



Whole Foods Market Packaging Guidelines

For Use by Suppliers of Products Sold at Whole Foods Market

February 6, 2024

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Introduction and Scope

The Whole Foods Market overall vision for packaging is to reduce the amount of packaging we use, improve the source material and design for end of life and lower greenhouse gas (GHG) emissions. We recognize the complexity of the packaging landscape and thank you for taking the time to review and consider these guidelines and move with us towards our vision.

Our Packaging Guidelines are grounded in Principles aimed at balancing safety, performance and sustainability. Packaging types and material options are categorized as Preferred, Limited or Avoid based on their alignment with those Principles and our efforts to achieve our vision through packaging choices. The preferences also consider factors such as legislation, supply chain limitations, types of products, consumer attitudes, material recovery systems, costs and more.

The scope of this version of our Packaging Guidelines is product packages only. Future versions or separate guidelines will address storage and transport packaging.

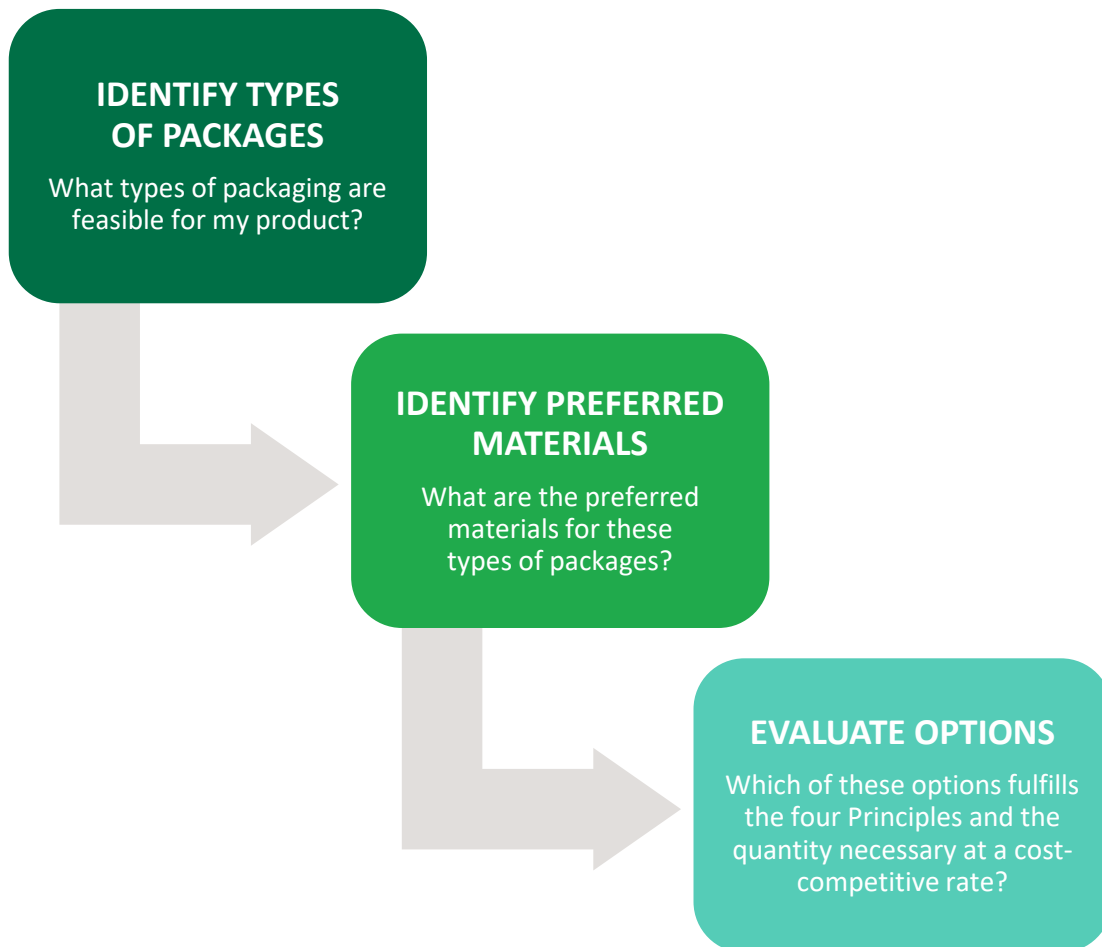
These Whole Foods Market Packaging Guidelines provide:

- Our main guiding Principles for making decisions about packaging types and materials;
- How to effectively prioritize type of package *and* type of material;
- Guidance for secondary decisions of packaging components and attributes that affect the end-life options of a package.

Using the Packaging Guidelines

Basic Steps

1. Use the [Primary Decisions](#) chart to:
 - A) Eliminate types of packages that are not technically feasible for the product.
 - B) Follow the preferential ranking for the remaining applicable packaging options.



2. Use the [Secondary Decisions](#) chart to evaluate Components and Attributes that can affect the end-life options of a package.

