The webinar will begin shortly.

Safer Products for Washington: Safer, Feasible, and Available

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

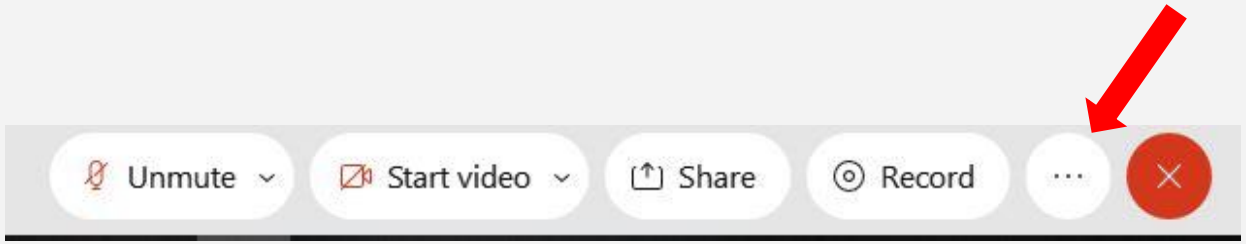
MARCH 10, 2020

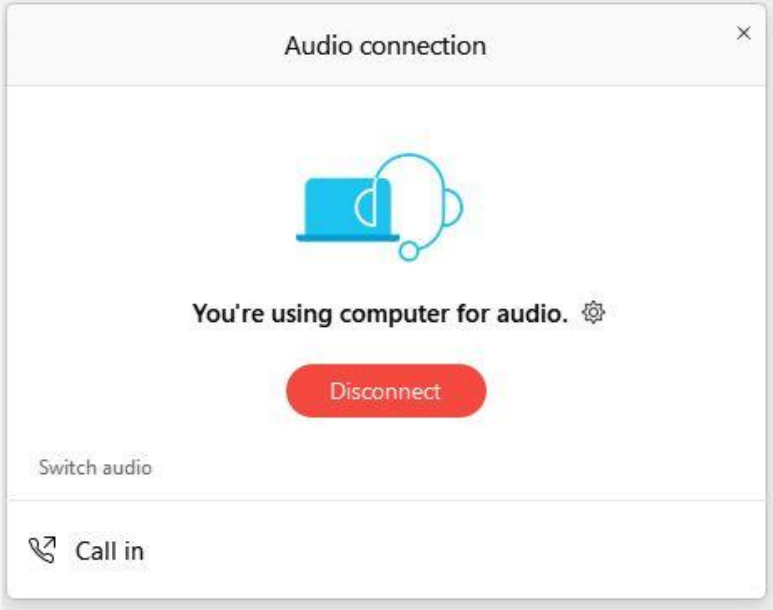
DEPARTMENT OF ECOLOGY State of Washington

Washington State Department of Health

Audio connection logistics

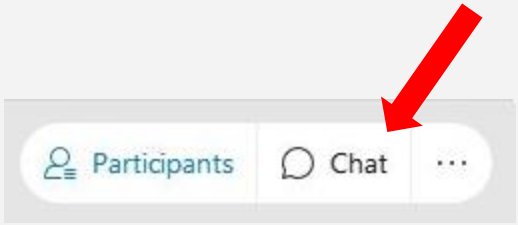
- For audio connection, we recommend using your computer speaker.
- If you are unable to join using computer audio, use “Call In” to access dial-in information.
- To open the audio options, select the three dots icon in the menu at the bottom of your screen.

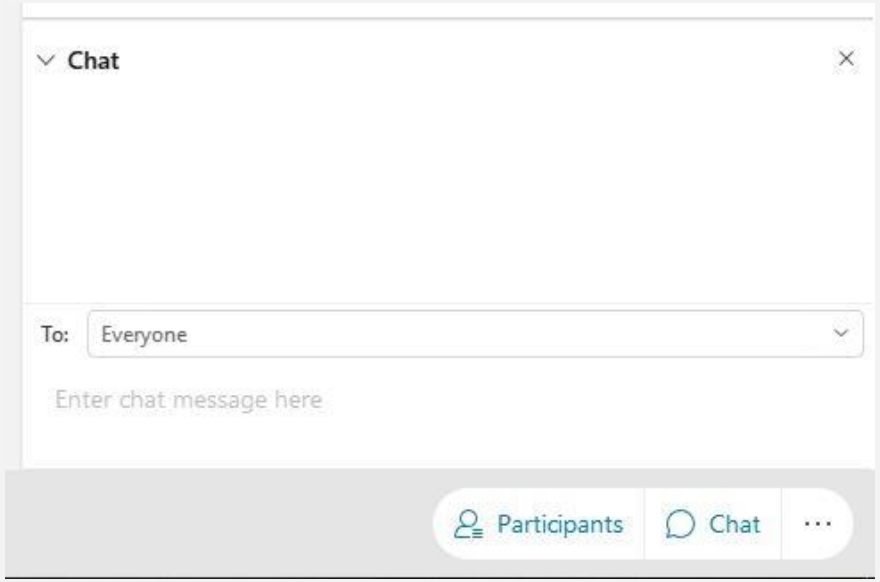




Webinar logistics

- All lines are muted.
- All questions should be typed into the Q & A box.
  - Ask them anytime, we will address at the end.
- All technical difficulty issues should be typed into the chat box.
- To open the chat box, select the chat button at the lower right hand side of your screen and the chat box will appear in the right panel.
- In the event of major technical difficulties, we will reschedule the webinar.





Safer Products for Washington:

Safer, Feasible, and Available

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, Barbara Morrissey, and Elinor Fanning.

What we'll cover

1. Recap: Safer Products for Washington background
2. How are we approaching safer?
3. How do others approach safer?
   - Presentations from EPA, Cradle to Cradle Product Innovation Institute, and Clean Production Action
4. How are we approaching feasible? How are we approaching available?
5. Opportunities for input
6. Questions and comments

DEPARTMENT OF ECOLOGY State of Washington

Washington State Department of Health

Guest presentations

Shari Franjevic
Clean Production Action

Susan Klosterhaus
Cradle to Cradle
Products Innovation Institute

Kat Compton
U.S. EPA Region 10

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 (RCW 70A.350).
- Act aims to reduce exposures to priority chemicals resulting from the use of consumer products.
- Act sets requirements for Ecology to:
  - Report to Legislature at multiple points.
  - 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.

Priority chemical classes

- In 2019, the Legislature identified the following as priority chemicals:
  - PFAS
  - Phthalates
  - Flame retardants
    - Organohalogen flame retardants and flame retardants identified under RCW 70.240.025
  - PCBs
  - Phenolic compounds
    - Alkylphenol ethoxylates
    - Bisphenols

Why these chemicals?

- Some chemicals within each of these classes are associated with:
  - Endocrine disruption.
  - Reproductive and developmental toxicity.
  - Cancer.
  - Organ system toxicity.
  - Ecotoxicity.
- Some chemicals within these classes are persistent and/or bioaccumulative.
- Almost everyone is exposed to chemicals within these classes.

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/summarypages/2004019.html

Phase 3

Regulatory actions

Determine whether to require notice, restrict/prohibit, or take no action.

June 1, 2022

DO WE NEED TO REGULATE WHEN THESE CHEMICALS ARE USED?

Phase 3: Make regulatory determinations

- RCW 70A.350.040(1)
  - (a) Determine that **no regulatory action is currently required**;
  - (b) Require a manufacturer to **provide notice of the use** of a priority chemical or class of priority chemicals consistent with RCW 70A.430.040; or
  - (c) **Restrict or prohibit** the manufacture, wholesale, distribution, sale, retail sale, or use, or any combination thereof, of a priority chemical or class of priority chemicals in a consumer product.

Regulatory determinations

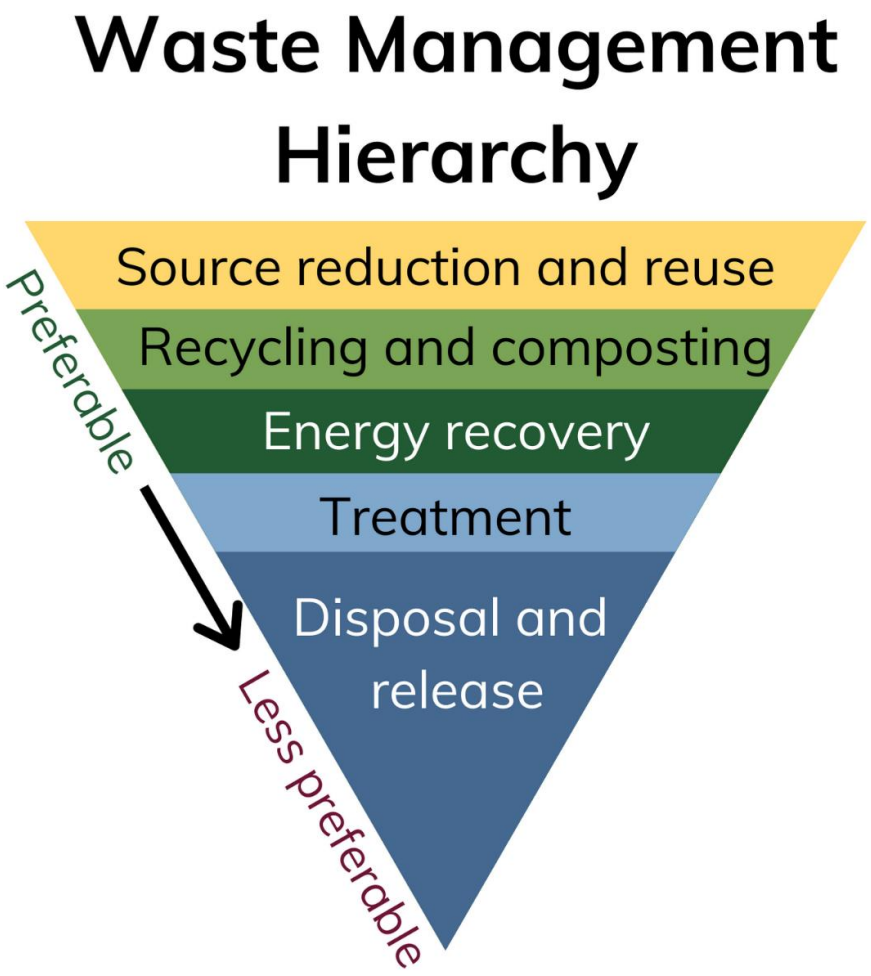
- In order to restrict the use of a priority chemical, **safer** alternatives must be **feasible** and **available.**
- The restriction must:
  - Reduce a significant source or use of priority chemical(s).

OR

  - Be necessary to protect sensitive species or sensitive populations.

Section 2. What is safer?

