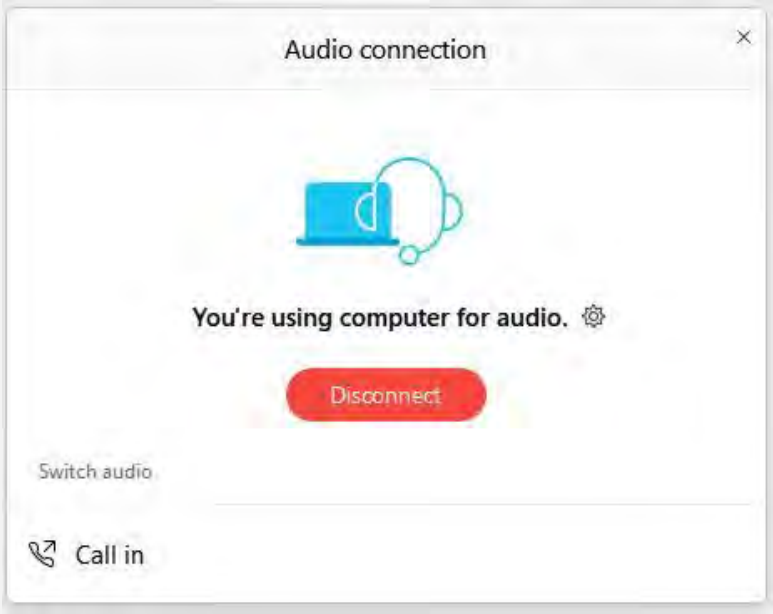
DEPARTMENT OF ECOLOGY State of Washington

Washington State Department of Health

# Audio connection logistics

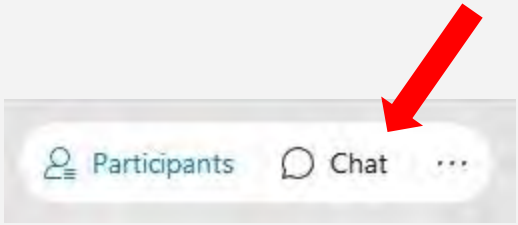
- For audio connection, we recommend using your computer speaker.
- If you are unable to join using computer audio, use “Call In” to access dial-in information.
- To open the audio options, select the three dots icon in the menu at the bottom of your screen.



# Webinar logistics

- All lines are muted.
- Questions and input go in the Q & A box.
  - Ask anytime, we will address at the end.
- Technical difficulty issues go in the chat box.
- To open the chat box, select the chat button at the lower right hand side of your screen.
- In the event of major technical difficulties, we will reschedule the webinar.
- NOTE: Any reference in this presentation to persons, organizations, services, or activities does not constitute or imply endorsement, recommendation, or preference by the Washington State Department of Ecology.




# Safer Products for Washington:

# Paints

**From Ecology**: Cheryl Niemi, Marissa Smith, Saskia van Bergen, Craig Manahan, Sascha Stump, Rae Eaton, Kimberly Goetz, Lauren Tamboer, and Amber Sergent.

**From Health**: Holly Davies, Elinor Fanning, and Emily Horton.

# Today's schedule

1. 9:30—Recap: Safer Products for Washington background
2. 9:40—Paints
3. 10:20—Questions and discussion on paints

11:30—Break

1. 12:00—Recap: Safer Products for Washington background
2. 12:10—Thermal paper
3. 12:50—Questions and discussion on thermal paper
4. 2:00—Overview of all product categories


# Section 1. Safer Products for WA background

# Safer Products for WA background

- Pollution Prevention for Healthy People and Puget Sound Act, signed into law May 2019.
- Act aims to reduce exposures to priority chemicals resulting from the use of consumer products.
- Act sets requirements for Ecology to:
  - Report to Legislature.
  - Consider and use information in specific ways.
  - Enact rulemaking (if needed).
- Safer Products for Washington is the implementation program for RCW 70A.350.

# Safer Products for WA Implementation Process




See an accessible version of this graphic.

# A reminder: Phase 2 priority products

| Priority chemical or chemical class | Priority product in the report |
|---|---|
| Flame retardants | Electric and electronic equipment |
| Flame retardants | Recreational polyurethane foam |
| **PCBs** | **Paints** and printing inks |
| PFAS | Carpet and rugs |
| PFAS | Aftermarket stain and water resistance treatments |
| PFAS | Leather and textile furnishings |
| Phenolic compounds (alkylphenol ethoxylates) | Laundry detergent |
| **Phenolic compounds (bisphenols)** | **Thermal paper** |
| Phenolic compounds (bisphenols) | Food and drink cans |
| Phthalates | Flooring |
| Phthalates | Personal care products |

Priority products report: https://apps.ecology.wa.gov/publications/documents/2004019.pdf

# Regulatory determinations

- In order to restrict the use of a priority chemical, **safer** alternatives must be **feasible** and **available.**
- The restriction must:
  - Reduce a significant source or use of priority chemical(s).

**OR**

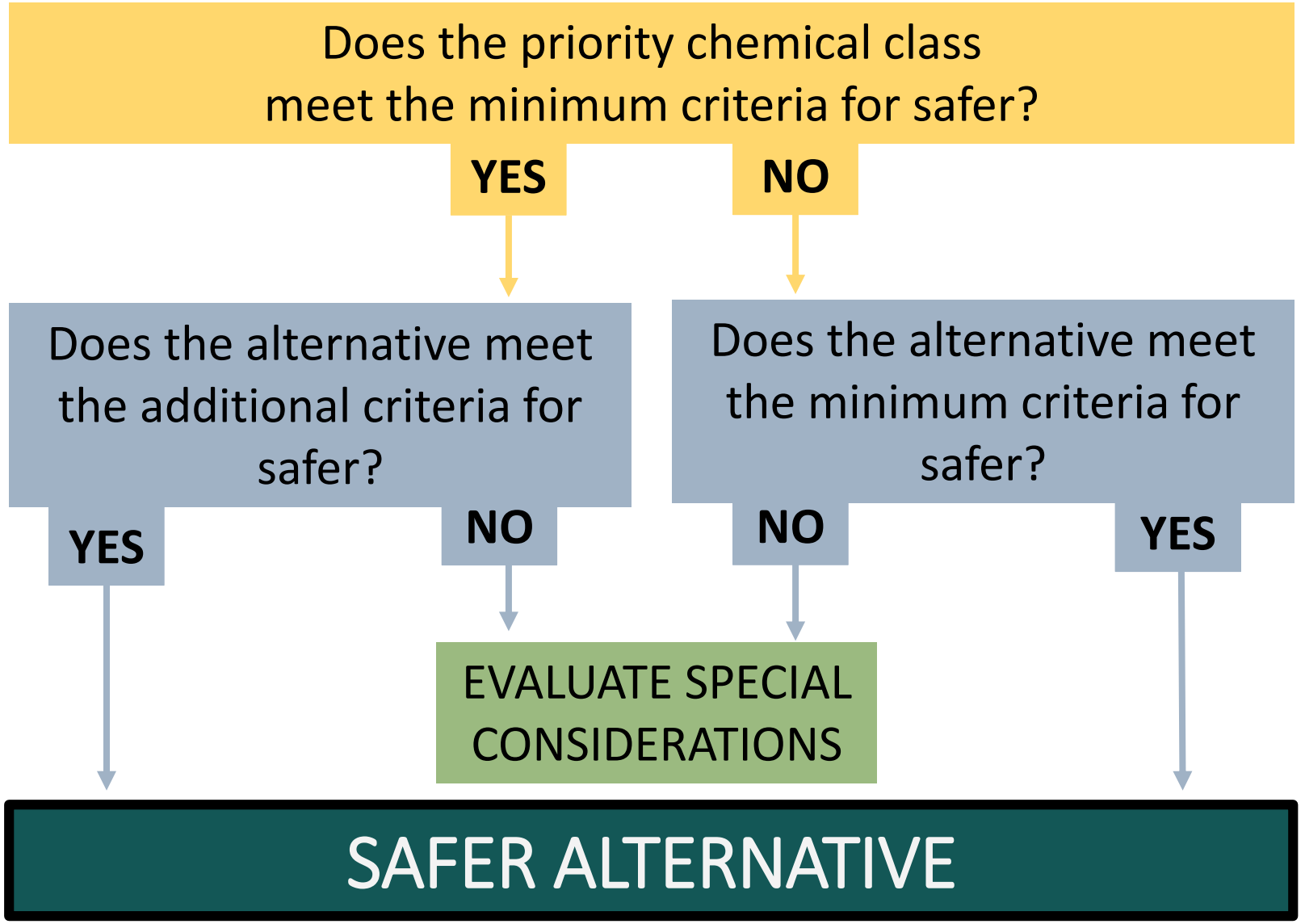
  - Be necessary to protect sensitive species or sensitive populations.

