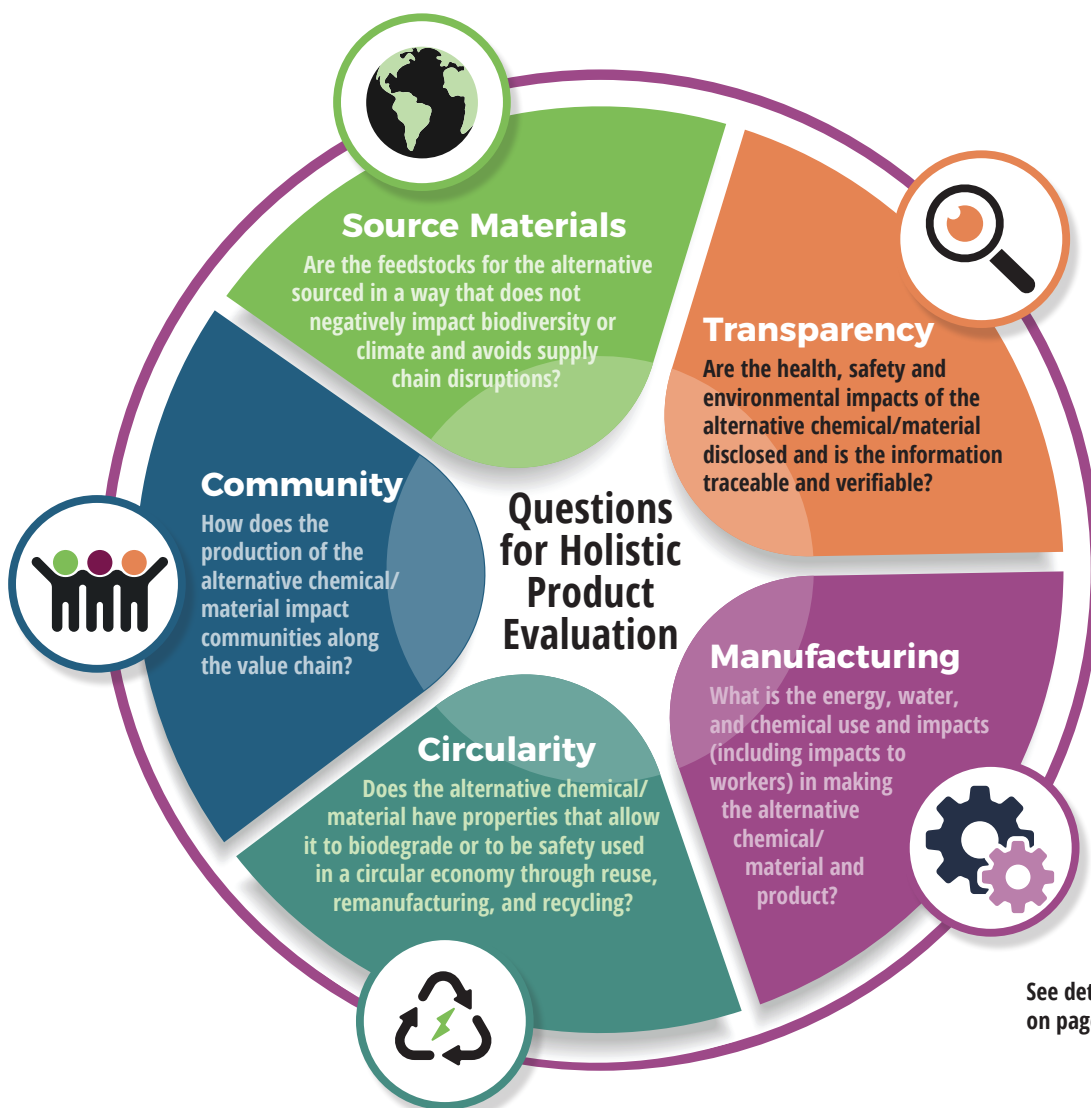


Holistic Product Considerations for Alternatives Assessment

DECEMBER 2023



See detailed questions on pages 2 and 3.