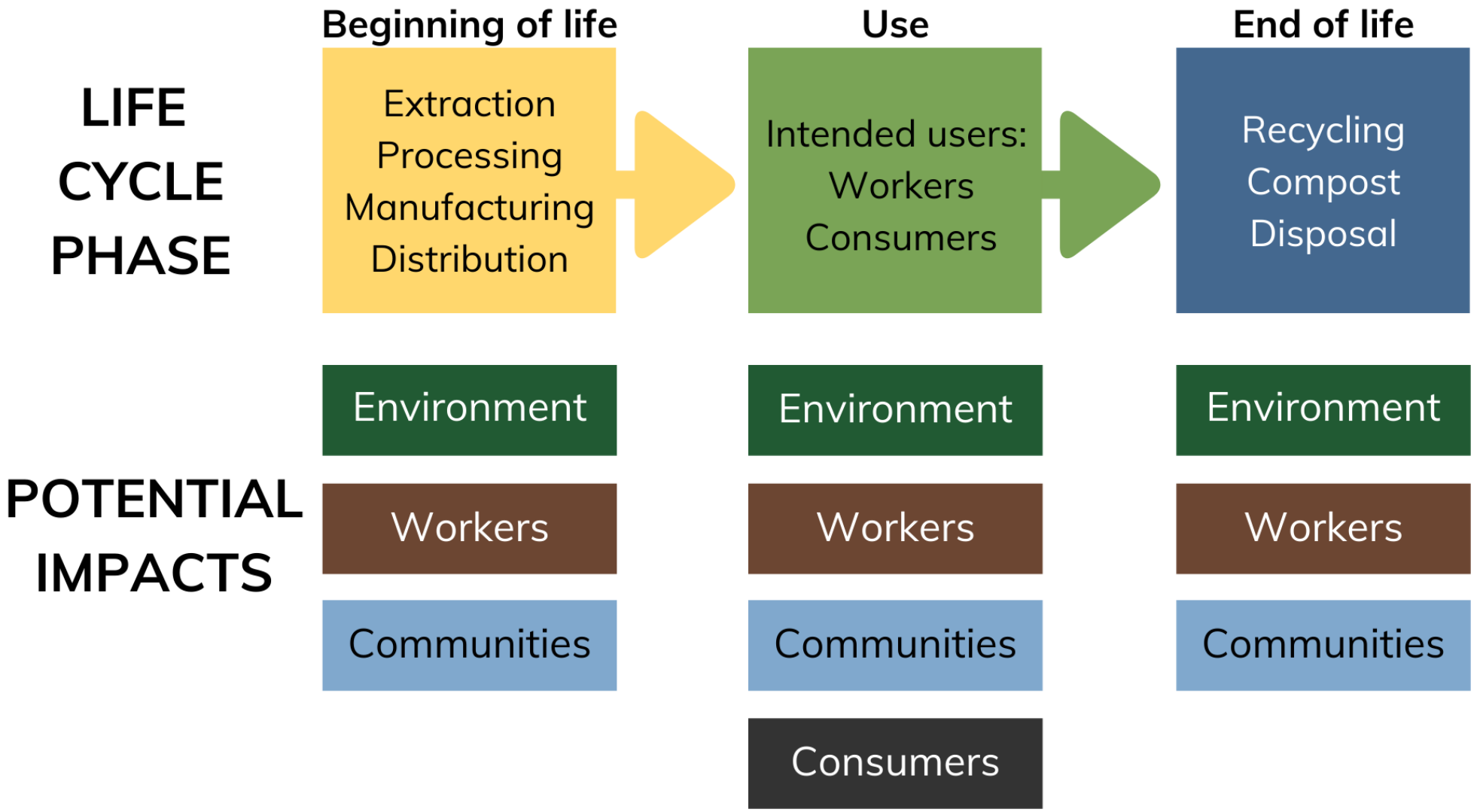
Reducing risks from priority chemicals



- Safer Products for Washington relies on principles of an alternatives assessment.
- The alternatives assessment framework focuses on reducing risk by avoiding exposure to hazardous chemicals
- Healthier for people and the environment.
- Avoids monetary and environmental costs associated with hazardous chemical cleanups.

↓ Hazard X Exposure = ↓ Risk

Lifecycle assessment consideration



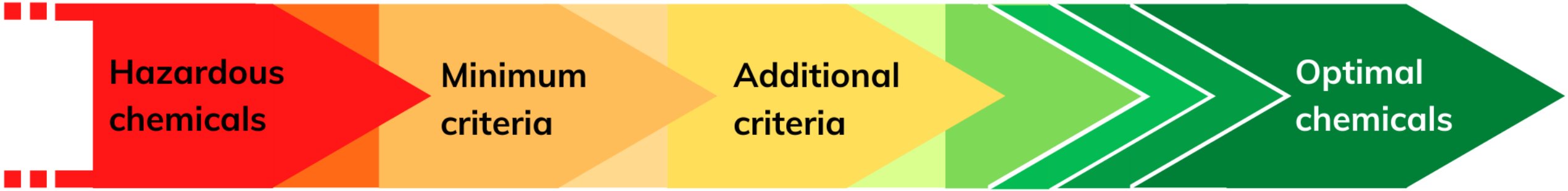
See an accessible version of this graphic.

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 or a change in materials or design that eliminates the need for a chemical alternative.

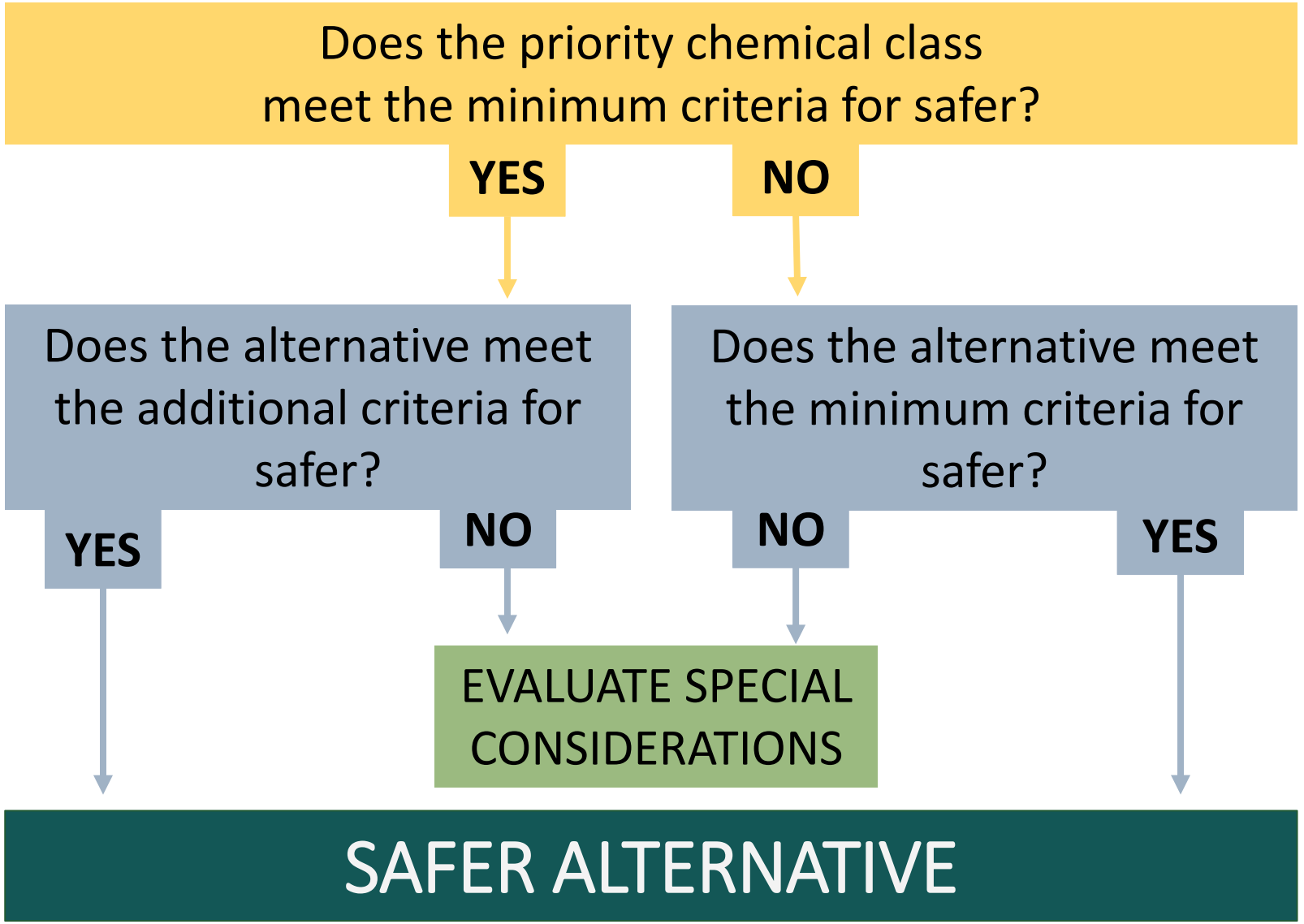
Summary of major changes

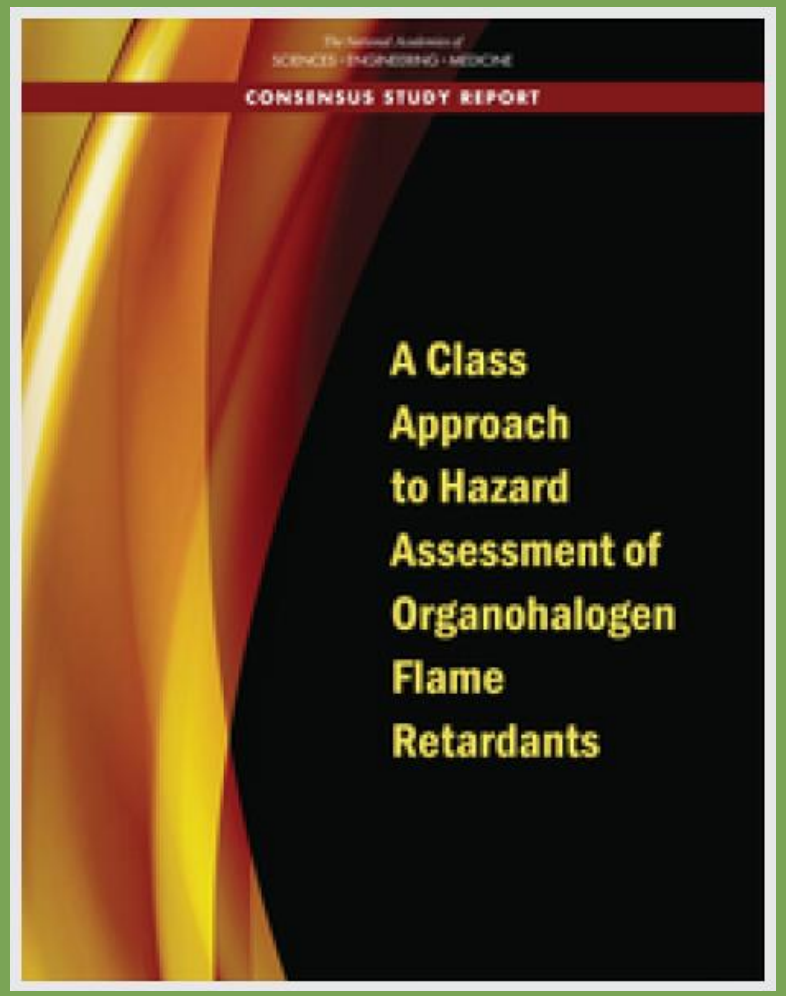
- Modified our class-based approach using scenarios from the National Academy of Sciences (NAS) Report on Organohalogen Flame Retardants.
- Clarified when we consider exposure and within-class alternatives.
- Modified the within-class criteria around endocrine disruption.
- Removed some data exemptions.
- No major changes to feasible or available criteria.