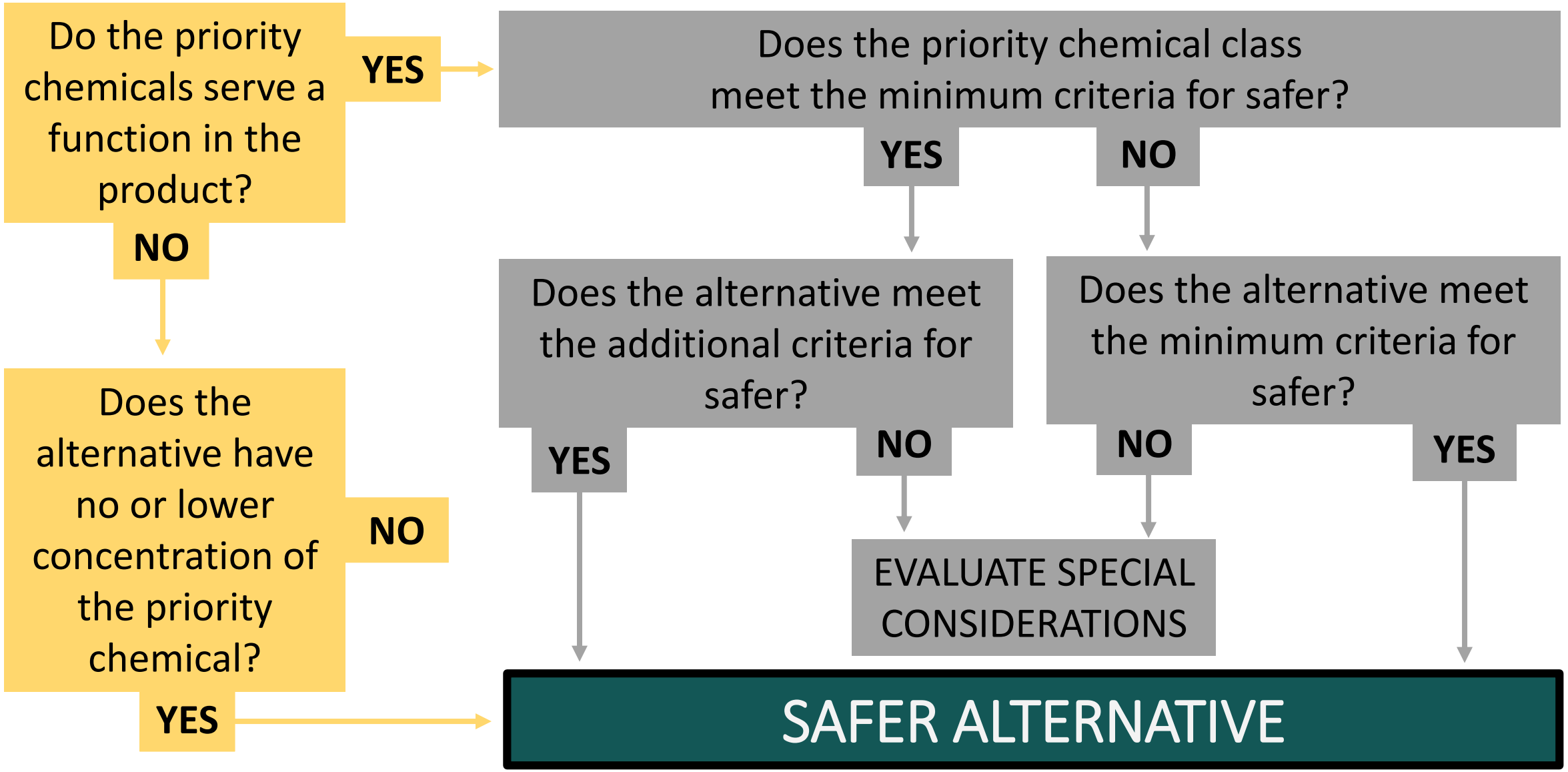
# Safer in the law

- Safer is defined in the law as "less hazardous to humans or the environment than the existing chemical or process."
- A safer alternative to a particular chemical may include:
  - A chemical substitute.
  - **A change in materials or design that eliminates the need for a chemical alternative**.


# Criteria for safer is a *spectrum*

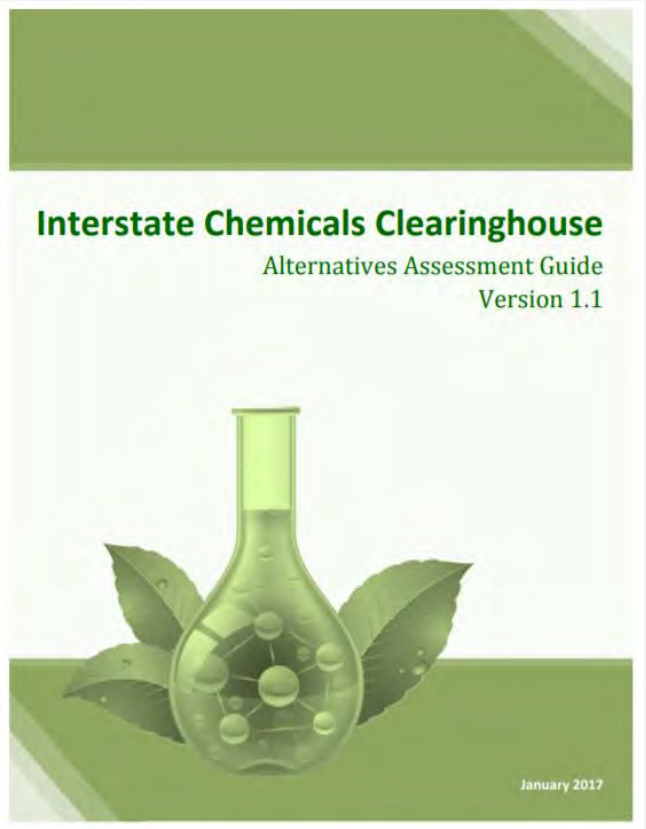
# Process for identifying safer alternatives



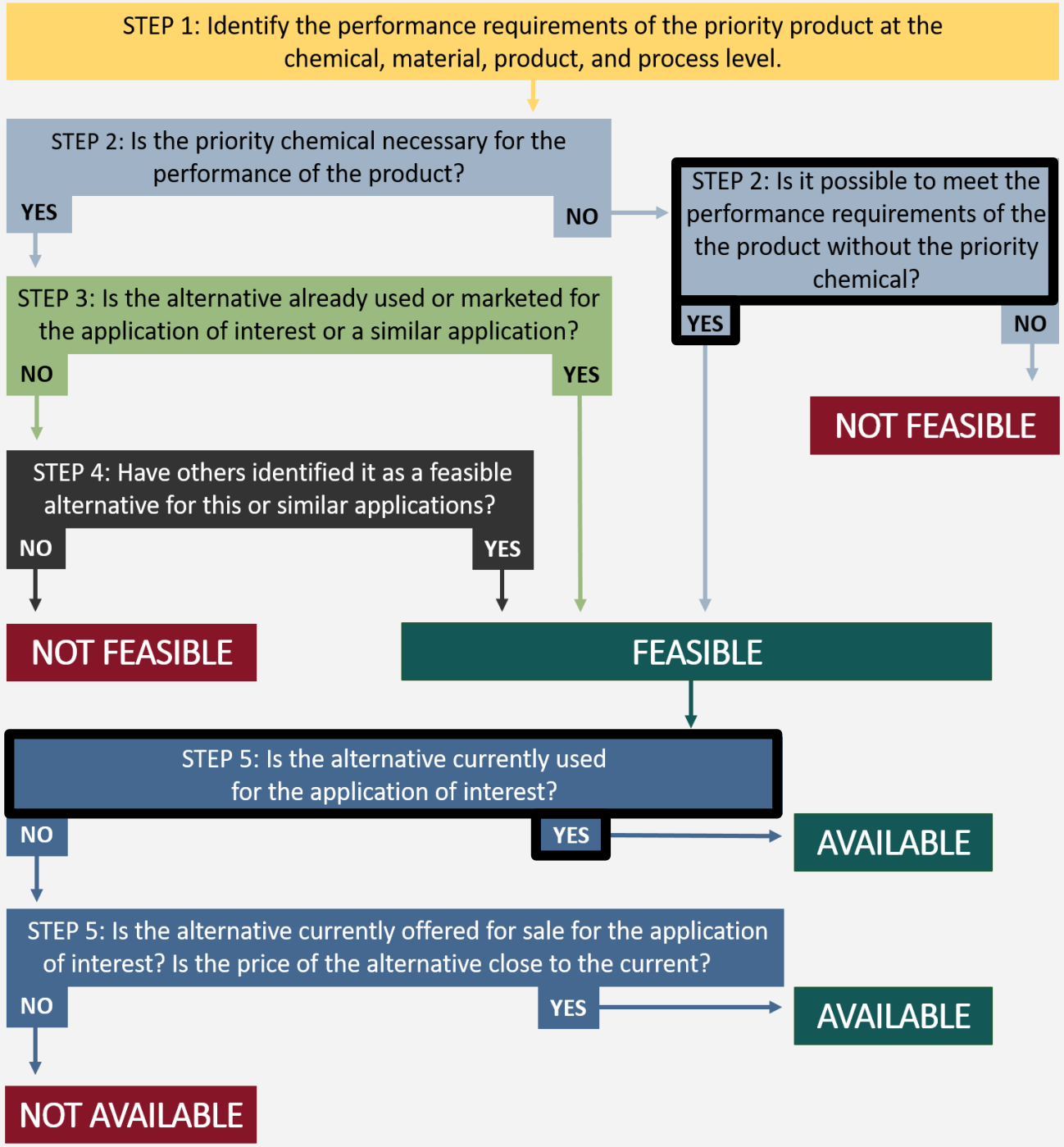

Do the priority chemicals serve a function in the product?
YES
NO
Does the priority chemical class meet the minimum criteria for safer?
YES
NO
Does the alternative meet the additional criteria for safer?
YES
NO
Does the alternative meet the minimum criteria for safer?
NO
YES
Does the alternative have no or lower concentration of the priority chemical?
NO
YES
EVALUATE SPECIAL CONSIDERATIONS
SAFER ALTERNATIVE

# Feasible and available

- RCW 70A.350 requires that Ecology determine that safer alternatives are “feasible and available” before restricting the use of a priority chemical.
- Not defined in the statute.
- IC2 created a guide for Alternatives Assessment (2017).
  - Modules to assess potential alternatives.
  - Performance module—technical feasibility.
  - Cost and availability module—price competitive and available in sufficient quantity.