[\[See Appendix B: Decision Pathway Examples\]](#)

Key Chart Definitions

Find more terminology definitions in the Glossary at the end of this document.

Feasible packaging is that which is both technically and commercially feasible.

Technically feasible: the type of package and the materials used allow for containment and transportation of the product without damage, leakage, or spoilage. (For example, you wouldn't package fresh raspberries in a can or raw chicken in a box.)

Commercially feasible: packaging displays the product as needed and is financially viable.

Principles are the core concepts that our Packaging Guidelines are based on.

Preferred column in the Guidelines outlines top-choice materials.

Limited column in the Guidelines outlines materials that should be considered if all Preferred options are not feasible.

Avoid column in the Guidelines outlines all materials that are to be avoided unless there is a proven technical need or no viable alternative.

Numbering of materials in the Guidelines columns denotes priority order, meaning, material #1 in the Preferred section is the first choice, followed by Preferred #2 if #1 is not available, and so on. Materials in the "avoid" category are not numbered because they are equally unacceptable.

Packaging Guidelines: Principles

These are the core concepts Whole Foods Market Packaging Guidelines are based on, and it's important to consider each Principle and the entire lifecycle of a package as that packaging is assessed. Be aware that prioritizing or improving according to one Principle could compromise another. Seek to find the option that aligns with our Principles and achieves our material and component/attribute preferences.

No.	Principle	What Does This Mean?
1	Prioritize material safety.	Whole Foods Market Exclusive Brand and Food Service products must refrain from intentional use of any substance or material on our Restricted Substance List (RSL). Whenever possible, Branded product suppliers should refrain from intentional use of any substance or material on our RSL. See Appendix A for RSL. See Glossary for definition of "intentional use."
2	Optimize material efficiency & performance.	Material efficiency aims to reduce material consumption and associated environmental impacts in the packaging life cycle by optimizing the volume and weight of packaging. Minimize materials used in packaging without sacrificing essential functionality. Performance of the package in sustaining the quality and freshness of the product should be prioritized. Refer to Amazon's Compact By Design Guidelines for additional resources.
3	Design for recovery.	Aim for 100% of packaging designed to be reusable, recyclable or compostable. Reusability is the highest priority from a sustainability perspective, followed by recyclability, then compostability. This hierarchy is based on the known impacts of different disposal methods and the current strength of various processing methods within the U.S. Avoid non-recyclable or non-divertible packaging such as film plastic. Third party-certified compostable or TUV-certified home compostable are accepted where reusable or recyclable materials are not an option. See Glossary for definitions of recyclable and compostable.

		<p>Note: Decisions about the most appropriate recovery pathway for your packaging – for example, whether it should be designed to be reusable, recyclable or compostable –will depend on a range of factors. There are cases in which reusability is not logistically or financially possible, or where compostability should be prioritized over recyclability based on the lifecycle carbon impacts. See “Compostable Packaging” section for specific guidance on balancing recovery-related considerations for each material category.</p>
4	Source responsibly.	<p>Consider the source of the packaging material. Choose packaging substrates and packaging suppliers that reduce waste and emissions in the overall lifecycle of the package. Utilize certification systems that identify these suppliers and materials. Avoid virgin materials and maximize use of recycled content, considering technical feasibility, consumer acceptability, regulatory requirements (e.g., food contact/safety), etc. Aim to match the recycled content percentages required by the strictest federal- or state-level legislation.</p>

Packaging Guidelines: Primary Decisions

Type of Package	Preferred: We will accept all materials from this list.	Limited: Only consider if preferred materials are not technically or commercially feasible	Avoid: Only consider if technically required.
Bags, film, pouches	In order of preference: 1. Paper that meets preferred paper standards (see Boxes) 2. Bioplastic 3. Mono-PE films with recycled content*	1. Other Mono-materials (e.g., PP, BoPET) with recycled content* 2. Multilayer materials of compatible polymers (e.g., PE/PP) 3. Metallized PP films (minimize thickness of metallization as much as possible)	Multilayer materials with incompatible polymers (e.g., PET/PE) or other laminate materials
Bottles, cups, jars, jugs, tubs	1. Glass** 2. Mono PET or HDPE with ≥ 30% recycled content*	1. Mono PET or HDPE with ≤ 30% recycled content* 2. PP	Acrylic, PETG, multilayer materials, recycled plastic content* of 0%
Boxes	Paper, paperboard, cardboard, molded fiber that is FSC 100% or FSC Recycled	Paper, paperboard, cardboard, molded fiber that is FSC Recycled <100% or FSC Mix	0% recycled fiber or Non-FSC/PEFC certified
Cans	1. Aluminum with ≥30% recycled content* 2. Steel	Aluminum with ≤30% recycled content*	
Cartons & canisters	1. Paper-based mono-materials 2. Consider replacement with cans, bottles, jars, jugs, tubs that meet preferred standards	Multi-layer containers for shelf-stable products (e.g., aseptic boxes) and coated containers for refrigerated products (e.g., gable top)	
Cushion, dunnage, inserts	Avoid. When necessary: paper, corrugate, and molded fiber that meet preferred paper standards (see Boxes)		PE, solid plastics, bubble wrap, wood, air pillows, foam
Trays, clamshells, thermoforms	1. Paper and fiber-based that meet preferred paper standards (see Boxes) 2. Mono PET or HDPE with ≥30% recycled content*	Mono PET or HDPE with ≤ 30% recycled content*	PP
Tubes	Consider replacement with bottles or tubs that meet preferred standards.	1. Paper that meets preferred paper standards (see Boxes) 2. Aluminum with ≥30% recycled content* 3. Mono PET, HDPE, PP with ≥ 30% recycled content*	