Criteria for safer is a *spectrum*

Process for identifying safer alternatives





How and why we approach chemicals by class

How?

- Borrow ideas from the NAS 2019 report on organohalogen flame retardants.
- Use NAS scenarios to classify chemicals with data gaps and variable hazard data.

Why?

- Avoids assuming no data = no hazard.
- Reduces regrettable substitutions.
  - BPS was not a safer alternative to BPA.
- Help address cumulative exposure.
  - Move beyond a single chemical approach.

NAS Scenarios for grouping chemicals

1. Data rich chemicals.
2. Data poor chemicals.
3. A mix of data rich and data poor chemicals.
4. Chemicals with variable or discordant data with respect to biological activity.

How can Safer Products for WA build on the NAS Scenarios?

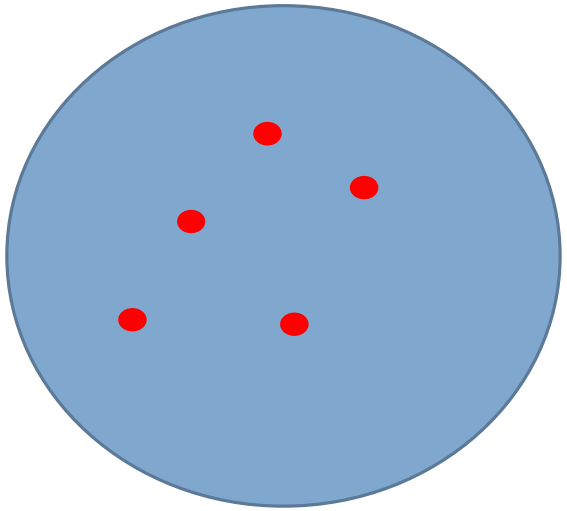
1. If there are all data rich chemicals → Assess the class based on data rich chemicals.
2. If there are all data poor chemicals → Unlikely to be a priority chemical class.
3. If there are data rich and data poor chemicals → Assess the class based on data rich chemicals.
4. If there is variable or discordant hazard data → We have three options (discuss later).
    - For us, variable data means some data rich chemicals in the class meet our minimum criteria for safer and other data rich chemicals in the class do not.

NAS scenarios 1 – 3

= Hazardous chemicals

= Chemicals with data gaps

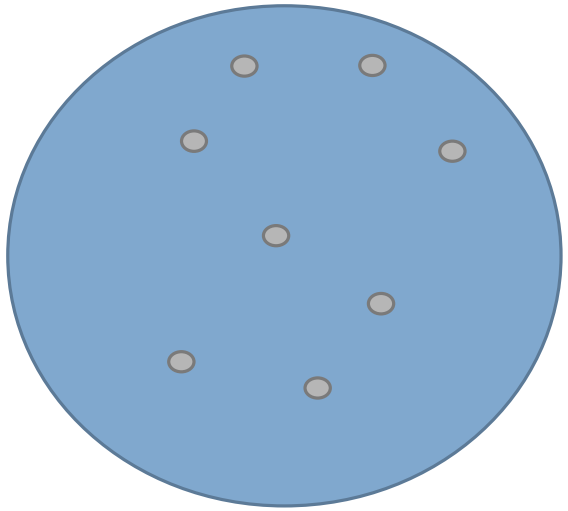
Chemical class: Scenario 1



All data rich chemicals

- Use the minimum criteria

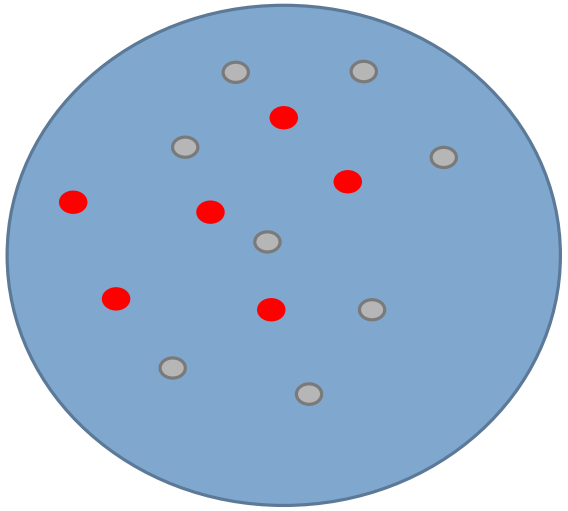
Chemical class: Scenario 2



All data poor chemicals

- Not relevant

Chemical class: Scenario 3



Mix of data rich and data poor chemicals

- Assume data poor chemicals are hazardous
- Use the minimum criteria

NAS scenarios 1 – 3

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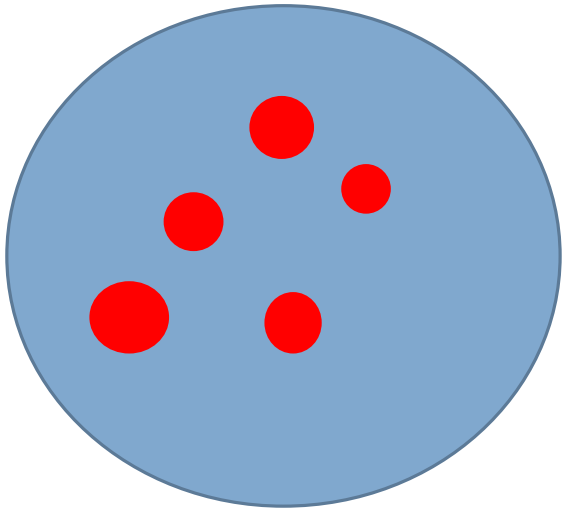
= Chemicals with data gaps

Chemical class: Scenario 1



All data rich chemicals

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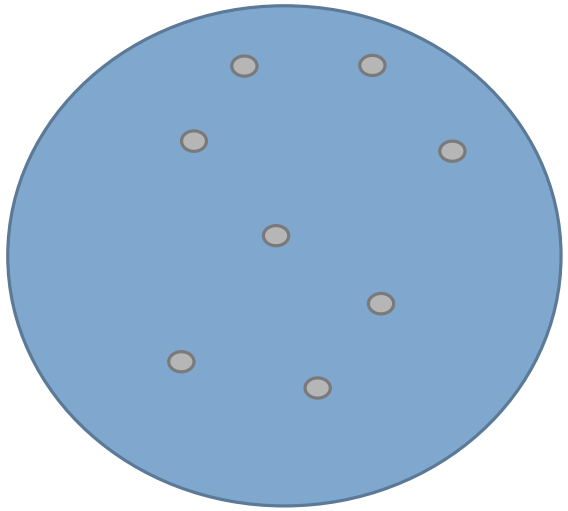
Chemical class: Scenario 2



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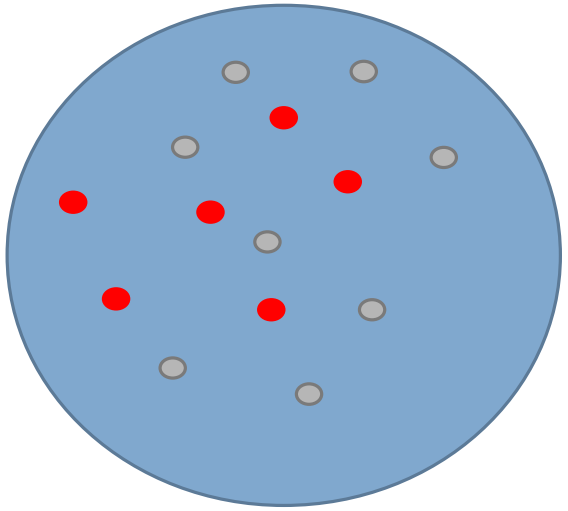

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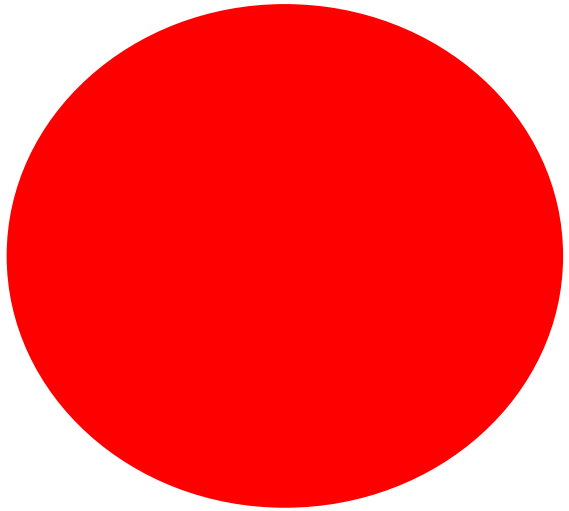

All data rich chemicals

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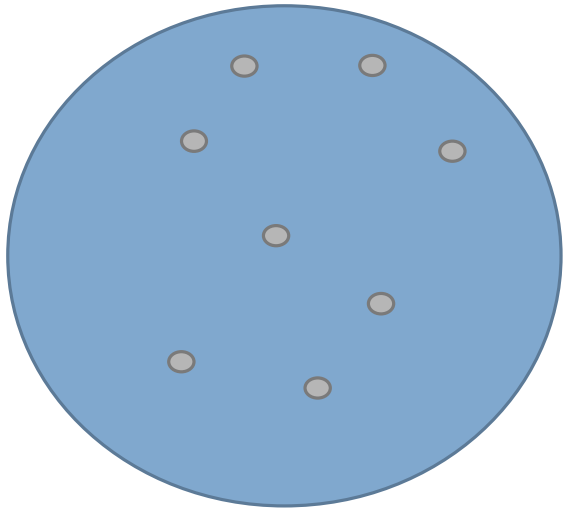
Chemical class: Scenario 2



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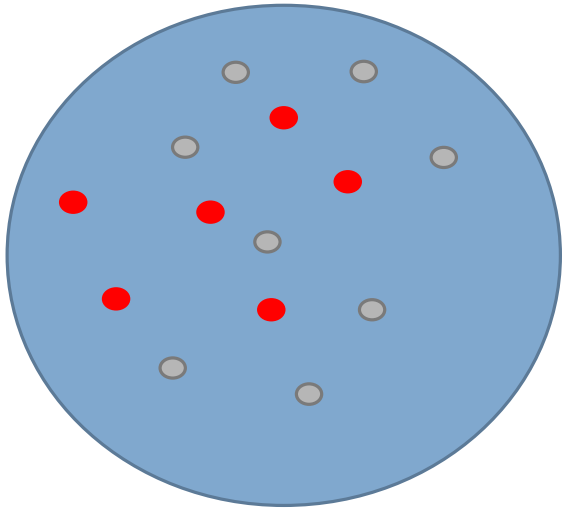