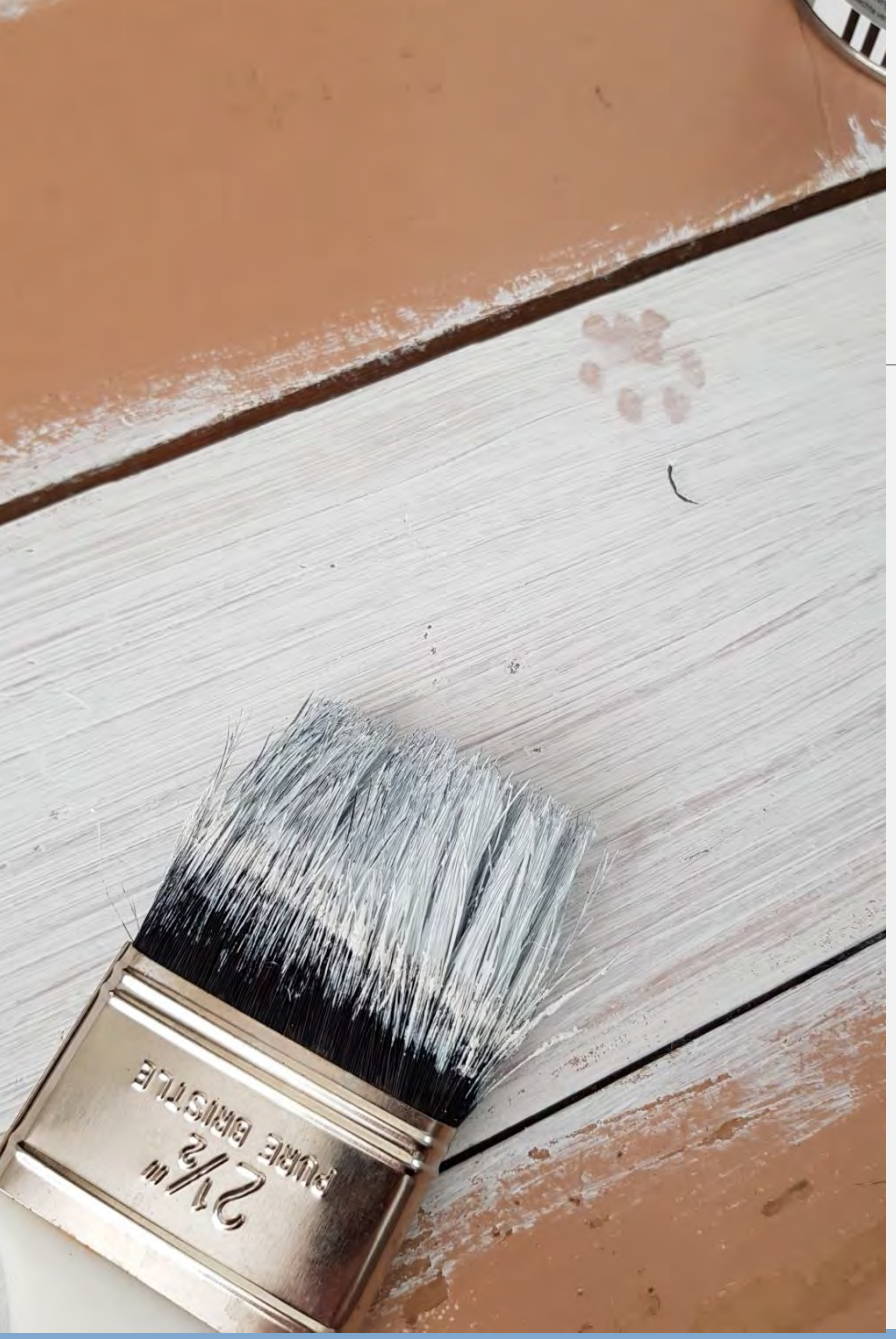


# Process for identifying feasible and available alternatives




See an accessible version of this graphic.

# Section 2. Paints

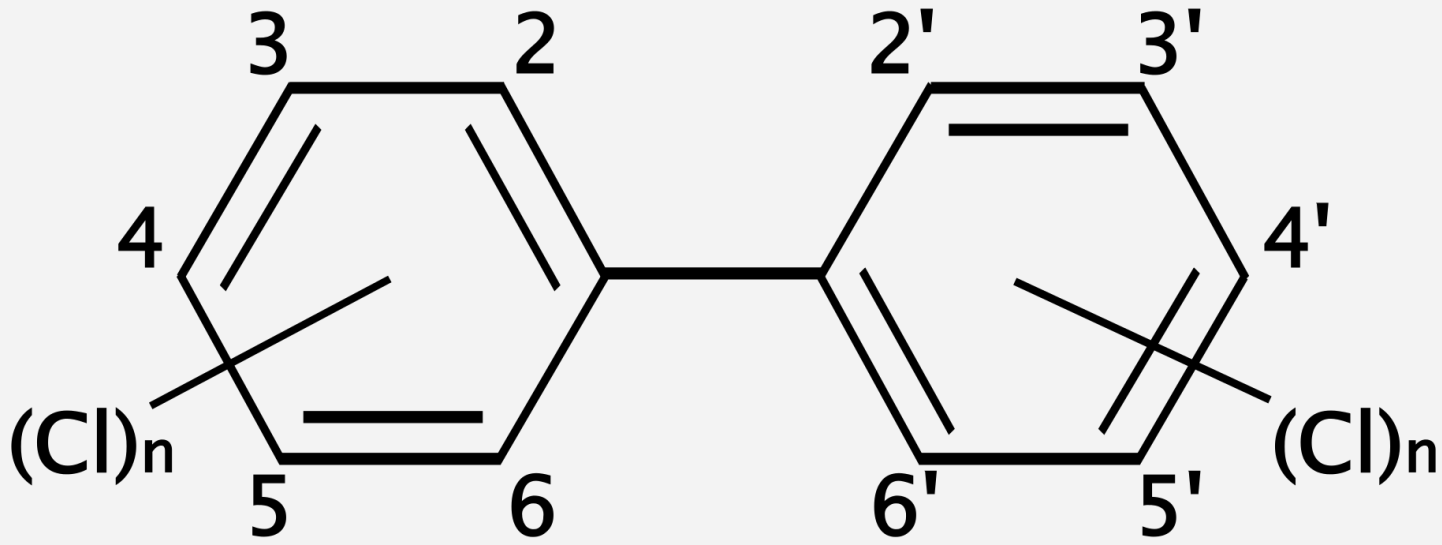


# Polychlorinated biphenyls (PCBs) in paints

- In 2019, the Legislature listed PCBs as a priority chemical class.
- Identified paints as a significant source of PCBs.
  - PCBs are inadvertent contaminants of paints—they have no function.
- Listed them as a priority product in our 2020 report.
- We have identified safer, feasible, and available building, road, spray, and children's paints.
- Analysis currently supports a restriction on PCBs in paints consistent with RCW 70A.350
- We welcome your input!

# Scope of the priority chemical class

- Polychlorinated biphenyls (PCBs) are identified as a priority chemical class in RCW 70A.350.
- PCBs are defined as a class of chemicals that consist of two benzene rings joined together and containing one to ten chlorine atoms attached to the benzene rings.



# Hazards of PCBs

Entire class has been identified as:

- Carcinogenic
  - International Agency for Research on Cancer
  - U.S. National Toxicology Program Review of Carcinogenicity
  - California Prop 65
- Developmentally toxic
  - California Prop 65
- Toxic to aquatic organisms
  - EU Globally Harmonized System for the Classification and Labeling of Chemicals

# Hazards of PCBs continued

- Entire class identified as:
  - Persistent, Bioaccumulative, and Toxic
    - UN Stockholm Convention (Persistent Organic Pollutants)
    - EPA (Toxics Reporting Inventory)
    - OSPAR (PBTs for priority action)
- While eight PCBs are listed on the Persistent, Bioaccumulative, and Toxic list (WAC 173-333), our Chemical Action Plan evaluated the class as a whole since:
  - People are exposed to them as mixtures.
  - They are regulated as a class by many governments.

# Why PCBs?

- Most intentional uses of PCBs restricted in 1977.
- PCBs are persistent—once released in the environment, challenging or impossible to remove, affecting wildlife for years to come.
- Still widely detected in people and the environment, including fish and seafood.
- Southern Resident Orca Task Force noted PCBs as a chemical class of concern.
- Department of Health advises human consumption restrictions for specific fish in 14 water bodies in WA due to PCBs levels in fish tissue.

# Paints are a significant source of PCBs

- Estimated 30 million gallons of paint and coatings are used in Washington per year.
- People and the environment can be exposed to PCBs from paint:
  - During use.
  - As it chips off or degrades over time.
  - If it's improperly disposed.
- A restriction on PCBs in paints would reduce a significant source or use.

# Paints with lower concentrations of PCBs are safer

- Because PCBs are inadvertent contaminants of paints, any paint with a lower concentration of PCBs could be considered a safer alternative to paints with higher concentrations of PCBs.
- Published testing data can be used to investigate PCB concentrations.
- All tested paints are commercially available products sold in the U.S. Therefore, these paints would also be considered feasible and available.


# Paint data

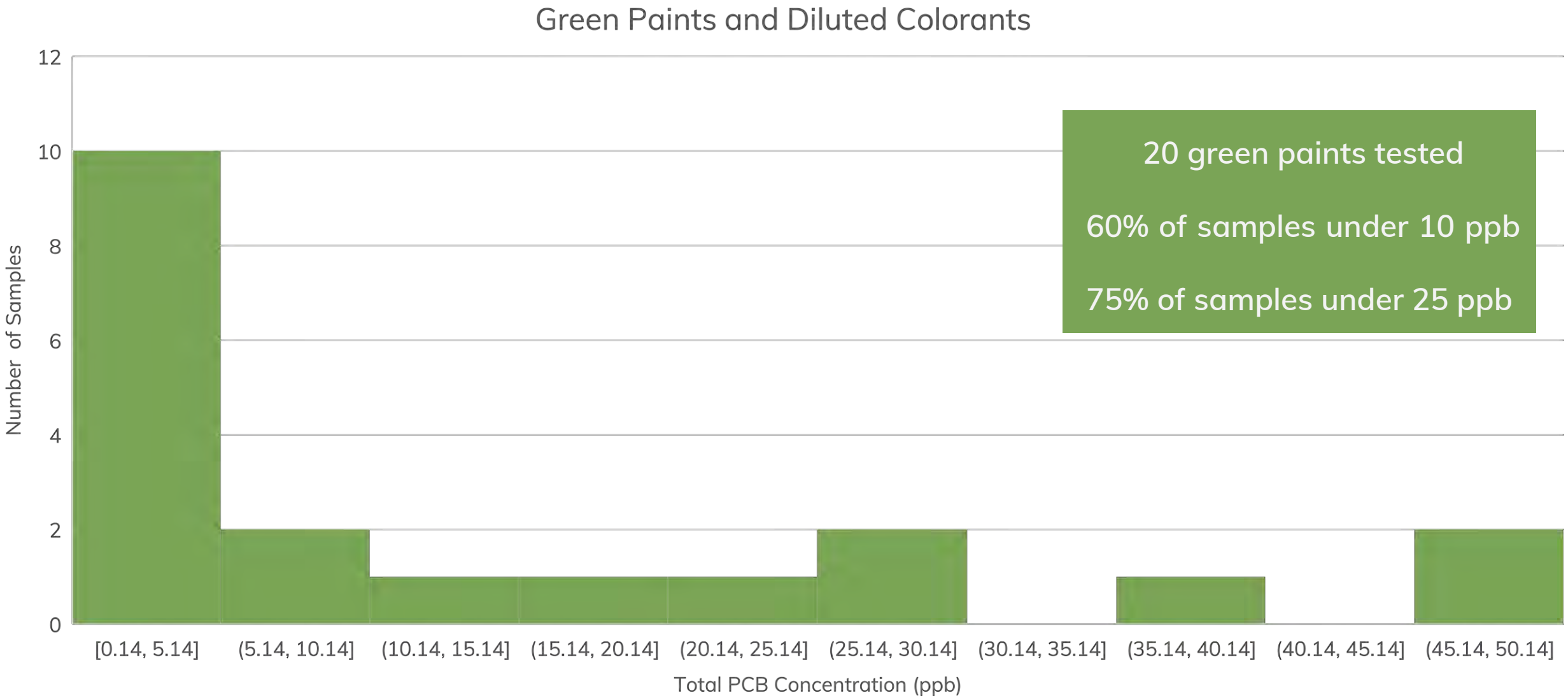
Data was available in studies for:

- Building paint for indoor and outdoor use (including colorants)
  - Paints contain up to 14% colorant (data from American Coatings Association), so 14% of reported PCB concentrations were used for this analysis.
- Spray paint
- Children's paint (including finger paint, sidewalk paint)
- Road paint
  - Washington State purchasing contract—bid received preferential treatment for providing data showing no PCB contamination.

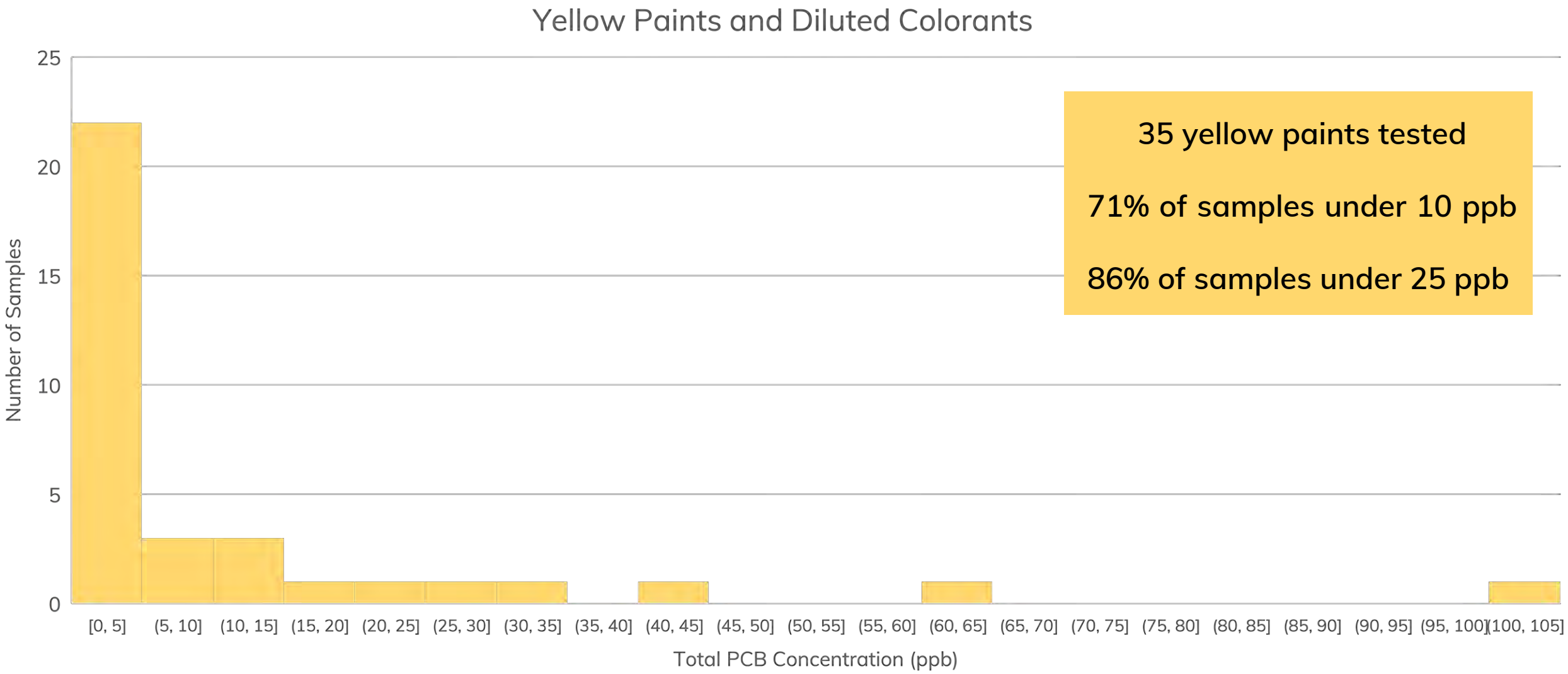
# Paint data continued

- All paints contained a similar magnitude of PCB concentration.
- Source is assumed to be the same for all products—pigments.
- We know of no reason why one product would have significantly different needs or feasibility of PCB content.
- Therefore, all products were combined for this analysis.

# Histogram of paint data—Green



# Histogram of paint data—Yellow

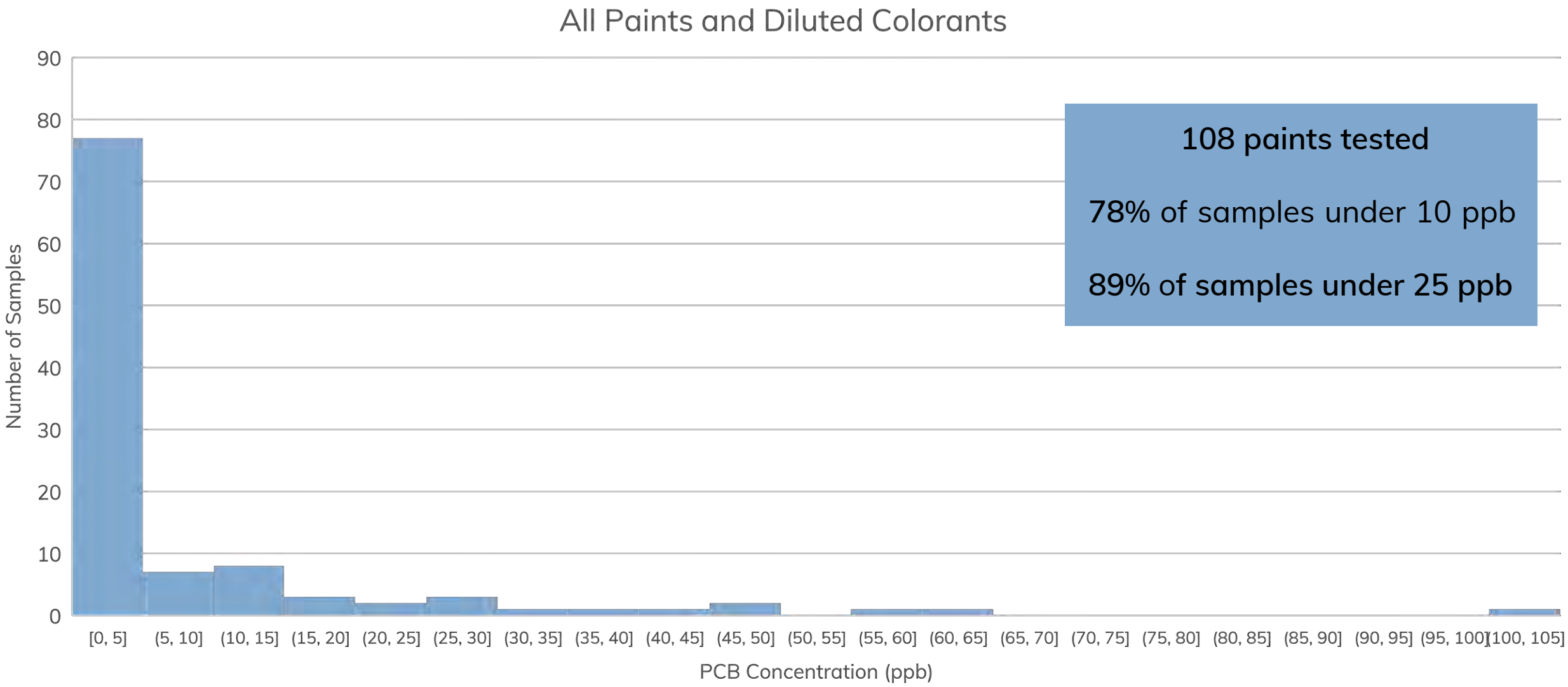



35 yellow paints tested

71% of samples under 10 ppb

86% of samples under 25 ppb

# Histogram of paint data—all colors



# Considerations for potential restrictions

**Product types—is there a difference with feasibility for:**

- Building paint
- Road paint
- Children's paint
- Spray paint

**Colors**

- All colors
- Yellow, green, blue, magenta

# Considerations for potential restrictions

**Concentration—what level balances protecting human and environmental health with feasibility and availability?**

For reference:

- 89% of all colors tested less than 25ppb
  - 86% of yellow
  - 75% of green
- 78% of all colors tested below 10ppb
  - 71% of yellow
  - 60% of green

**Effective date**

- 2024 is the earliest a restriction could take place

# Section 3. Paints discussion

# Questions? Input to share?

# Type in the Q & A box or raise your hand to unmute.

- Direct your question to everyone using the drop down arrow.
- If you need more than 512 characters, ask your question or give your input verbally.
- Raise your hand and we will unmute you to give your input.
  - If you're dialing in via phone, dial *3 to raise your hand.