Materials of High Concern

These materials should be avoided in all possible circumstances. See Restricted Substance List (RSL) for additional restricted substances:

Polystyrene or Expanded Polystyrene
Polycarbonates

Polyvinyl Chloride
Oxo-degradable Polymers

Polyvinylidene Chloride

* Aim to align with the strictest state recycled-content requirement at any given time, with acknowledgement that the ability to match this is dependent upon national/global supply constraints. In addition, when recycled content is used, it should be appropriately tested for contaminants.

** For local products, check local state/city/town-level glass recycling laws and prioritize over second-choice preferred material only where it is recyclable.

Packaging Guidelines: Secondary Decisions

Attribute	Preferred: We will accept all materials from this list.	Limited: Only consider if preferred materials are not technically or commercially feasible.	Avoid: Only consider if technically required.
Adhesives, Tapes	<ul style="list-style-type: none"> Minimal hydrophobic adhesive Minimal material matched tape Water activated tape without reinforcement 	<ul style="list-style-type: none"> Use the lowest quantity of appropriate adhesive Hot melt adhesives Fiberglass reinforcement tape 	
Additives, Coatings, Liners	<ul style="list-style-type: none"> Eliminate where possible Minimize use, quantity, and/or thickness 	<ul style="list-style-type: none"> Liners made of PE foam, EVA, TPE Clay coating Bioplastic 	Metalized layers, foils, plastic/polymer treatments or layers on fiber-based components, and/or treatments that require plastic/polymers, degradable or biodegradability additives, wax
Color	Clear / Transparent / Natural	<ul style="list-style-type: none"> Light colors or tints (Acceptable where it aids navigation or adds to the customer experience, e.g., milk bottle tops) 	Black, dark, or opaque colors
Closures, Dispensers	Material matched or compatible materials (e.g., PP or PE pump on a PET bottle)		Not material matched, non-compatible materials, molded to main package, magnetic, sticker
Inks	Vegetable based (ideally low VOC, compostable inks)	<ul style="list-style-type: none"> Water based (Acceptable when using low VOC inks for flexible printing) 	Metallic or petroleum based, inks containing heavy metals or mineral oils
Labels	<ul style="list-style-type: none"> Direct printed (must pass APR testing) Material matched labels (e.g., paper label on a paper package) Designed to remove completely from package before use Minimize coverage area 	<ul style="list-style-type: none"> Material matched wrap labels <i>(Only when package and label can be reprocessed together)</i> 	Shrink labels, not material matched labels, full body sleeves, metal foil or metalized printing (except when on metal) For containers of 550 ml or less, labels that cover more than 55% of the bottle surface area with label; for containers greater than 550 ml, labels that cover more than 70% of the bottle surface area with label
Size, Dimension	<ul style="list-style-type: none"> All dimensions larger than two inches Largely 3-dimensional 		Two dimensions less than two inches

Common Packaging Topics: Explanations and Guidance

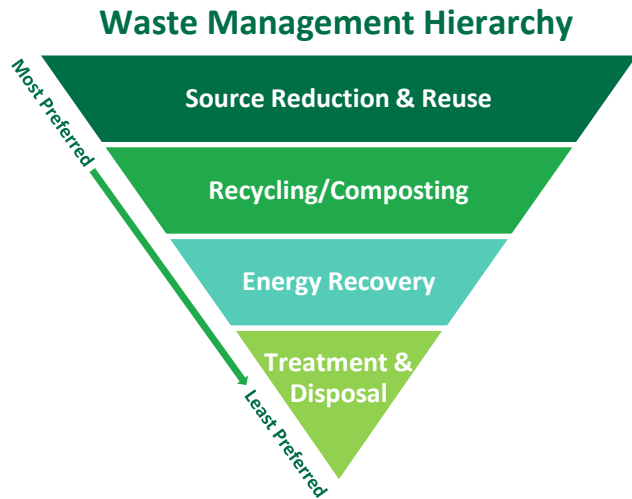
Post-Consumer Recycled Content (PCR) – Incorporating PCR Content into many material types supports circularity through reducing the demand for virgin materials. PCR availability is linked to greater economic conditions, but supply will only become more stabilized as more companies adopt the use of PCR.