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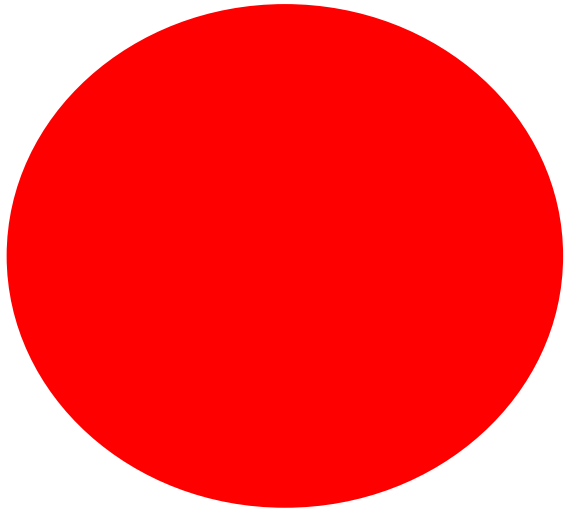

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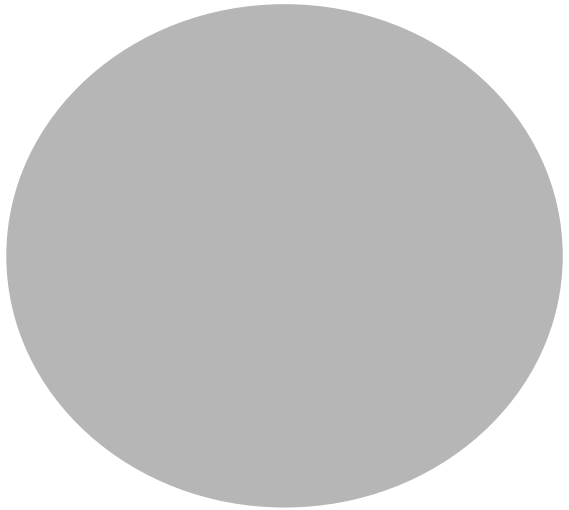

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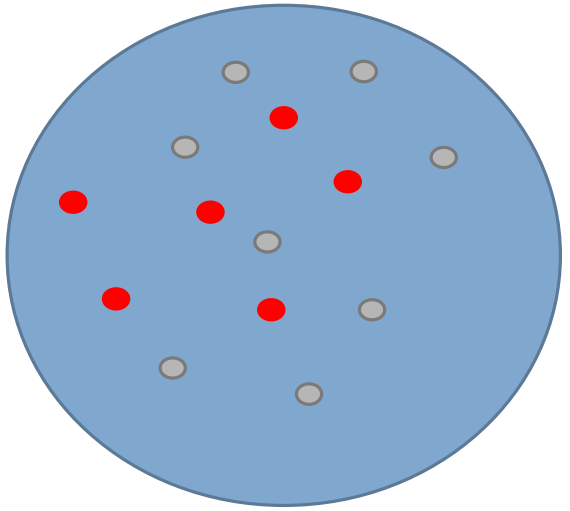

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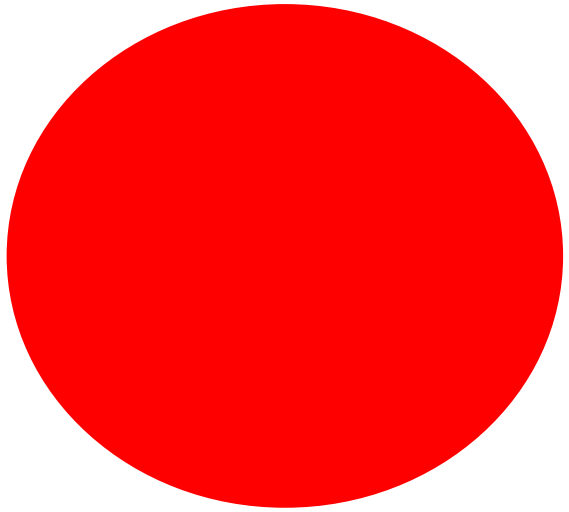

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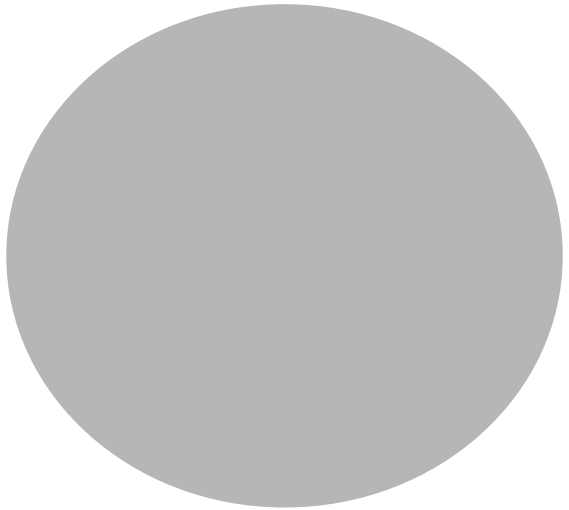
Chemical class: Scenario 2



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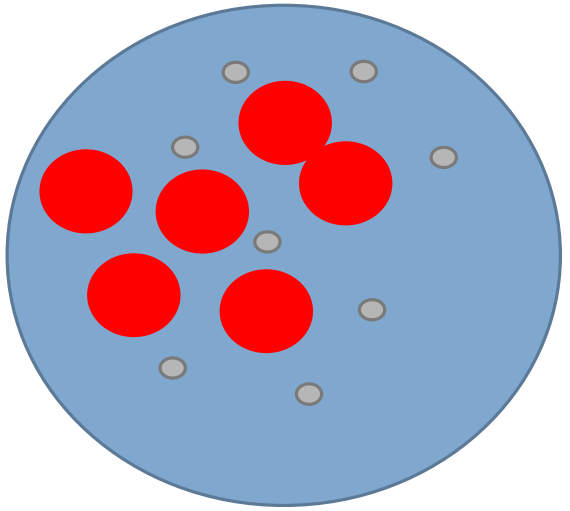

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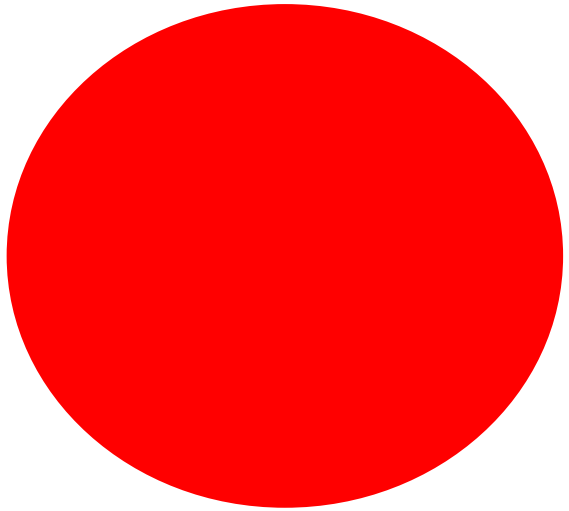

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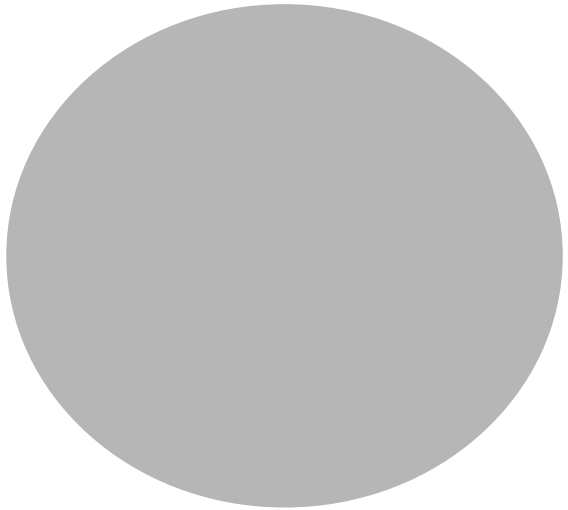

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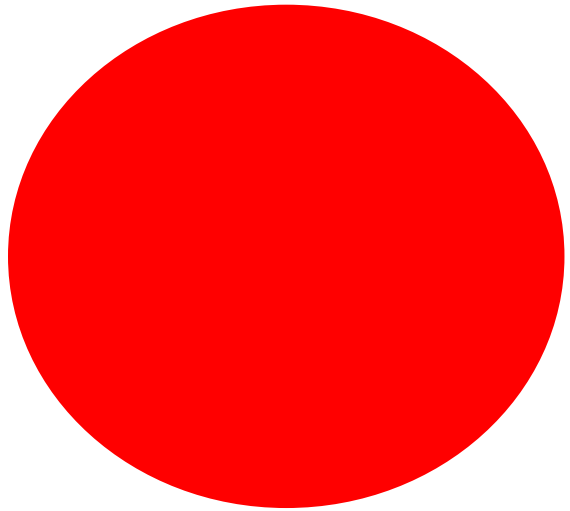

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NAS scenario 4: Variable data

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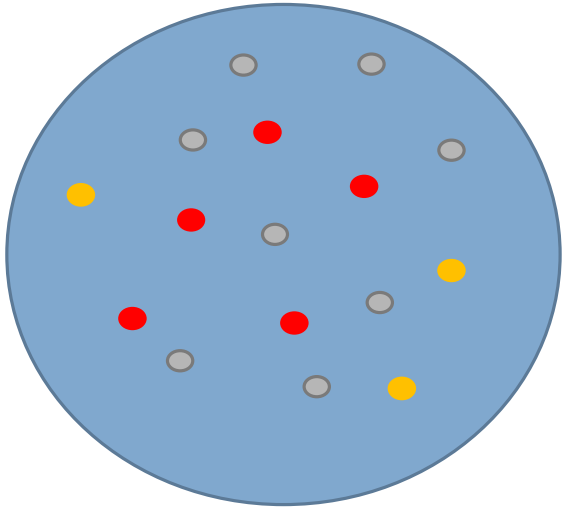
= Chemicals with data gaps
= Moderately hazardous chemicals
= Safer chemicals

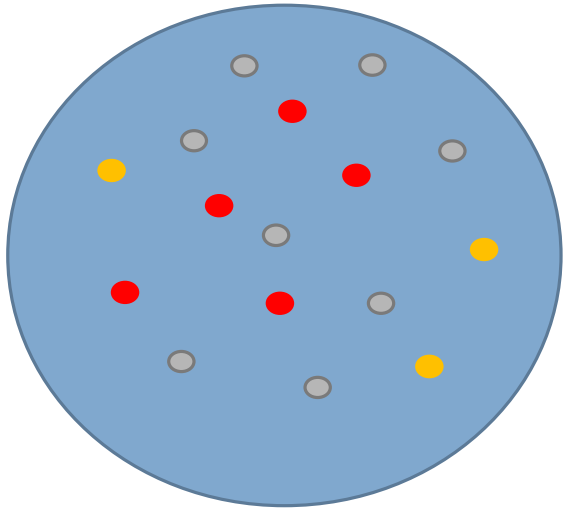
Chemical Class: Option 1



Make a conservative decision

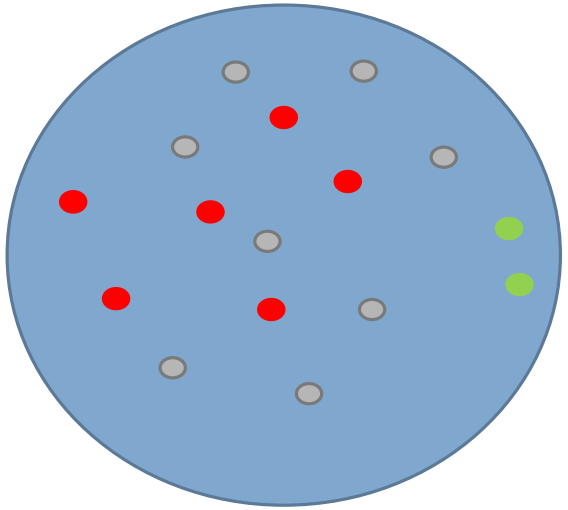
- Use minimum criteria

Chemical Class: Option 2



Classify based on the chemicals potentially found in the products

Chemical Class: Option 3



Identify chemicals that meet the within-class criteria for safer and exclude those