# Paints

| Feedback category | Feedback from stakeholders during the June 1 discussion |
|---|---|
| Analysis process | • iPCB concentration could be changing over time in paints.<br>• Could be false positives in testing data.<br>• Green paint could be a mixture of yellow and blue colorants.<br>• Were artist paints tested?<br>• Has Ecology performed any independent testing for PCB concentrations in paint or it is only relying upon work done by others? If it is work done by others, what assessment was done to verify the quality of the work? Published papers are not always accurate, numerous studies have been withdrawn.<br>• Has yellow road paint been compared to other categories?<br>• Are other colors above 10ppb other than green or yellow?<br>• Road marking yellow paint uses different pigments than those commonly used in architectural paints, and therefore should be looked at separately.<br>• Does Ecology need to determine effect on waterways, through conducting risk assessment? |
| Performance of alternatives | • World Health Organization, or U.S. EPA limits on PCBs? (EPA has a 25ppm limit)<br>• 10ppb and 25ppb levels would result in raw material supply issues, increased costs.<br>• Pigments in U.S. must meet Toxic Substances Control Act PCB limits.<br>• Will cost impacts for companies selling in other states needing to redesign products be considered? Color collateral is a significant expense to paint companies. |

# Paints continued

| Feedback category | Feedback from stakeholders during the June 1 discussion |
|---|---|
| Potential regulation | • Consideration of existing stock.<br>• Industrial maintenance paints included? Building paints is a broad categorization.<br>• Would there be specific limits on iPCBs?<br>• American Coating Association suggests limiting scope to greens and yellows.<br>• Are there plans to specify the PCBs and what limit is anticipated?<br>• Interior and exterior building paint could be problematic terminology, not all are “consumer products.” Recommend focusing on wall paint, as the industry refers to it.<br>• What testing method would be used? |
| Other feedback | • PCB-11 present in other products potentially, see City of Spokane data.<br>• Is data representative of paints on the market? What % of market is yellow and green paints that test high?<br>• How many brands were represented?<br>• Testing on wet paint vs. cured paint? How does this effect testing data?<br>• Likely high PCBs in tested paints are from deep tone paints (14% from deep tones). Most paints lightly pigmented.<br>• Considering all components of paint?<br>• How was volume estimated?<br>• Plan to validate ‘reliable’ information – types of information defined in law / priority product report (standard is generally peer reviewed publications)<br>• Data gaps in terms of paint samples collected. I know you have your own limits in what you can do, but setting a regulation on very limited datasets is potentially damaging to Ecology as well as the paint industry. |

# Get involved with our Phase 3 process

- Share your input on the working draft criteria for safer, feasible, and available.
- Don’t miss product-specific webinars this summer.
- Invite us to present to your group.
- Reach out to us to set up a meeting with our team.

# Stakeholder involvement next steps

- Make sure you are on our email list!
- Product-specific webinars continuing this summer.
- Formal public comment period on draft regulatory actions report (Fall 2021 – Winter 2022).

# Where are we at on the other products?

| Priority product | Priority chemical class | Status | Webinar target |
|---|---|---|---|
| Thermal paper | Bisphenols | Evaluating Pergafast™ 201 (CAS 232938-43-1) and electronic receipts as alternatives | Update at 12pm |
| Recreational foam | Flame retardants | Evaluating whether flame retardant free foam is feasible | July 13, 9:30 a.m. PST |
| Can linings | Bisphenols | Evaluating C2CC™ beverage can linings for safer, feasible, and available, looking for food can alternatives | July 13, 12 p.m. PST |
| Aftermarket treatments | PFAS | Evaluating Safer Choice carpet care products, identified other PFAS-free alternatives, working with manufacturers to evaluate safer | July 27, 9:30 a.m. PST |
| Personal care and beauty products | Phthalates | Identified dipropylene glycol as safer, assessing feasible and available, evaluating other alternatives on the Safer Chemical Ingredients List | July 27, 12 p.m. PST |

Have ideas or input on any of these products? Please reach out! We'd love to hear from you!

# Where are we at on the other products?

| Priority product | Priority chemical class | Status | Webinar target |
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| Carpets and rugs | PFAS | Evaluating C2CC™ products and non-chemical alternatives | Late-Summer |
| Vinyl flooring | Phthalates | Ordered data from manufacturers, evaluating alternative plasticizers | Late-Summer |
| Printing inks | PCBs | Conducting product testing study, working on identifying inks with lower PCB concentrations | Late-Summer |
| Electric and electronic products | Flame retardants | Conducting product testing study, evaluating alternatives listed on TCO's positive list (GreenScreen® BM-2 or higher) | Late-Summer |

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# Webinar resumes at 12 p.m.

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DEPARTMENT OF ECOLOGY State of Washington

Washington State Department of Health

# Safer Products for Washington:

# Thermal paper

**From Ecology**: Cheryl Niemi, Marissa Smith, Saskia van Bergen, Craig Manahan, Sascha Stump, Rae Eaton, Kimberly Goetz, Lauren Tamboer, and Amber Sergent.

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See an accessible version of this graphic.

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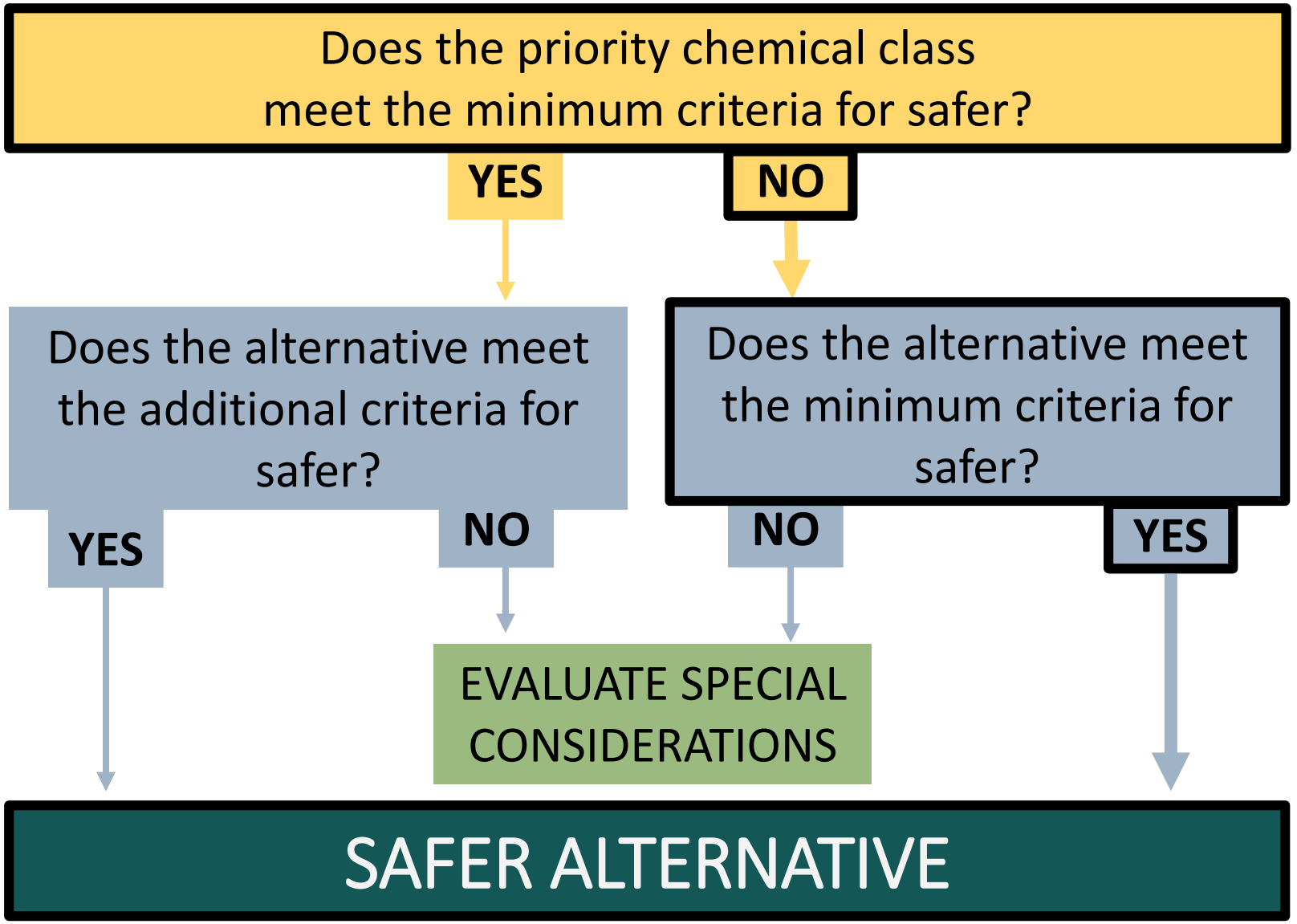
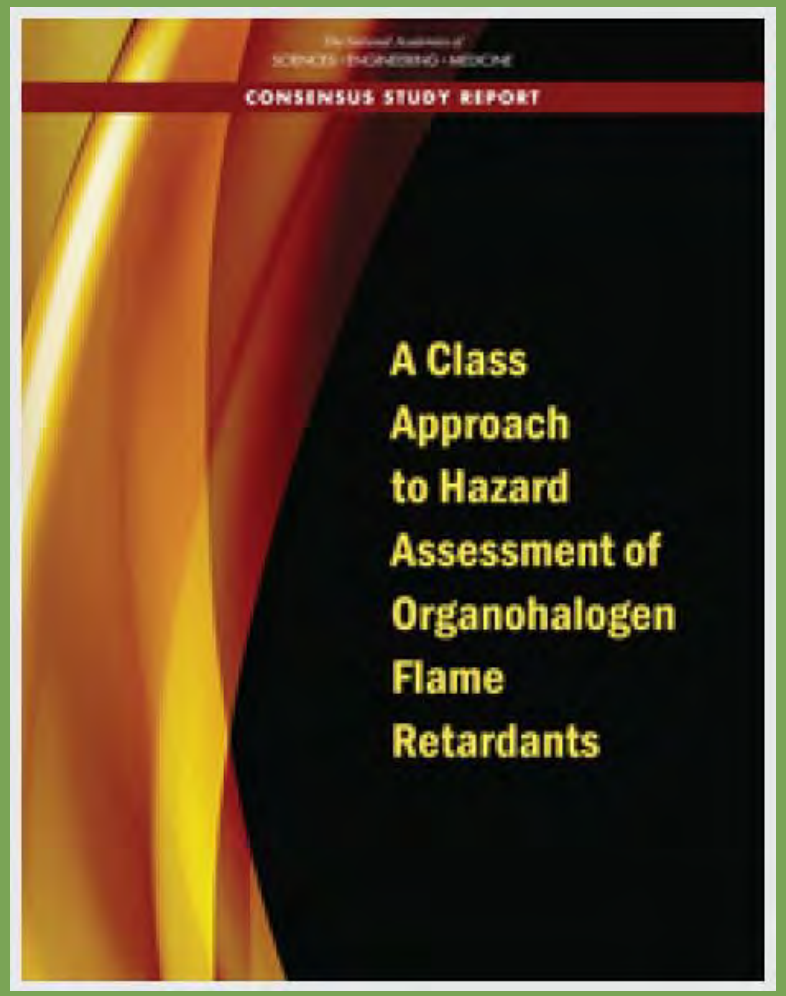





# How can we assess classes of chemicals?

1. If there are all data rich chemicals → Assess the class based on data rich chemicals.
2. If there are all data poor chemicals → Unlikely to be a priority chemical class.
3. If there are data rich and data poor chemicals → Assess the class based on data rich chemicals.
4. If there is variable or discordant hazard data → Three options.