Per- and Polyfluorinated Substances (PFAS) – Often used to grease- and water-proof packaging, PFAS may be found in multiple material types. Our Whole Foods Market Restricted Substance List (RSL), which all Exclusive Brand and indirect food service product suppliers are required to follow, prohibits the intentional addition of PFAS. Whole Foods Market defines “intentionally added”, as the deliberate utilization of a listed chemical or class in the formation of a package or packaging component, including utilization as a processing aid." Branded suppliers are expected to comply with any and all state or federal regulations related to PFAS.

Polylactic Acid (PLA) – Based on the current state of composting processing technology and end sites in the U.S., we recommend using compostable polymers (a.k.a., bioplastics, PLA, #7 plastic, etc.) only in the “Bags, film, pouches” package category. This option remains ranked below paper alternatives when paper options are feasible. Compostable polymers are not recommended for any other container types since recyclable alternatives are generally available for rigid containers.

Polystyrene (i.e., Styrofoam, PS Plastic; includes expanded polystyrene [EPS]) – We recommend against using polystyrene for any package type or component. PS is slow to degrade, and if disposed of improperly, the foam can leach chemicals into the environment harming water sources. In addition, PS manufacturing creates hazardous waste.

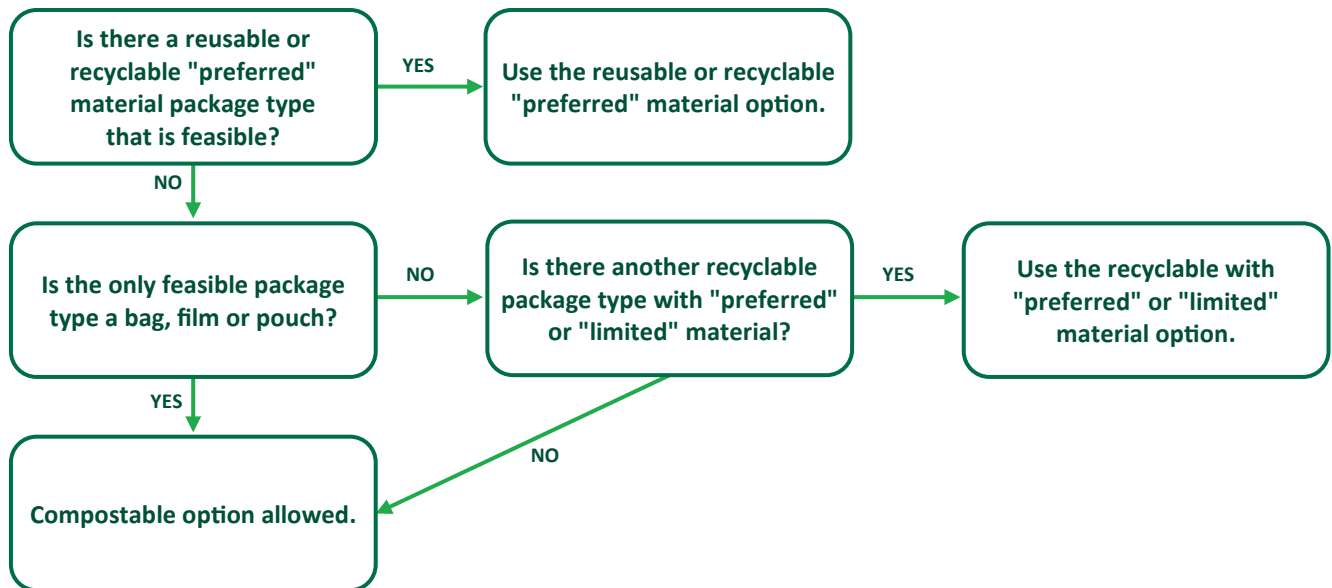
Compostable Packaging



The EPA’s Waste Management Hierarchy ranks preferred disposal methods for waste based on the environmental impacts of each method.

Because of the state of composting legislation and processing facility capabilities, **Whole Foods Market ranks recyclability a higher priority than compostability when considering our Preferred packaging design and materials.**

To determine if compostable packaging is the right choice for a product, follow this decision flowchart. Examples of bag, film or pouch products that might consider compostable packaging are single serve condiments, chips and other snack foods.



If you choose compostable packaging, best practices include: (1) obtain third party-certification of industrial or at-home compostability, and (2) ensure the packaging doesn’t interfere with existing recycling systems by designing packaging that consumers can easily identify as compostable and dispose of accordingly. Do this by designing packaging that looks different from the recyclable option and is clearly labeled as compostable.