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This framework is designed for use by a retail or brand manager who aims to make an informed decision before recommending or approving a change in a specific chemistry or class of chemicals. A subcommittee of the Change Chemistry Retailer Leadership Council including representatives of Target, Amazon, H&M, and Kingfisher has worked collaboratively to create Version 1. This question framework can serve as a starting point to help users understand what additional impact areas should be considered in the decision and how to think about the change holistically. The subcommittee understands that metrics may be needed to quantify and compare impacts and was deliberate in creating a qualitative framework as an initial assessment step.

We also understand that it can be challenging to meet all sustainability aspirations for a product and it is useful to understand and acknowledge the trade-offs that occur when prioritizing certain attributes. Organizations differ in their business strategies, cultures and values that drive decision-making. Your organization may choose to build from this qualitative framework and create a ranking system that weighs different attributes according to your priorities.

PREREQUISITES

1. An assessment has been done that a chemical or material is necessary for the function needed, rather than a process change or other technology.
2. The alternative chemical/material performs as required for the function needed and meets applicable regulatory requirements.
3. The alternative chemical/material meets the minimum criteria and assessment practices specified on pages 25, 43, and 44 of the [OECD Guidance on Key Considerations for the Identification and Selection of Safer Chemical Alternatives](#).

QUESTIONS TO CONSIDER

Transparency of chemical ingredients and additives

- Are health, safety and environmental impact information disclosed in an accessible format?
- Is full information provided about the additives in raw materials, such as fillers, plasticizers, or colorants?
- Is there a clear chain of custody/traceability of chemicals/materials?
- Is this information verified/third-party certified?

Circularity

- Does use of the alternative chemical/material support (or not prevent) the creation of products that are biodegradable and/or compostable into safe component/molecules?
- Does use of the alternative chemical/material result in less waste throughout the product lifecycle?
- Does use of the alternative chemical/material support the extension of product life through repair, reuse, and/or recycling and support the creation of products that are appropriately durable for their expected lifetime?

Circularity (CONTINUED)

- Does use of the alternative chemical/material support the creation of products that are designed for disassembly and can be taken apart and remanufactured?
- Are single use components or packaging minimized or eliminated (unless designed to rapidly and safely biodegrade)?

Manufacturing (of chemical/material alternative **AND** of a product containing this alternative)

Compared to the manufacturing of chemical of concern/use of chemical in product production

- Is the manufacturing process for the alternative chemical, material or product more efficient or similar in energy, water and overall chemical use?
- Does the manufacturing process for the alternative chemical/material or product reduce or maintain the same quantity of harmful releases to air, water, and land across its lifecycle?
- Does the manufacturing process for the alternative chemical/material or product reduce or maintain the same quantity of greenhouse gas emissions?
- Is less or the same amount of waste generated in product manufacturing, using the alternative chemical/material?
- When used in production, does the alternative chemical avoid the use of solvents, additives, or catalysts that have a greater health, safety, or environmental impact?

Worker safety

- Is the manufacturing process of the alternative chemical/material or product safer for workers?
- Is the recycling/disposal process for the product made with the alternative chemical/material safer for workers?
- Has due diligence been conducted to ensure there is no child labor/slave labor or any other unethical labor practices in the supply chain?

Feedstocks/source materials

- Are feedstocks for the alternative chemical/material sustainably sourced, particularly in regard to producing a bio-based chemical/material? (This means that materials that compete with food production or have negative impacts on biodiversity including habitat and resource degradation are avoided, harmful pesticides are avoided, water use is efficient.)
- Are by-products/waste or renewable materials used as feedstocks?
- Is supplier diversity for the alternative chemicals/material prioritized to avoid supply chain interruptions?
- Is the use of rare or endangered elements/materials avoided in the production of the alternative chemical/material or product?
- Are negative impacts on climate and biodiversity avoided, including negative impacts on habitat and resource degradation?
- Are scarce resources conserved and ecosystems protected when extracting resources for production?
- Are critical habitats preserved during extraction, production, and use?
- Is supply chain fully transparent and known in regard to chemicals/materials and components/products?

Community Impacts

- Does the production of the alternative chemical/material provide positive environmental and social impacts/avoid negative impacts to potentially impacted communities along the value chain?
- Does the production of the alternative chemical/material avoid creating new problems or shift harms across the value chain or to other communities, societies, countries, or generations?
- Is the product designed/implemented in a way that supports local economies and ensures product access and affordability for marginalized groups?