# Minimum criteria for safer

- Chemicals used to function like priority chemicals cannot have:
  - High concerns for carcinogenicity, mutagenicity, reproductive or developmental toxicity, or endocrine disruption.
  - High toxicity in other ways and very persistent and/or very bioaccumulative.
  - Very high persistence and very high bioaccumulation.
- For a full description—see the working draft criteria.

# Certifications and assessments that meet our minimum criteria for safer

Examples of chemicals that meet this criteria:

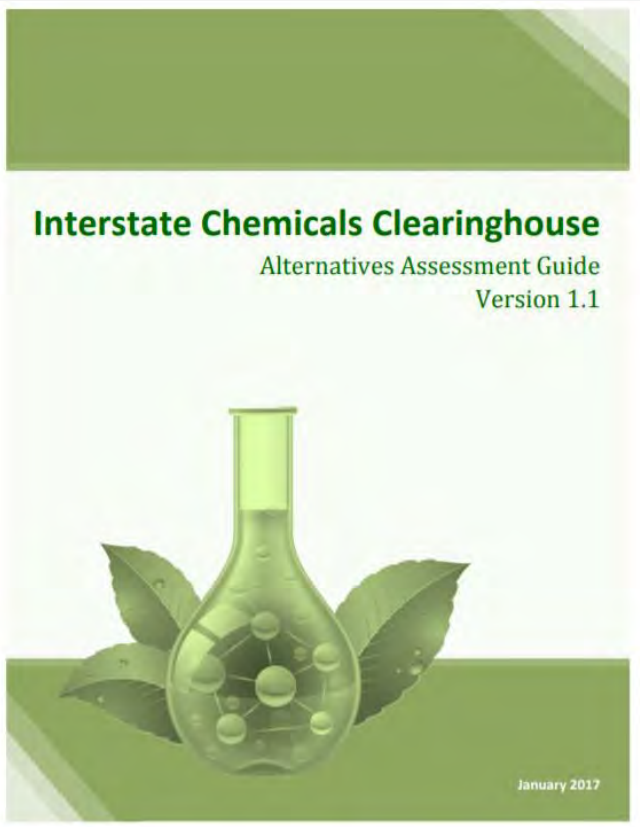
- GreenScreen® Benchmark 2, 3, and 4.
- EPA Safer Chemical Ingredients List evaluated against the master criteria.

Examples of products that **may** meet this criteria:

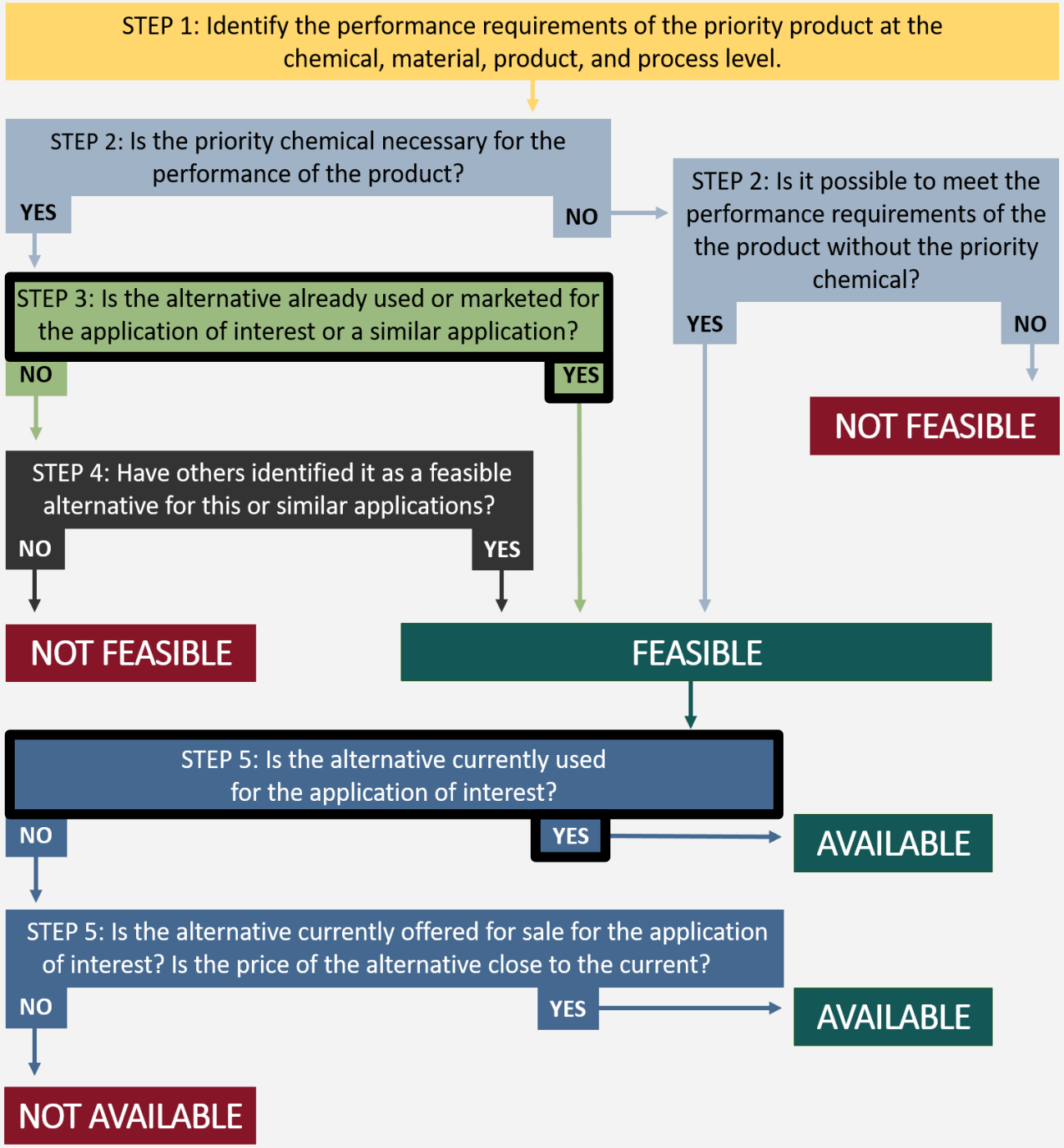
- GreenScreen Certified™ Gold, Gold+, and Platinum Products*
  - *Certification levels depends on product type.
- EPA Safer Choice Products
- Cradle to Cradle Certified™ Gold and Platinum Material Health Certificate products
  - More documentation of persistence and bioaccumulation may be necessary.

# Feasible and available

- RCW 70A.350 requires that Ecology determine that safer alternatives are “feasible and available” before restricting the use of a priority chemical.
- Not defined in the statute.
- IC2 created a guide for Alternatives Assessment (2017).
  - Modules to assess potential alternatives.
  - Performance module—technical feasibility.
  - Cost and availability module—price competitive and available in sufficient quantity.



# Process for identifying feasible and available alternatives




See an accessible version of this graphic.


# Section 2. Thermal paper

# Priority chemical & priority product

- In 2019, Legislature listed bisphenols as a priority chemical class.
- Identified thermal paper as a significant source or use of bisphenols.
- Listed thermal paper as a priority product our 2020 report.
- We identified a safer chemical alternative that is feasible and available, and also an alternative process.
- Analysis currently supports a restriction on use of bisphenols in thermal paper consistent with RCW 70A.350.
- We welcome your input!