Appendix A: Restricted Substances List

Chemical or Chemical Class	CAS#
Heavy Metals (Pb, Cd, Cr VI, Hg)	Various
Arsenic	7440-38-2
Ortho-phthalates	Various – all ortho- phthalates ¹
Per- and Poly-fluoroalkyl Substances (PFAS)	Various – all PFAS classes ²
Perchlorate	14797-73-0
Bisphenol Compounds:	
Bisphenol A	80-05-7
Bisphenol B	77-40-7
Bisphenol F	620-92-8
Bisphenol S	80-09-1
Bisphenol A diglycidyl ether	1675-54-3
Benzophenone	119-61-9
Selected Solvents:	
2-Ethoxyethanol	110-80-5
2-Methoxyethanol	109-86-4
N-methyl-2-pyrrolidone	872-50-4
Toluene	108-88-3

¹ Ortho-phthalates are adjacent diesters of 1,2- benzenedicarboxylic acid with two alkyl groups with a carbon chain of at least one carbon.

² For purposes of this Certificate of Compliance, PFAS refers specifically to a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom as defined in Buck et al., "Perfluoroalkyl and polyfluoroalkyl substances in the environment: terminology, classification, and origins." Integ Environ Assess Manag 2011 Oct 7(4): 513-541. (<https://www.ncbi.nlm.nih.gov/pubmed/21793199>)."

Appendix B: Decision Pathway Examples

Here are examples of how to use the Primary Decisions chart for a variety of product types.

[Example 1: Oatmilk](#)

[Example 2: Fresh Strawberries](#)

[Example 3: Cupcake or Prepared Sandwich](#)

[Example 4: Packaged Spinach](#)

[Example 5: Lotion](#)

Example 1: Oatmilk

Use the chart on the next page to follow the decision pathway by number.

1

Identify the types of packaging that are technically feasible for oatmilk.

Out of the types of packages, oatmilk can feasibly be packaged in

- Bottles
- Jugs
- Cans
- Cartons

2

Identify the first-choice preferred materials within these package types. Evaluate which of these options can be procured in a way that fulfills the four principles and the quantity necessary at a cost-competitive rate.

Out of the feasible packages identified, the first-choice preferred materials are:

- Bottles & Jugs: glass**
- Cans: Aluminum with $\geq 30\%$ recycled content
- Cartons: paper-based mono-materials

3

If no first-choice preferred materials are feasible, evaluate any second then third-choice preferred materials.

The feasible package types with a second-choice preferred material are a mono-PET or HDPE tub with $\geq 30\%$ recycled content, a steel can, or another preferred alternative to a carton. Evaluate.

4

If no second or third-choice preferred materials are feasible, consider "Limited" options.

Feasible package types with first-choice limited materials are a mono PET or HDPE bottle or jug with $\leq 30\%$ recycled content, an aluminum can with $\leq 30\%$ recycled content, or a multi-layer container/coated container. Evaluate.

Example 1: Oatmilk



Type of Package	Preferred: We will accept all materials from this list.	Limited: Only consider if preferred materials are not technically or commercially feasible.	Avoid: Only consider if technically required.
Bags, film, pouches	In order of preference: <ol style="list-style-type: none"> Paper that meets preferred paper standards (see Boxes) Bioplastic Mono-PE films with recycled content* 	<ol style="list-style-type: none"> Other Mono-materials (e.g., PP, BoPET) with recycled content* Multilayer materials of compatible polymers (e.g., PE/PP) Metallized PP films (minimize thickness of metallization as much as possible) 	Multilayer materials with incompatible polymers (e.g., PET/PE) or other laminate materials
Bottles, cups, jars, jugs, tubs	<ol style="list-style-type: none"> Glass** Mono PET or HDPE with ≥ 30% recycled content* 	<ol style="list-style-type: none"> Mono PET or HDPE with ≤ 30% recycled content* PP 	Acrylic, PETG, multilayer materials, recycled plastic content* of 0%
Boxes	Paper, paperboard, cardboard, molded fiber that is FSC 100% or FSC Recycled	Paper, paperboard, cardboard, molded fiber that is FSC Recycled <100% or FSC Mix	0% recycled fiber or Non-FSC/PEFC certified
Cans	<ol style="list-style-type: none"> Aluminum with ≥30% recycled content* Steel 	Aluminum with ≤30% recycled content*	
Cartons & canisters	<ol style="list-style-type: none"> Paper-based mono-materials Consider replacement with cans, bottles, jars, jugs, tubs that meet preferred standards 	Multi-layer containers for shelf-stable products (e.g., aseptic boxes) and coated containers for refrigerated products (e.g., gable top)	
Cushion, dunnage, inserts	Avoid. When necessary: paper, corrugate, and molded fiber that meet preferred paper standards (see Boxes)		PE, solid plastics, bubble wrap, wood, air pillows, foam
Trays, clamshells, thermoforms	<ol style="list-style-type: none"> Paper and fiber-based that meet preferred paper standards (see Boxes) Mono PET or HDPE with ≥30% recycled content* 	Mono PET or HDPE with ≤ 30% recycled content*	PP
Tubes	Consider replacement with bottles or tubs that meet preferred standards.	<ol style="list-style-type: none"> Paper that meets preferred paper standards (see Boxes) Aluminum with ≥30% recycled content* Mono PET, HDPE, PP with ≥ 30% recycled content* 	

* Aim to align with the strictest state recycled-content requirement at any given time, with acknowledgement that our ability to match this is dependent upon national/global supply constraints. In addition, when recycled content is used, it should be appropriately tested for contaminants.