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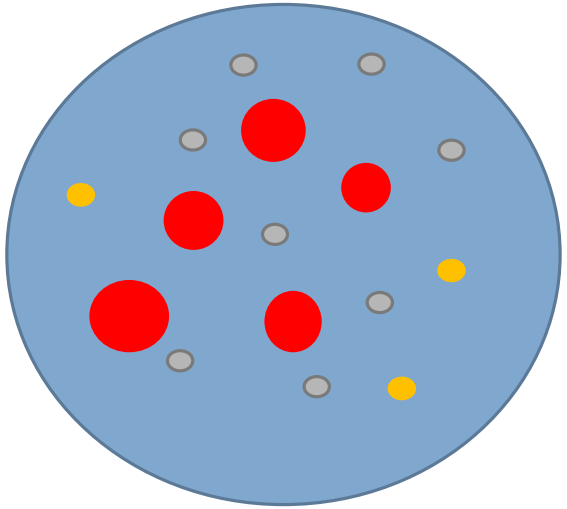

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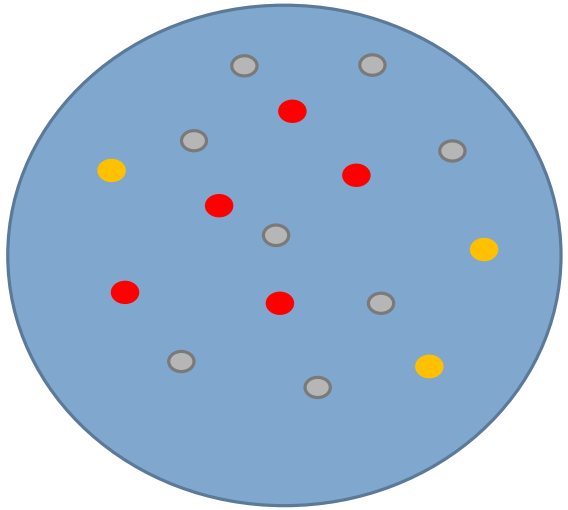

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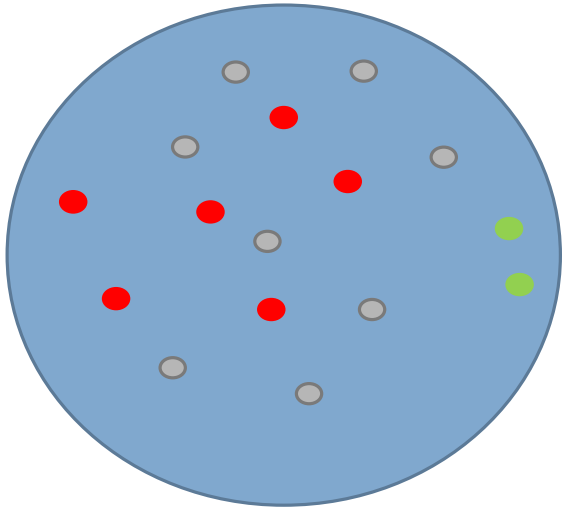

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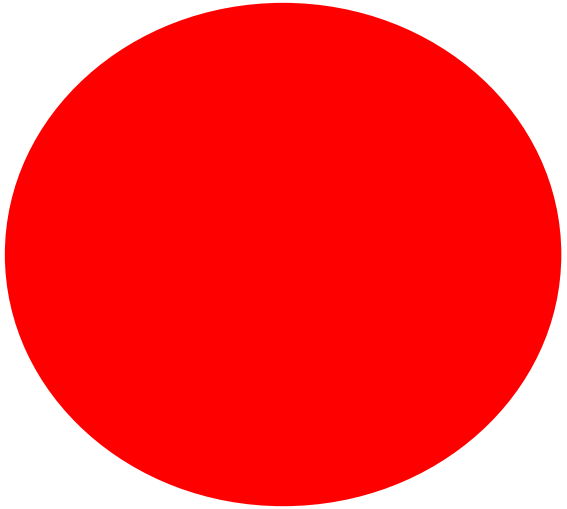

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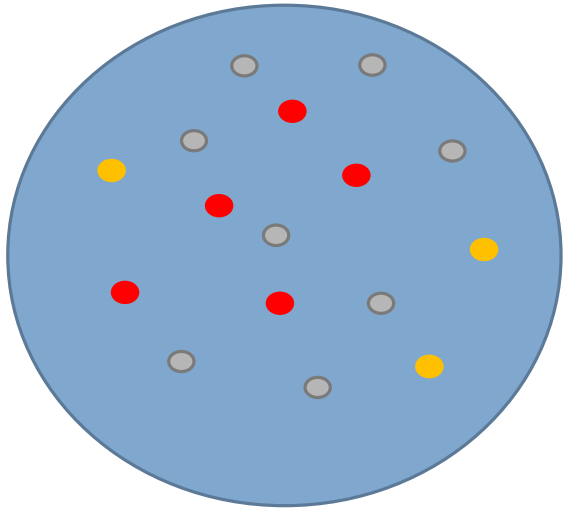

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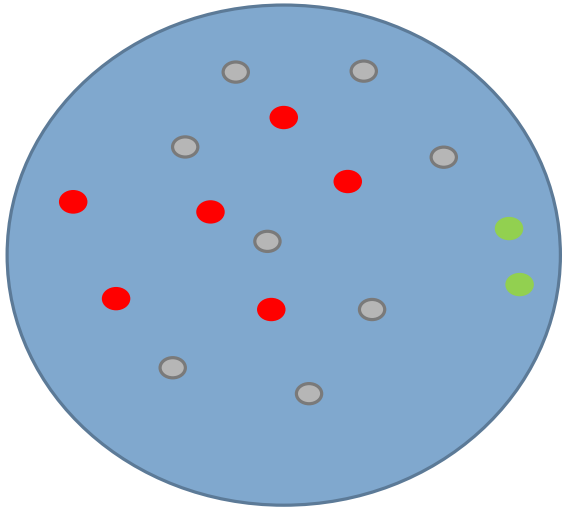

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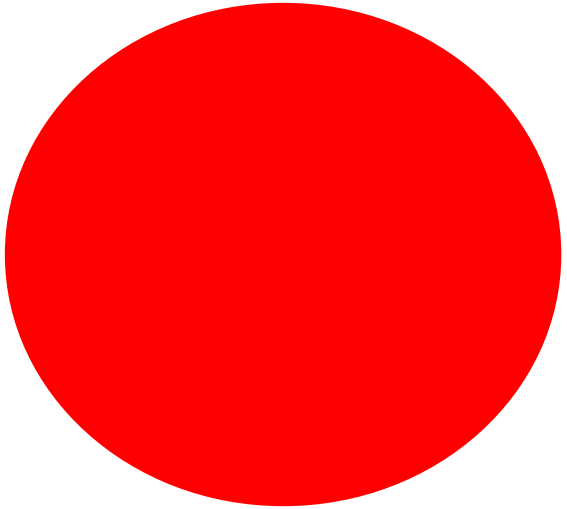

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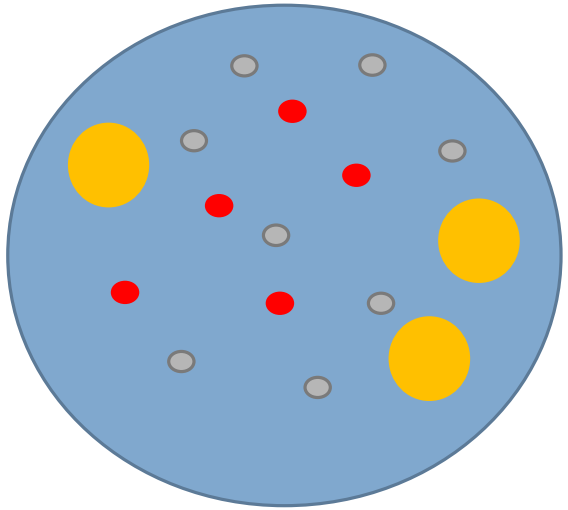

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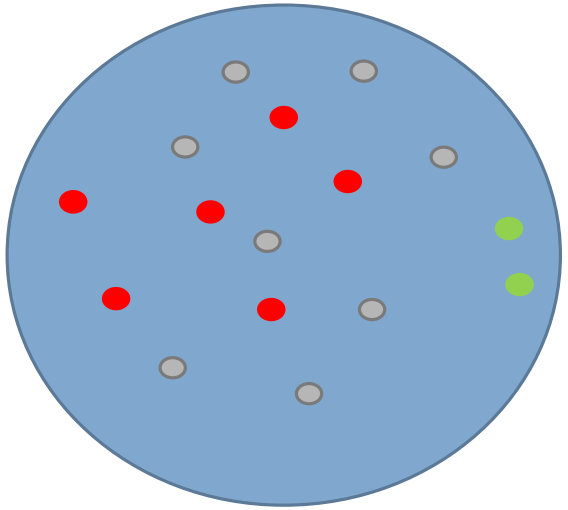

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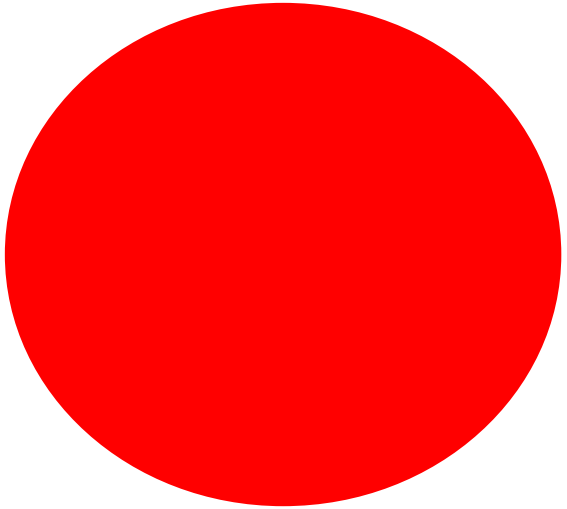
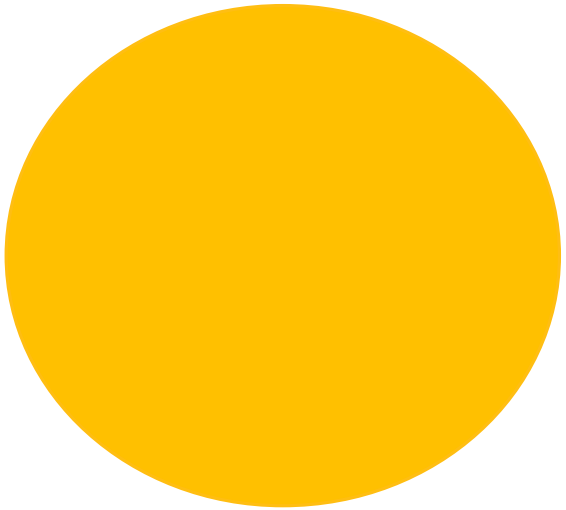