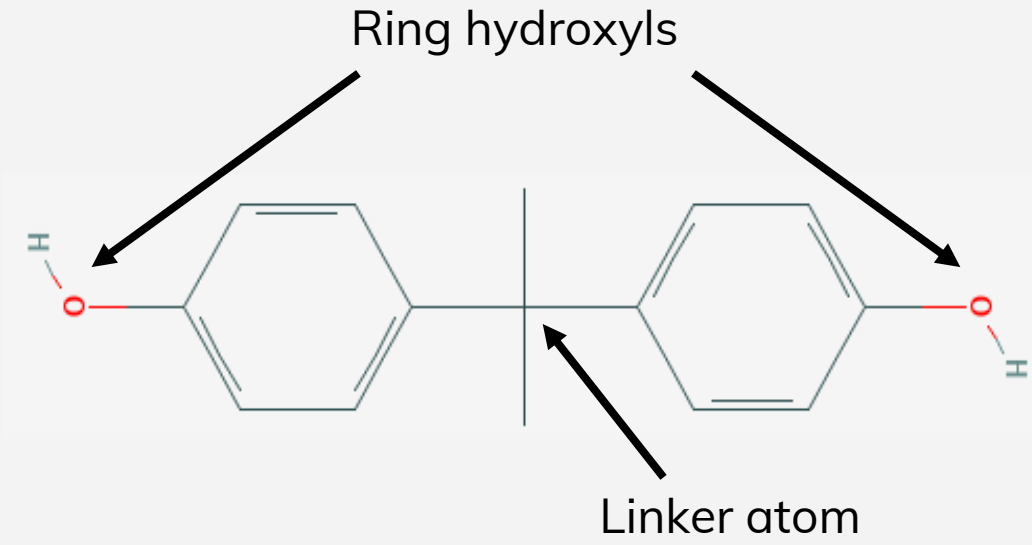

# Priority product is a significant source or use

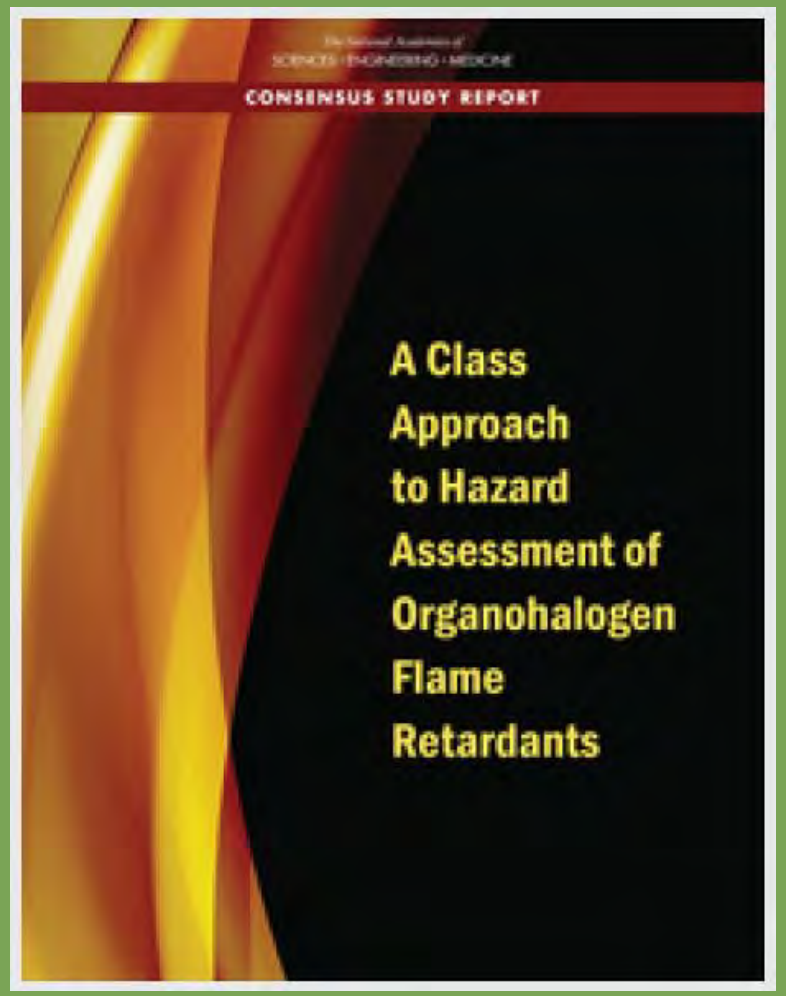
- Thermal paper is a significant source or use of phenolic compounds including bisphenols.
- Estimated 6.6 million pounds of thermal paper are used per year in Washington state.
- Recycling of thermal paper is the largest industrial source of bisphenol A (BPA) entering wastewater treatment plants.
- Thermal paper is one of the leading sources of human exposure to BPA.
- As BPA usage is reduced, it is being replaced by other hazardous bisphenols, such as bisphenol S.

# Scope of the priority chemical class

Bisphenols can be defined based on their chemical structure—we propose the following guidelines to further clarify this definition:

1. Must have two six-membered aromatic rings connected by a linker atom.
2. The linker atom can also be substituted but the linker length must be a single atom.
3. Both rings must have at least one hydroxyl substituent (i.e. phenol rings).






# How can we assess classes of chemicals?

1. If there are all data rich chemicals → Assess the class based on data rich chemicals.
2. If there are all data poor chemicals → Unlikely to be a priority chemical class.
3. If there are data rich and data poor chemicals → Assess the class based on data rich chemicals.
4. If there is variable or discordant hazard data → Three options.
    1. Make a conservative decision and use the minimum criteria.
    2. Classify based on the chemicals potentially found in the products.
    3. Identify chemicals that meet the within-class criteria for safer and exclude those.

# Identifying data rich chemicals

We identified data rich chemicals by looking for existing hazard assessments:

- GreenScreens—conducted by a licensed profiler, publicly available.
- Authoritative Lists—review of supporting documents.
- Other hazard assessment methods are possible, but would need to be:
  - Compatible with our criteria for safer and scoring methodology.
  - Publicly available or third party reviewed.

# Identified GreenScreen® assessments

- Bisphenol A
- Bisphenol S
- Bisphenol F
- Bisphenol AF
- Tetrabromo bisphenol A
- Tetramethyl bisphenol F


GreenScreen®
BM-1
Authoritative lists

GreenScreen®
BM-2

GreenScreen®
BM-2*
BM-3

**not all BM-2 meet additional criteria*

# Criteria for safer is a *spectrum*


# Hazards of data rich bisphenols

- Endocrine activity
  - Estrogenic, anti-androgenic, thyroid effects.
- Developmental toxicity
  - Neurodevelopment, immune system development, reduced sexual dimorphism, premature birth, low birth weight.
- Reproductive toxicity
  - Reduced fertility.
- Aquatic toxicity
- Persistence (halogenated bisphenols)

# Bisphenol A

- Scored as **LT-1 / BM-1** in a GreenScreen® assessment (TechLaw, 2012).
- Included on authoritative lists for endocrine activity, developmental toxicity, and reproductive toxicity; also scores as high for acute aquatic toxicity.
- Does not meet our minimum criteria.

| CASRN | Common name | GreenScreen® Score | Authoritative lists | Screening lists | Existing WA regulations |
|---|---|---|---|---|---|
| **80-05-7** | Bisphenol A | **LT-1**<br>**BM-1** | ***Developmental / Reproductive Toxicity***:<br>CA Prop 65<br>EU – GHS (H360F)<br>***Endocrine Activity***:<br>EU – SVHC Candidate List<br>EU – SVHC Prioritisation List | ***Developmental / Reproductive Toxicity***:<br>MAK Pregnancy Risk (C)<br>GHS – KR, JP, AU, NZ<br>***Endocrine Activity***:<br>TEDX – Potential ED<br>EU – Priority ED<br>***Aquatic Toxicity***:<br>GHS – JP, NZ (H401, 9.1D) | CSPA – CHCC Reporting List<br>RCW 70A.430<br><br>Restricted in sports bottles and in children's cups<br>RCW 70A.335 |

# Bisphenol S

- Scored as **BM-1** in a GreenScreen® assessment (ToxServices, 2016).
- Scores as high hazard for reproductive toxicity and endocrine activity.
- Scores as very high for chronic aquatic toxicity.
- Example of a **regrettable substitution**.
- Does not meet our minimum criteria.

| CASRN | Common name | GreenScreen ® score | Authoritative lists | Screening lists | Existing WA regulations |
|---|---|---|---|---|---|
| **80-09-1** | Bisphenol S | **BM-1** | N/A | ***Endocrine Activity***:<br>TEDX – Potential ED<br>ChemSec – SIN List<br>***Reproductive Toxicity***:<br>GHS – AU (H361f, Cat 2) | CSPA – CHCC List, Required Reporting |

# Other data rich bisphenols

- Additional data rich bisphenols that score as GreenScreen® **BM-1**:
  - **Bisphenol F** (CASRN: 620-92-8, ToxServices, 2019)
    - Scores high for reproductive toxicity, developmental toxicity, endocrine activity, and acute/chronic aquatic toxicity.
  - **Bisphenol AF** (CASRN: 1478-61-1, ToxServices, 2019)
    - Scores as high for reproductive toxicity, endocrine activity, and acute aquatic toxicity.
    - Also scores as very high for chronic aquatic toxicity and persistence.
  - **Tetrabromobisphenol A** (CASRN: 79-94-7, Rosenblum, 2014)
    - Present on authoritative lists for carcinogenicity, aquatic toxicity, and persistence.
    - Included on the WA Chemicals of High Concern to Children reporting list.
    - Usage as an additive flame retardant restricted under WA Children's Safe Product Act.

# Other bisphenols in the priority chemical class

- Some bisphenols do not have robust hazard assessments, but will be treated as potentially hazardous.
- Several are on screening lists for hazards associated with the class:
  - Bisphenol B
  - Bisphenol Z
  - Bisphenol C
  - Bisphenol E
  - Tetramethyl bisphenol A
  - Tetrachloro bisphenol A
- No sufficient data to demonstrate these or other bisphenols do not share hazards of the data rich bisphenols.
- Tetramethyl bisphenol F scored as GreenScreen® Benchmark-2
  - No evidence of usage in thermal paper.
  - Does not meet our within-class criteria for safer—we're still evaluating.

# Conclusion: Hazards of bisphenols

- **Bisphenols as a class do not meet our minimum criteria for safer.**
- Data rich bisphenols used in thermal paper score as **Benchmark-1** chemicals and are present on authoritative and screening lists for multiple endpoints.
- Chemical alternatives will need to meet our minimum criteria to be identified as safer.