** For local products, check local state/city/town-level glass recycling laws and prioritize over second-choice preferred material only where it is recyclable.

Example 2: Fresh Strawberries

Use the chart on the next page to follow the decision pathway by number.

1

Identify the types of packaging that are technically feasible for strawberries.

Out of the types of packages, fresh strawberries can feasibly be packaged in:

- *Tubs*
- *Boxes*
- *Thermoforms*

2

Identify the first-choice preferred materials within these package types. Evaluate which of these options can be procured in a way that fulfills the four principles and the quantity necessary at a cost-competitive rate.

Out of the feasible packages identified, the first-choice preferred materials are:

- *Tubs: glass***
- *Boxes: paper, paperboard, cardboard, molded fiber that is 100% or FSC Recycled*
- *Thermoforms: paper and fiber-based that meet preferred paper standards (see*

3

If no first-choice preferred materials are feasible, evaluate any second then third-choice preferred materials.

The feasible package types with second or third-choice preferred materials are a mono PET or HDPE tub or thermoform with $\geq 30\%$ recycled content. Evaluate.

4

If no second or third-choice preferred materials are feasible, consider "Limited" options.

Feasible package types with first-choice limited materials are a mono PET or HDPE tub with $\leq 30\%$ recycled content, a paper, paperboard cardboard, molded fiber box that is FSC Recycled $< 100\%$ or FSC Mix, or a mono PET or HDPE thermoform with $\leq 30\%$ recycled content. Evaluate.

Example 2: Fresh Strawberries



Type of Package	Preferred: We will accept all materials from this list.	Limited: Only consider if preferred materials are not technically or commercially feasible.	Avoid: Only consider if technically required.
Bags, film, pouches	In order of preference: 1. Paper that meets preferred paper standards (see Boxes) 2. Bioplastic 3. Mono-PE films with recycled content*	4. Other Mono-materials (e.g., PP, BoPET) with recycled content* 5. Multilayer materials of compatible polymers (e.g., PE/PP) 6. Metallized PP films (minimize thickness of metallization as much as possible)	Multilayer materials with incompatible polymers (e.g., PET/PE) or other laminate materials
Bottles, cups, jars, jugs, tubs	1. Glass** 2. Mono PET or HDPE with ≥ 30% recycled content*	3. Mono PET or HDPE with ≤ 30% recycled content* 4. PP	Acrylic, PETG, multilayer materials, recycled plastic content* of 0%
Boxes	Paper, paperboard, cardboard, molded fiber that is FSC 100% or FSC Recycled	Paper, paperboard, cardboard, molded fiber that is FSC Recycled <100% or FSC Mix	0% recycled fiber or Non-FSC/PEFC certified
Cans	1. Aluminum with ≥30% recycled content* 2. Steel	Aluminum with ≤30% recycled content*	
Cartons & canisters	1. Paper-based mono-materials 2. Consider replacement with cans, bottles, jars, jugs, tubs that meet preferred standards	Multi-layer containers for shelf-stable products (e.g., aseptic boxes) and coated containers for refrigerated products (e.g., gable top)	
Cushion, dunnage, inserts	Avoid. When necessary: paper, corrugate, and molded fiber that meet preferred paper standards (see Boxes)		PE, solid plastics, bubble wrap, wood, air pillows, foam
Trays, clamshells, thermoforms	1. Paper and fiber-based that meet preferred paper standards (see Boxes) 2. Mono PET or HDPE with ≥30% recycled content*	Mono PET or HDPE with ≤ 30% recycled content*	PP
Tubes	Consider replacement with bottles or tubs that meet preferred standards.	1. Paper that meets preferred paper standards (see Boxes) 2. Aluminum with ≥30% recycled content* 3. Mono PET, HDPE, PP with ≥ 30% recycled content*	

* Aim to align with the strictest state recycled-content requirement at any given time, with acknowledgement that our ability to match this is dependent upon national/global supply constraints. In addition, when recycled content is used, it should be appropriately tested for contaminants.

** For local products, check local state/city/town-level glass recycling laws and prioritize over second-choice preferred material only where it is recyclable.

Example 3: Cupcake or Prepared Sandwich

Use the chart on the next page to follow the decision pathway by number.

1

Identify the types of packaging that are technically feasible for a cupcake or prepared sandwich.