Make a conservative decision

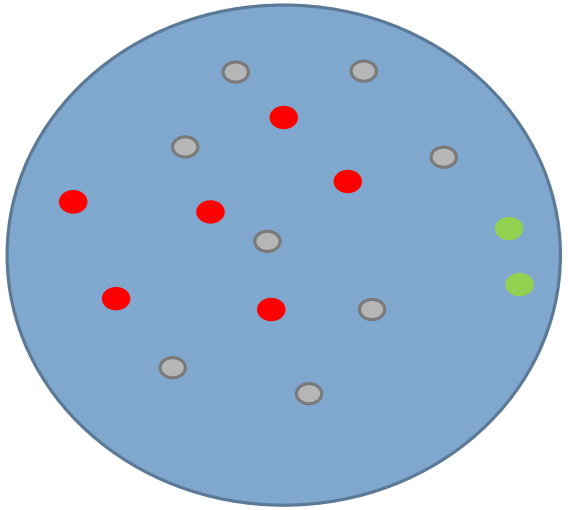
- Use minimum criteria

Chemical Class: Option 2



Classify based on the chemicals potentially found in the products

Chemical Class: Option 3

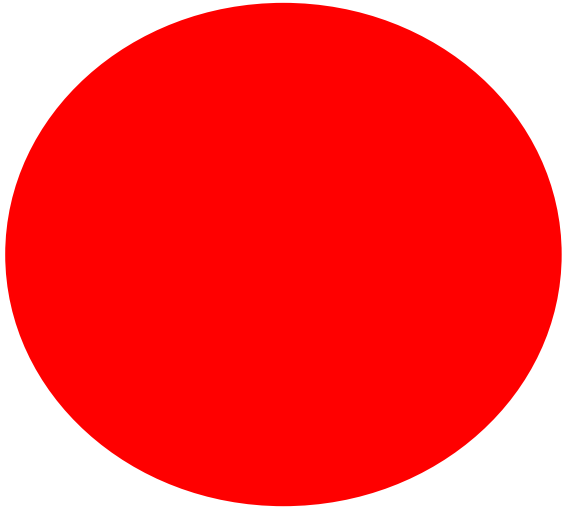


Identify chemicals that meet the within-class criteria for safer and exclude those

NAS scenario 4: Variable data

= Hazardous chemicals
= Chemicals with data gaps
= Moderately hazardous chemicals
= Safer chemicals

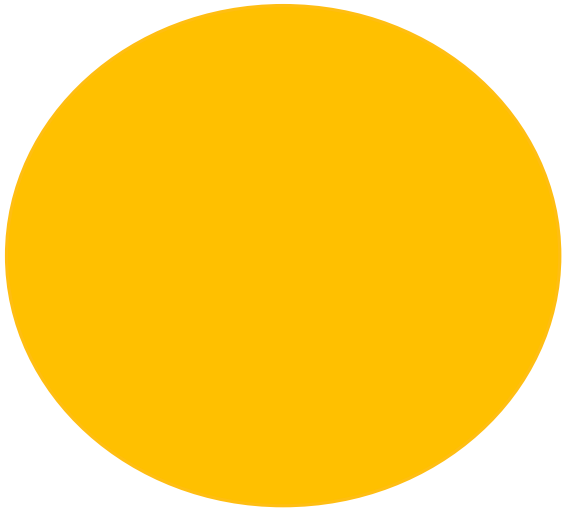
Chemical Class: Option 1



Make a conservative decision

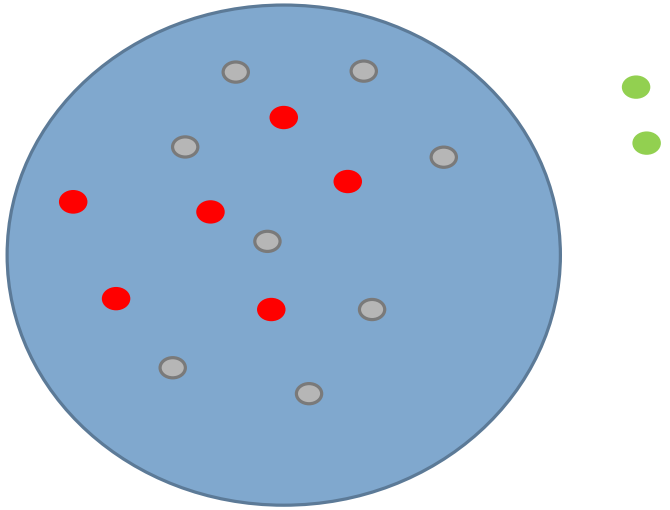
- Use minimum criteria

Chemical Class: Option 2



Classify based on the chemicals potentially found in the products

Chemical Class: Option 3



Identify chemicals that meet the within-class criteria for safer and exclude those

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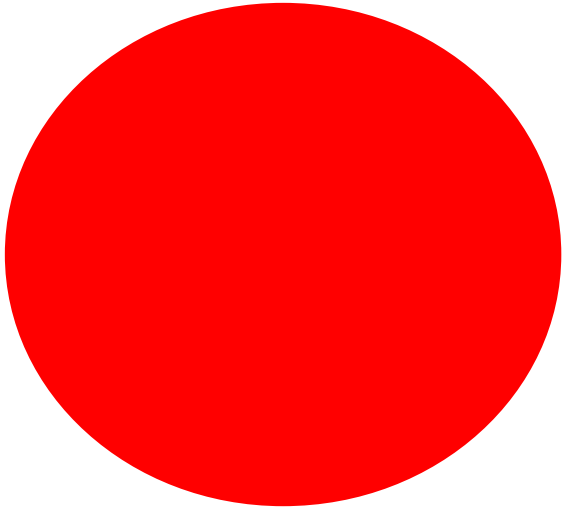
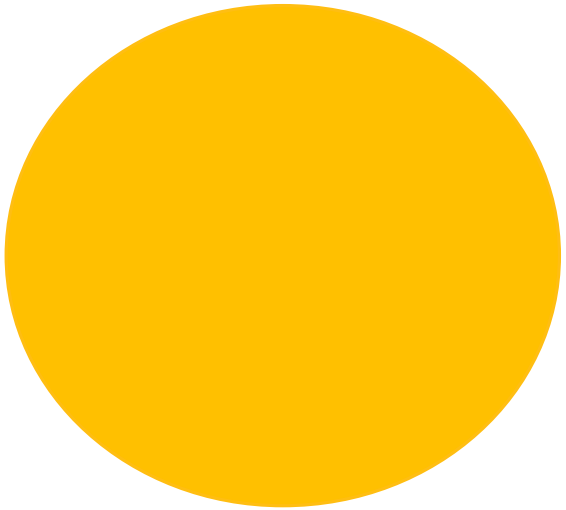
Chemical Class: Option 1



Make a conservative decision

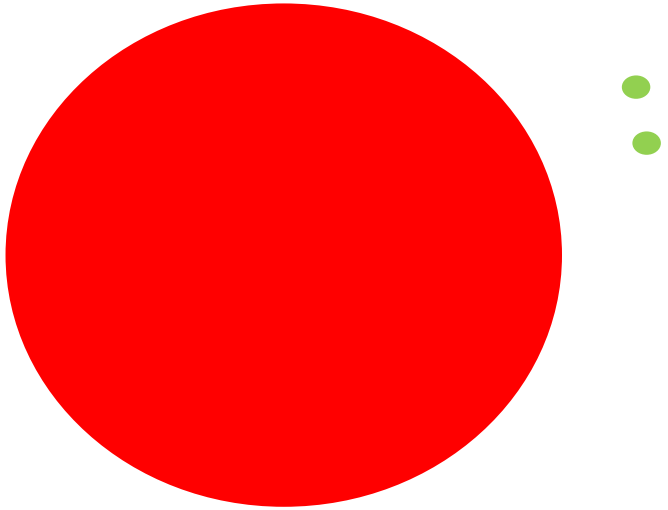
- Use minimum criteria

Chemical Class: Option 2



Classify based on the chemicals potentially found in the products

Chemical Class: Option 3



Identify chemicals that meet the within-class criteria for safer and exclude those

Minimum criteria for safer

- No chemicals with high concerns for carcinogenicity, mutagenicity, reproductive or developmental toxicity, or endocrine disruption.
- No chemicals that are very highly toxic in other ways and very persistent and/or very bioaccumulative.
- No very persistent and very bioaccumulative chemicals.
- For a full description—see the working draft criteria.

Additional criteria for safer

- Chemicals must have evidence showing lack of:
  - Carcinogenicity.
  - Mutagenicity.
  - Reproductive toxicity.
  - Developmental toxicity.
- No chemicals with endocrine disrupting properties associated with adverse health outcomes.
- No chemicals with high persistence and high bioaccumulation.
- If either persistence or bioaccumulation is high, all other required toxicity endpoints must be low.
- For the full description—see the working draft criteria.

Hazard data requirements

Hazard Endpoint	Requirement
Carcinogenicity	**Required**
Mutagenicity/Genotoxicity	**Required**
Reproductive or Developmental Toxicity	**Required**
Endocrine Disruption	Not required
Acute Toxicity	Not always required*
Single or Repeat Systemic Toxicity	Not always required*
Single or Repeat Neurotoxicity	Not always required*
Skin or Respiratory Sensitization	**Required**
Skin or Eye Irritation	Not required
Acute or Chronic Aquatic Toxicity	**Required**
Persistence	**Required**
Bioaccumulation	**Required**

* Two out of these three endpoints require data.

What chemicals are being evaluated?

- **Chemicals used in products to function like priority chemicals.**
- Certifications and labeling programs may evaluate whole products.
- Safer products do not need to have all ingredients meet the criteria for safer—**only the chemicals with the same function as priority chemicals.**

What chemical concentrations are evaluated?