# Bisphenols in thermal paper

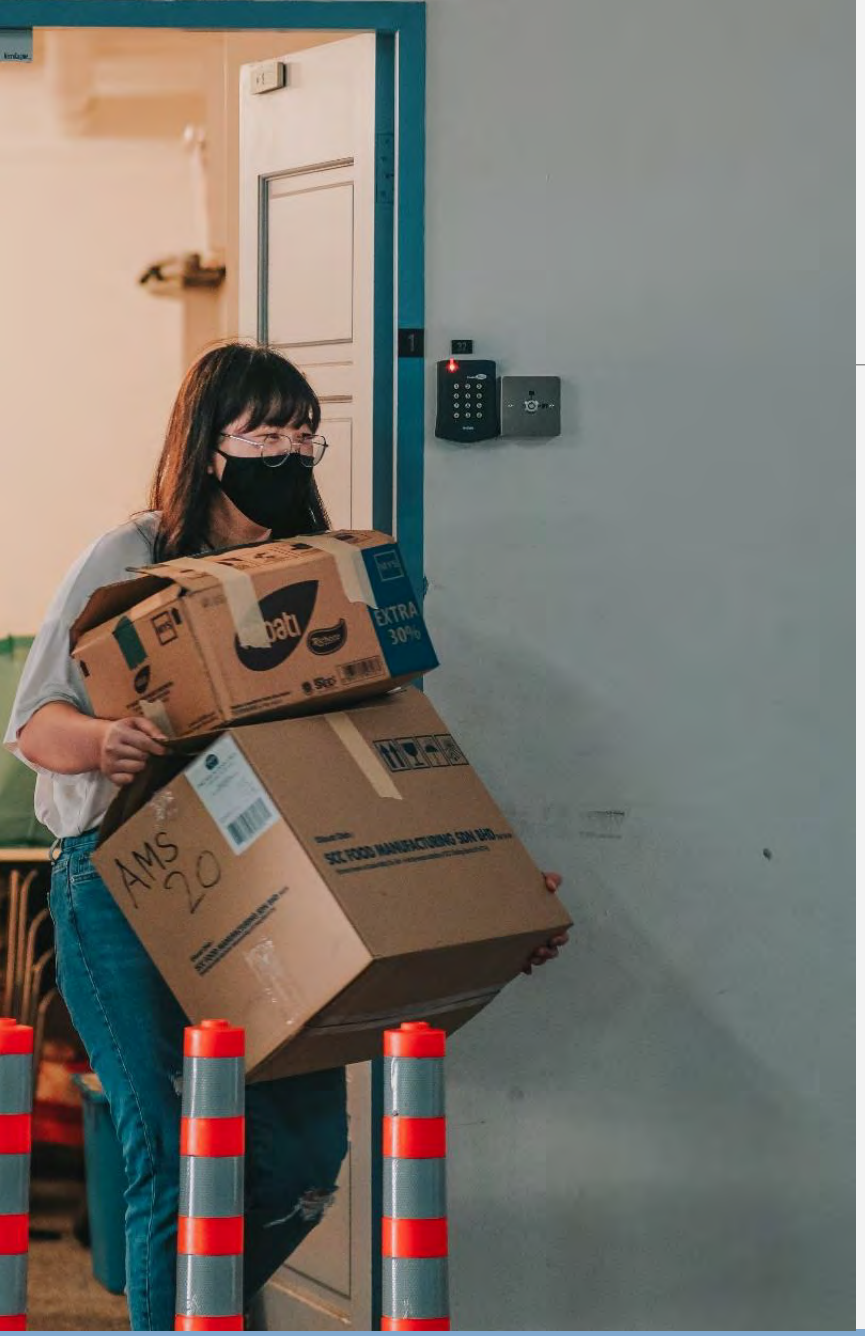
- Bisphenols in thermal paper are used as a **developer**.
- When exposed to heat, they melt and react with dyes to change their color.
- Chemical alternatives also act as developers.
- Alternative products can also quickly transmit information.

# Safer alternatives to bisphenols in thermal paper

- **Pergafast™ 201**
  - CAS 232938-43-1
  - Benzenesulfonamide, 4-Methyl-N-[[[3-[[(4-methylphenyl)sulfonyl]oxy]phenyl] Amino]carbonyl]
  - Made by Solenis.
  - Received BM-2 score.
- **Electronic receipts**/electronic paper
  - Safer since it does not use any additional chemicals.

# Feasible and available—Pergafast

- Drop-in replacement for BPA and BPS.
- No change in thermal printing machinery needed.
- Point-of-sale (POS) receipts:
  - Several retail chains use Pergafast™ 201 including CVS, Best Buy, Whole Foods.
  - Pergafast™ 201 containing POS receipts available online.
- Tickets/passes/labels:
  - Pergafast™ 201 marketed as being used and suitable for this application.
  - Testing from the EU shows Pergafast™ 201 used in:
    - POS receipts
    - Labels
    - Tickets




# Feasible and available—electronic paper

- Electronic versions currently used
  - REI, Home Depot offer e-receipts
  - Airlines use e-boarding passes
  - Ticketmaster, Eventbrite, etc. use e-tickets
- Not feasible for labels (physical copy required)


# Future steps

- Meet requirements for a restriction on bisphenols in thermal paper for all applications.
  - POS receipts
  - Tickets (transportation, event, parking, etc.)
  - Labels
  - Would not require use of Pergafast™ 201 or e-receipts
  - Consistent with restriction by other governments


# Section 3. Thermal paper discussion

# Questions? Input to share?

# Type in the Q & A box or raise your hand to unmute.

- Direct your question to everyone using the drop down arrow.
- If you need more than 512 characters, ask your question or give your input verbally.
- Raise your hand and we will unmute you to give your input.
  - If you're dialing in via phone, dial *3 to raise your hand.

# Thermal paper

| Feedback category | Feedback from stakeholders during the June 1 discussion |
|---|---|
| Analysis process | • Was the EPA's 2015 assessment noted? (https://www.epa.gov/sites/production/files/2015-08/documents/bpa_final.pdf) |
| Performance and availability of alternatives | • Potential alternative: Vitamin C—may contain diamines, which might not be desirable.<br>• Potential alternative: Physical changing paper.<br>• A California proposal for requiring electronic receipts was defeated. Many small businesses do not have the capability of generating electronic receipts as the software is expensive and some still handwrite receipts. |
| Other feedback | • How is Pergafast™ 201 as Benchmark-2 safer but not tetramethyl bisphenol F (TMBPF)?<br>• The Pergafast™ 201 issue makes me concerned that there is not a thorough scrutiny about alternatives other than "they are not part of the class." I'm surprised that a substance that is chronically toxic to aquatic life is considered safer. Would be great to know if there is human data to support its safety.<br>• The Pergafast™ 201 Safety Data Sheet lists it as toxic to aquatic life with long lasting effects. Can you provide more information on how a chemical with this toxicity is acceptable? |

# Get involved with our Phase 3 process

- Share your input on the working draft criteria for safer, feasible, and available.
- Don’t miss product-specific webinars this summer.
- Invite us to present to your group.
- Reach out to us to set up a meeting with our team.

# Stakeholder involvement next steps

- Make sure you are on our email list!
- Product-specific webinars continuing this summer.
- Formal public comment period on draft regulatory actions report (Fall 2021 – Winter 2022).

# Where are we at on the other products?

| Priority product | Priority chemical class | Status | Webinar target |
|---|---|---|---|
| Recreational foam | Flame retardants | Evaluating whether flame retardant free foam is feasible | July 13, 9:30 a.m. PST |
| Can linings | Bisphenols | Evaluating C2CC™ beverage can linings for safer, feasible, and available, looking for food can alternatives | July 13, 12 p.m. PST |
| Aftermarket treatments | PFAS | Evaluating Safer Choice carpet care products, identified other PFAS-free alternatives, working with manufacturers to evaluate safer | July 27, 9:30 a.m. PST |
| Personal care and beauty products | Phthalates | Identified dipropylene glycol as safer, assessing feasible and available, evaluating other alternatives on the Safer Chemical Ingredients List | July 27, 12 p.m. PST |

Have ideas or input on any of these products? Please reach out! We'd love to hear from you!

# Where are we at on the other products?

| Priority product | Priority chemical class | Status | Webinar target |
|---|---|---|---|
| Carpets and rugs | PFAS | Evaluating C2CC™ products and non-chemical alternatives | Late-Summer |
| Vinyl flooring | Phthalates | Ordered data from manufacturers, evaluating alternative plasticizers | Late-Summer |
| Printing inks | PCBs | Conducting product testing study, working on identifying inks with lower PCB concentrations | Late-Summer |
| Electric and electronic products | Flame retardants | Conducting product testing study, evaluating alternatives listed on TCO's positive list (GreenScreen® BM-2 or higher) | Late-Summer |

Have ideas or input on any of these products? Please reach out! We'd love to hear from you!

# Thank you for joining us!

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ecology.wa.gov/Safer-Products-WA

bit.ly/SaferProductsWA (Find links to everything here!)

Chapter 70A.350 RCW (formerly 70.365)


End of presentation.

# Safer Products for WA Implementation Process

The implementation process for Safer Products for Washington involves **four major phases**.

1. **Phase 1**. May 8, 2019: What chemicals are we most concerned about?
   - The first five priority chemical classes are PFAS, PCBs, phthalates, phenols, and flame retardants.
2. **Phase 2**. June 1, 2020: What consumer products contain these chemicals?
   - This phase identifies priority consumer products that are significant sources of exposure to people and the environment.
3. **Phase 3**. June 1, 2022: Do we need to regulate when these chemicals are used?
   - This phase determines regulatory actions—whether to require notice, restrict/prohibit, or take no action.
4. **Phase 4**. June 1, 2023: What rules do we need to keep people and the environment safe?
   - This phase includes restrictions on the use of chemicals in products or reporting requirements. Restrictions take effect one year after rule adoption.

After these four phases are completed, the **5-year cycle repeats**, and we return to Phase 1 to identify a new set of priority chemical classes.

# Process for identifying feasible and available alternatives

- **Step 1**: Identify the performance requirements of the priority product at the chemical, material, product, and process level.
- **Step 2**: Is the priority chemical necessary for the performance of the product?
  - If yes, move to Step 3.
  - If no, is it possible to meet the performance requirements of the product without the priority chemical?
    - If yes, the alternative is feasible, and we move to Step 5 to assess availability.
    - If no, the alternative is not feasible.
- **Step 3**: Is the alternative already used or marketed for the application of interest or a similar application?
  - If yes, the alternative is feasible, and we move to Step 5 to assess availability.
  - If no, move to Step 4.
- (Continued on next slide.)

# Continued: Identifying feasible and available alternatives

- **Step 4**: Have others identified it as a favorable alternative for this or similar applications?
  - If yes, the alternative is feasible, and we move to Step 5 to assess availability.
  - If no, the alternative is not feasible.
- **Step 5**: Is the alternative currently used for the application of interest?
  - If yes, the alternative is available.
  - If no, we move to the second part of Step 5.
- **Step 5 (second part)**: Is the alternative currently offered for sale for the application of interest? Is the price of the alternative close to the current?
  - If yes to both, the alternative is available.
  - If no (to one or both), the alternative is not available.