Out of the types of packages, a cupcake or prepared sandwich can feasibly be packaged in:

- Boxes
- Clamshells

2

Identify the first-choice preferred materials within these package types. Evaluate which of these options can be procured in a way that fulfills the four principles and the quantity necessary at a cost-competitive rate.

Out of the feasible packages identified, the first-choice preferred materials are:

- Boxes: paper, paperboard, cardboard, molded fiber that is FSC 100% or FSC Recycled
- Clamshells: Paper and fiber-based that meet preferred paper standards (see Boxes)

3

If no first-choice preferred materials are feasible, evaluate any second then third-choice preferred materials.

The only feasible package type that has a second or third-choice preferred material is a mono PET or HDPE clamshell with $\geq 30\%$ recycled content. Evaluate.

4

If no second or third-choice preferred materials are feasible, consider "Limited" options.

Feasible package types with first-choice limited materials are a mono PET or HDPE bottle or jug with $\leq 30\%$ recycled content, an aluminum can with $\leq 30\%$ recycled content, or a multi-layer container/coated container. Evaluate.

Example 3: Cupcake or Prepared Sandwich



Type of Package	Preferred: We will accept all materials from this list.	Limited: Only consider if preferred materials are not technically or commercially feasible.	Avoid: Only consider if technically required.
Bags, film, pouches	In order of preference: 1. Paper that meets preferred paper standards (see Boxes) 2. Bioplastic 3. Mono-PE films with recycled content*	1. Other Mono-materials (e.g., PP, BoPET) with recycled content* 2. Multilayer materials of compatible polymers (e.g., PE/PP) 3. Metallized PP films (minimize thickness of metallization as much as possible)	Multilayer materials with incompatible polymers (e.g., PET/PE) or other laminate materials
Bottles, cups, jars, jugs, tubs	1. Glass** 2. Mono PET or HDPE with ≥ 30% recycled content*	1. Mono PET or HDPE with ≤ 30% recycled content* 2. PP	Acrylic, PETG, multilayer materials, recycled plastic content* of 0%
Boxes	Paper, paperboard, cardboard, molded fiber that is FSC 100% or FSC Recycled	Paper, paperboard, cardboard, molded fiber that is FSC Recycled <100% or FSC Mix	0% recycled fiber or Non-FSC/PEFC certified
Cans	1. Aluminum with ≥30% recycled content* 2. Steel	Aluminum with ≤30% recycled content*	
Cartons & canisters	1. Paper-based mono-materials 2. Consider replacement with cans, bottles, jars, jugs, tubs that meet preferred standards	Multi-layer containers for shelf-stable products (e.g., aseptic boxes) and coated containers for refrigerated products (e.g., gable top)	
Cushion, dunnage, inserts	Avoid. When necessary: paper, corrugate, and molded fiber that meet preferred paper standards (see Boxes)		PE, solid plastics, bubble wrap, wood, air pillows, foam
Trays, clamshells, thermoforms	1. Paper and fiber-based that meet preferred paper standards (see Boxes) 2. Mono PET or HDPE with ≥30% recycled content*	Mono PET or HDPE with ≤ 30% recycled content*	PP
Tubes	Consider replacement with bottles or tubs that meet preferred standards.	1. Paper that meets preferred paper standards (see Boxes) 2. Aluminum with ≥30% recycled content* 3. Mono PET, HDPE, PP with ≥ 30% recycled content*	

* Aim to align with the strictest state recycled-content requirement at any given time, with acknowledgement that our ability to match this is dependent upon national/global supply constraints. In addition, when recycled content is used, it should be appropriately tested for contaminants.
 ** For local products, check local state/city/town-level glass recycling laws and prioritize over second-choice preferred material only where it is recyclable.

Example 4: Packaged Spinach

Use the chart on the next page to follow the decision pathway by number.

1

Identify the types of packaging that are technically feasible for spinach.

Out of the types of packages, packaged spinach can feasibly be placed in the following:

- Bags
- Clamshells

2

Identify the first-choice preferred materials within these package types. Evaluate which of these options can be procured in a way that fulfills the four principles and the quantity necessary at a cost-competitive rate.

Out of the feasible packages identified, the first-choice preferred materials are:

- Bags: paper that meets preferred paper standards (see Boxes)
- Clamshells: Paper and fiber-based that meet preferred paper standards (see Boxes)

3

If no first-choice preferred materials are feasible, evaluate any second then third-choice preferred materials.


The two feasible package types with second-choice preferred materials are a bio-plastic bag or a mono PET or HDPE clamshell with $\geq 30\%$ recycled content. Evaluate.

4

If no second or third-choice preferred materials are feasible, consider "Limited" options.

Feasible package types with first-choice limited materials are a mono-material bag with recycled content or a mono PET or HDPE clamshell with $\leq 30\%$ recycled content.