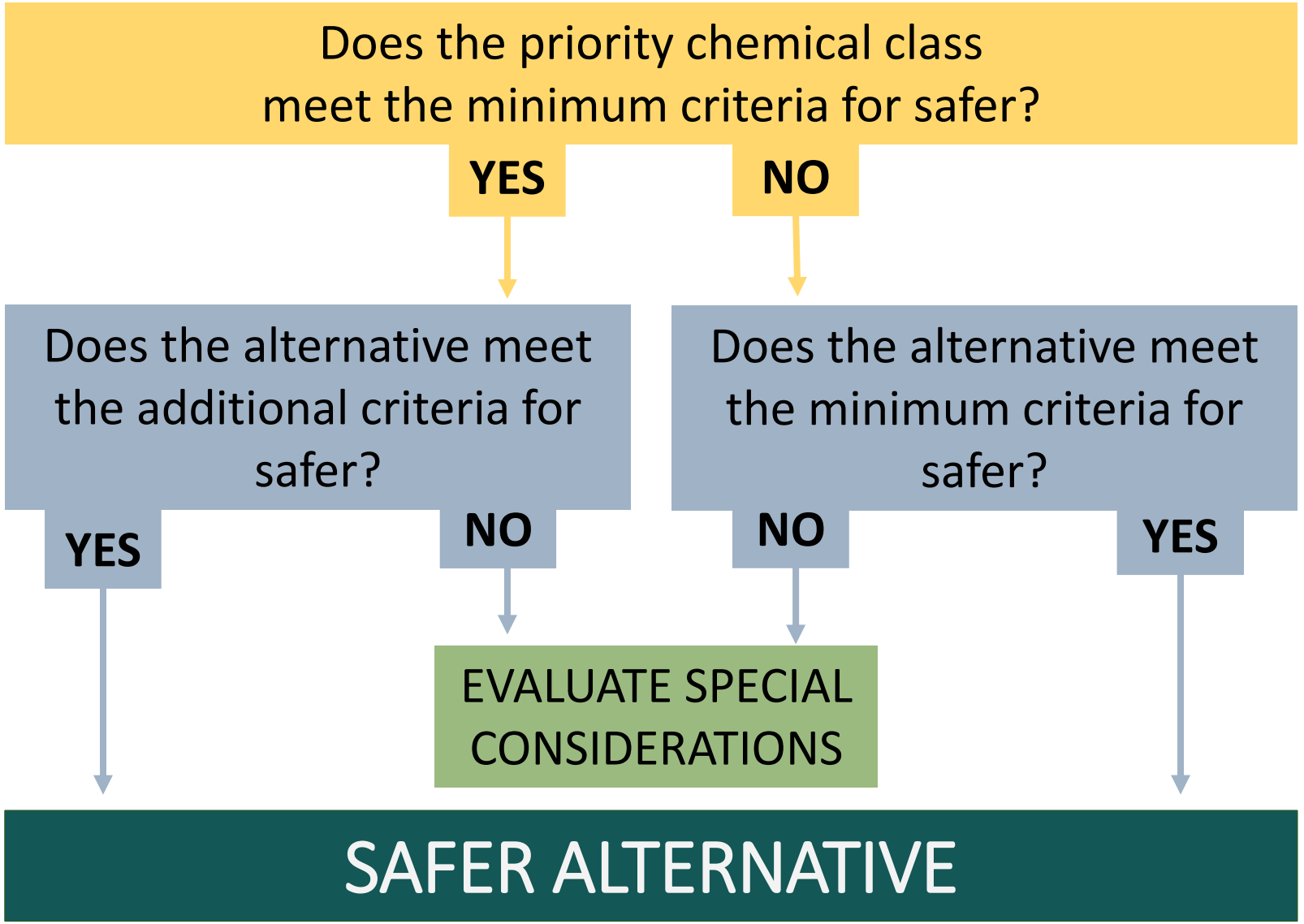
Must meet the full criteria:

- Any intentionally added chemicals over 100 ppm used to serve the function of the priority chemical.
- Known breakdown or transformation products at any concentrations.
- Residual monomers and impurities over 1,000 ppm.

Cannot be carcinogens, mutagens, or reproductive/developmental toxicants.

- Impurities between 100 and 1,000 ppm.

Process for identifying safer alternatives



Baking flour is not great to inhale, but good to eat.

How do we consider exposure?

- We only consider exposure if alternatives are not obviously safer based on hazard alone.
- When considering exposure, we ask:
  - Do exposure routes or exposure potential change the **relevant hazards?**
    - Chemical properties.
    - Potential exposure routes.
    - Chemical forms.
    - Attributes of the product.
    - Consider lifecycle impacts when possible.

Can an alternative chemical within the class ever be safer?

We only consider within-class alternatives if we do not identify safer alternatives outside the class.

- To confirm they do not share hazard traits with the priority chemical class, they must:
  - Meet the criteria for safer.
  - Not be highly persistent or highly bioaccumulative.
  - For hazards associated with the class, the alternative:
    - Cannot have data gaps.
    - Must score low for carcinogenicity, mutagenicity, reproductive or developmental toxicity.
    - Must have data showing it doesn't share a mechanism of action of endocrine disruption.

Section 3. How do others approach safer?

Guest presentations

Shari Franjevic
Clean Production Action

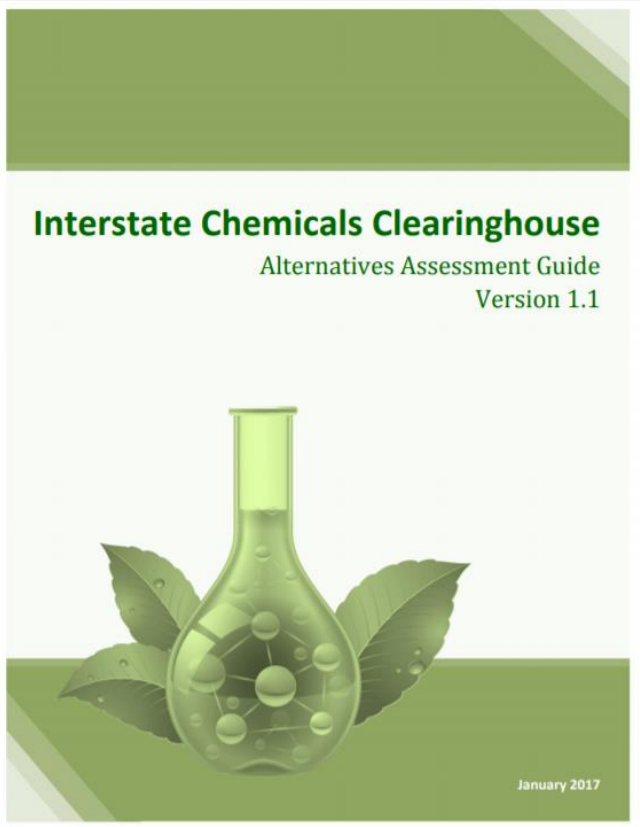
Susan Klosterhaus
Cradle to Cradle
Products Innovation Institute

Kat Compton
U.S. EPA Region 10

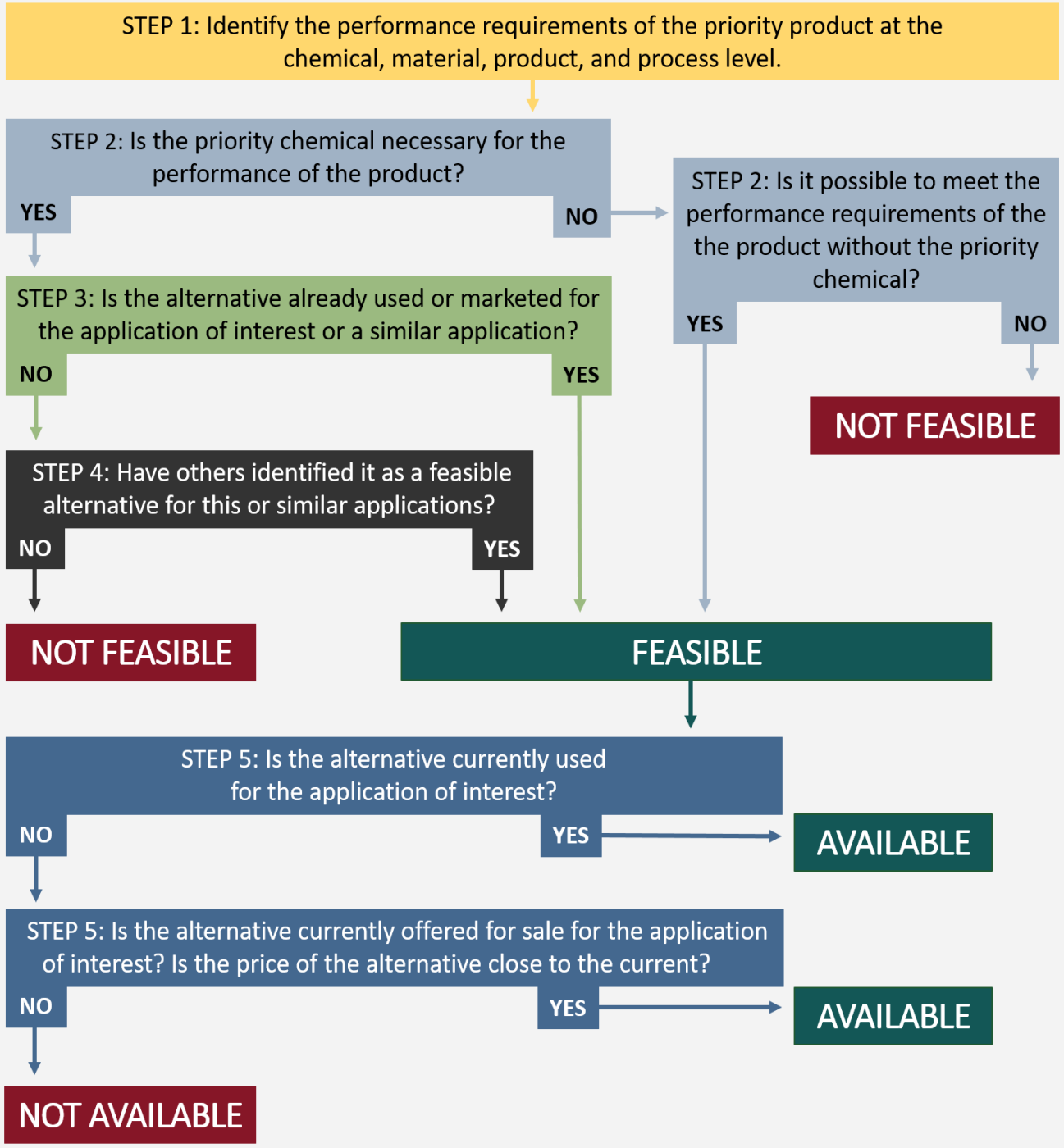
Section 4. Feasible and available

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.
- Feasible and available and are not defined in the statute.
- The IC2 created a guide for Alternatives Assessment (2017), which contains modules to assess feasibility and availability of 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.

IC2 Performance Module—How performance is defined

STEP 1: What are the performance needs for the application, process, or product that contains the priority chemical? Why is the priority chemical being used in this specific application?

- What are the performance requirements at the:
  - Chemical level?
  - Material level?
  - Product level?
  - Process level?

IC2 Performance Module—Is the chemical necessary?

STEP 2: If step one does not identify any performance needs related to the priority chemical, we need to consider whether that chemical is functionally necessary for the product.

a. **Could an alternative process serve this function?**
   - If alternative processes achieve the same function, consider whether a product without the priority chemical could show the same performance requirements.

b. **Is the priority chemical an impurity or a by-product of the manufacturing process?**
   - If removing the chemical is feasible without affecting performance, then this is a feasible alternative.

c. **Are other chemical sources available without the by-product, impurity, or contaminant?**
   - If alternative sources are available without affecting performance, then this is a feasible alternative.

IC2 Performance Module—Performance assessment

STEP 3: Has the alternative(s) already been identified as a favorable alternative with respect to performance?

- Are others using the alternative for the same or similar function? For example, is a chemical being used as a flame retardant in other applications?
- Is the alternative used in similar products available on the market?
- Is the alternative marketed in promotional materials as an option for providing the desired function in the application of interest?

STEP 4: If we did not find enough information in Step 3 to show feasibility.

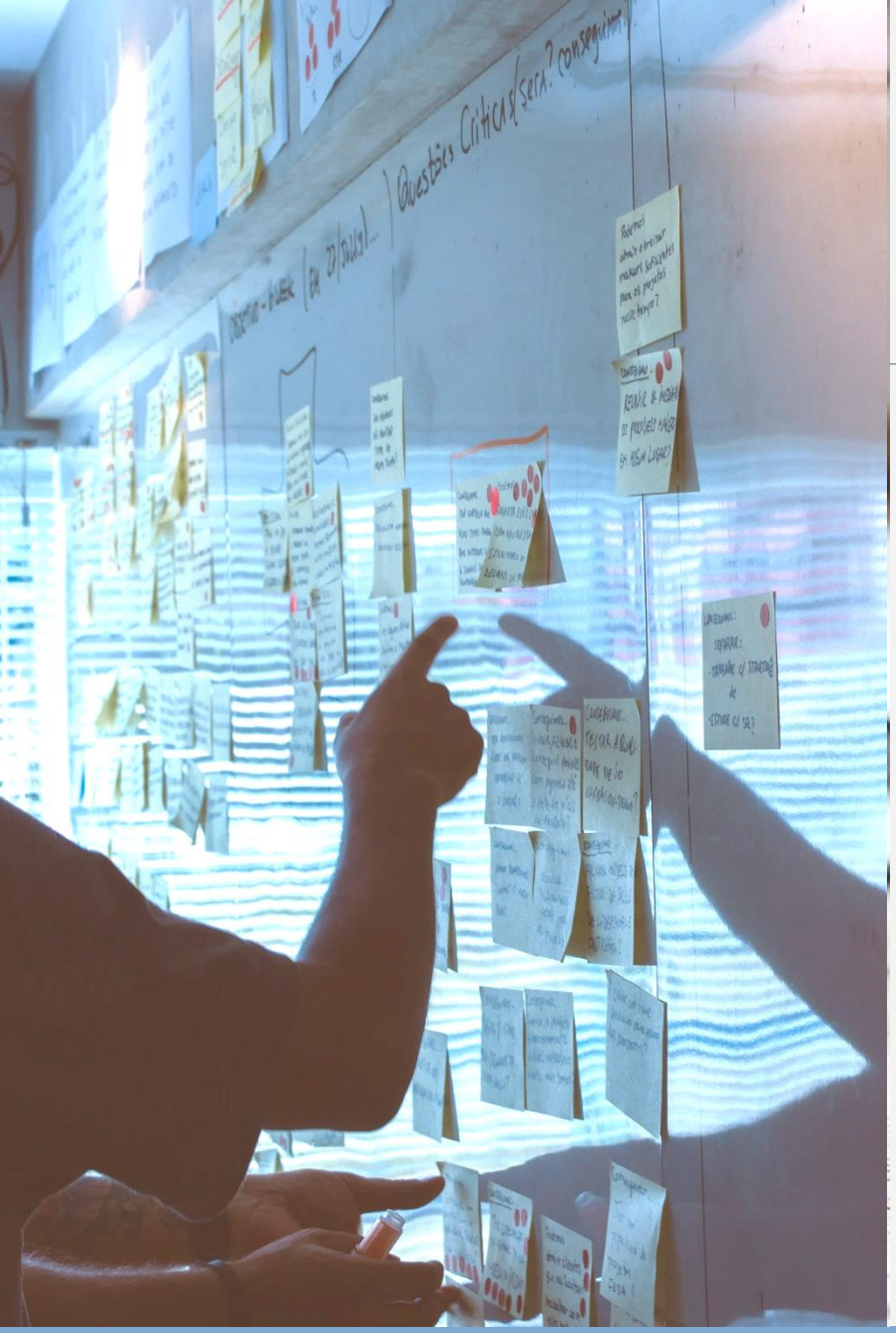
- If an authoritative body has identified the alternative as favorable, then the alternative may be feasible.

IC2 Cost and Availability Module

STEP 5: The IC2 guide identifies two key questions for assessing cost and availability. If the answer to either question is positive, the alternative is considered favorable for both cost and availability.

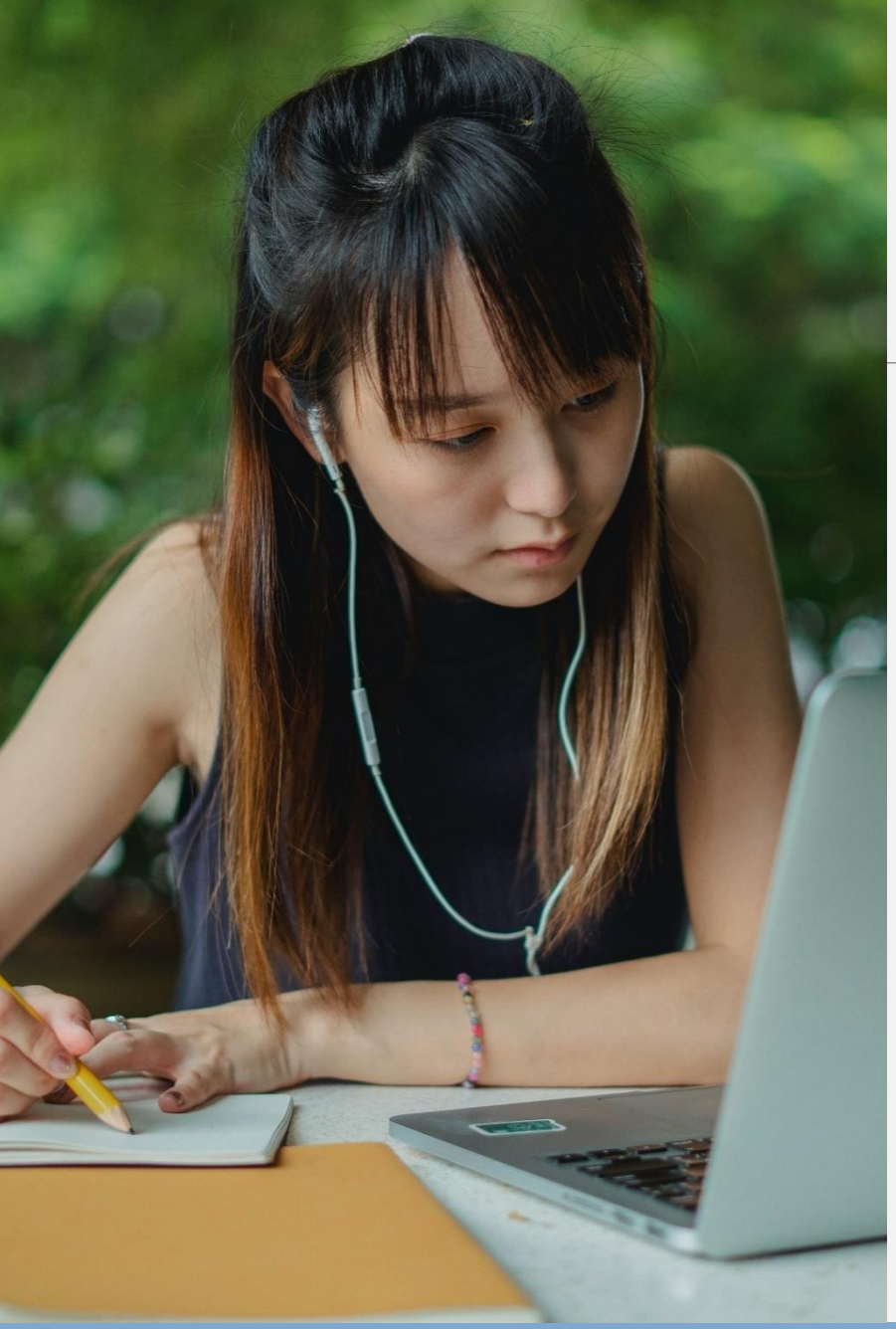
- Is the alternative currently used in the application of interest?
  - This is the same question as Step 3.
- Is the alternative currently offered for sale for the application of interest? Is the price of the alternative close to the current?
  - "Close to the current" is not yet defined, and may depend on the chemical-product combination.

Section 5. Opportunities for input



Get involved with our Phase 3 process

- Review the working draft criteria for safer, and the criteria for feasible and available.
- Think it over, and reach out to us if you have more input.
  - Invite us to one of your meetings!
  - Or, let us do the work to set up a call.



Stakeholder involvement next steps

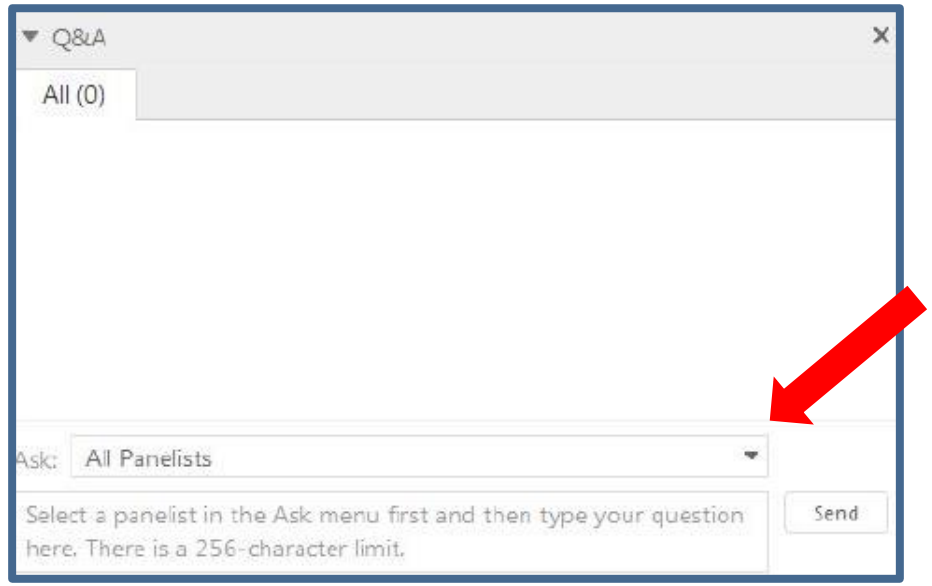
- Make sure you are on our email list!
- Product-specific webinars (Spring – Fall 2021).
- Formal public comment period on draft regulatory actions report (Fall 2021 – Winter 2022).

Section 6. Questions

Questions? Comments?

Type them in the Q & A box.

- Use the drop-down arrow to select who to ask your question to.
- Choose **all panelists**, not host or presenter.
- This ensures we can keep track of and address all questions.
- If you need more than 256 characters, send us an email at SaferProductsWA@ecy.wa.gov.



Thank you for joining us!

SaferProductsWA@ecy.wa.gov

ecology.wa.gov/Safer-Products-WA

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

Chapter 70A.350 RCW (formerly 70.365)

DEPARTMENT OF ECOLOGY State of Washington

Washington State Department of Health

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.

Lifecycle assessment consideration

The Safer Products for Washington program considers the full lifecycle of products and the potential impacts at each stage in the lifecycle.

1. The beginning of life phase involves extraction, processing, manufacturing, and distribution. During this stage, there are potential impacts to the environment, workers, and communities.
2. The use phase involves workers, consumers, and intended users of the products. During this stage, there are potential impacts to the environment, workers, communities, and consumers.
3. The end of life phase involves recycling, compost, and disposal of products. During this stage, there are potential impacts to the environment, workers, and communities.

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.