Example 4: Packaged Spinach



Type of Package	Preferred: We will accept all materials from this list.	Limited: Only consider if preferred materials are not technically or commercially feasible	Avoid: Only consider if technically required.
Bags, film, pouches	In order of preference: 1. Paper that meets preferred paper standards (see Boxes) 2. Bioplastic 3. Mono-PE films with recycled content*	1. Other Mono-materials (e.g., PP, BoPET) with recycled content* 2. Multilayer materials of compatible polymers (e.g., PE/PP) 3. Metallized PP films (minimize thickness of metallization as much as possible)	Multilayer materials with incompatible polymers (e.g., PET/PE) or other laminate materials
Bottles, cups, jars, jugs, tubs	1. Glass** 2. Mono PET or HDPE with ≥ 30% recycled content*	1. Mono PET or HDPE with ≤ 30% recycled content* 2. PP	Acrylic, PETG, multilayer materials, recycled plastic content* of 0%
Boxes	Paper, paperboard, cardboard, molded fiber that is FSC 100% or FSC Recycled	Paper, paperboard, cardboard, molded fiber that is FSC Recycled <100% or FSC Mix	0% recycled fiber or Non-FSC/PEFC certified
Cans	1. Aluminum with ≥30% recycled content* 2. Steel	Aluminum with ≤30% recycled content*	
Cartons & canisters	1. Paper-based mono-materials 2. Consider replacement with cans, bottles, jars, jugs, tubs that meet preferred standards	Multi-layer containers for shelf-stable products (e.g., aseptic boxes) and coated containers for refrigerated products (e.g., gable top)	
Cushion, dunnage, inserts	Avoid. When necessary: paper, corrugate, and molded fiber that meet preferred paper standards (see Boxes)		PE, solid plastics, bubble wrap, wood, air pillows, foam
Trays, clamshells, thermoforms	1. Paper and fiber-based that meet preferred paper standards (see Boxes) 2. Mono PET or HDPE with ≥30% recycled content*	Mono PET or HDPE with ≤ 30% recycled content*	PP
Tubes	Consider replacement with bottles or tubs that meet preferred standards.	1. Paper that meets preferred paper standards (see Boxes) 2. Aluminum with ≥30% recycled content* 3. Mono PET, HDPE, PP with ≥ 30% recycled content*	

* Aim to align with the strictest state recycled-content requirement at any given time, with acknowledgement that our ability to match this is dependent upon national/global supply constraints. In addition, when recycled content is used, it should be appropriately tested for contaminants.

** For local products, check local state/city/town-level glass recycling laws and prioritize over second-choice preferred material only where it is recyclable.

Example 5: Lotion

Use the chart on the next page to follow the decision pathway by number.

1

Identify the types of packaging that are technically feasible for lotion.

Out of the types of packages, lotion can feasibly be placed in the following:

- Bottles
- Tubs
- Tubes

2

Identify the first-choice preferred materials within these package types. Evaluate which of these options can be procured in a way that fulfills the four principles and the quantity necessary at a cost-competitive rate.

Out of the feasible packages identified, the first-choice preferred materials are:

- Bottles & Tubs: glass**
- Tubes: another preferred alternative to a tube

3

If no first-choice preferred materials are feasible, evaluate any second then third-choice preferred materials.

The only feasible package types with second-choice preferred materials are a mono PET or HDPE bottle or tub with $\geq 30\%$ recycled content. Evaluate.

4

If no second or third-choice preferred materials are feasible, consider "Limited" options.

Feasible package types with first-choice limited materials are a mono PET or HDPE bottle or tub $\leq 30\%$ recycled content or a paper tube that meets preferred paper standards (see Boxes). Evaluate.

Example 5: Lotion



Type of Package	Preferred: We will accept all materials from this list.	Limited: Only consider if preferred materials are not technically or commercially feasible.	Avoid: Only consider if technically required.
Bags, film, pouches	In order of preference: <ol style="list-style-type: none"> Paper that meets preferred paper standards (see Boxes) Bio-plastic Mono-PE films with recycled content* 	<ol style="list-style-type: none"> Other Mono-materials (e.g., PP, BoPET) with recycled content* Multilayer materials of compatible polymers (e.g., PE/PP) Metallized PP films (minimize thickness of metallization as much as possible) 	Multilayer materials with incompatible polymers (e.g., PET/PE) or other laminate materials
Bottles, cups, jars, jugs, tubs	<ol style="list-style-type: none"> Glass** Mono PET or HDPE with ≥ 30% recycled content* 	<ol style="list-style-type: none"> Mono PET or HDPE with ≤ 30% recycled content* PP 	Acrylic, PETG, multilayer materials, recycled plastic content* of 0%
Boxes	Paper, paperboard, cardboard, molded fiber that is FSC 100% or FSC Recycled	Paper, paperboard, cardboard, molded fiber that is FSC Recycled <100% or FSC Mix	0% recycled fiber or Non-FSC/PEFC certified
Cans	<ol style="list-style-type: none"> Aluminum with ≥30% recycled content* Steel 	Aluminum with ≤30% recycled content*	
Cartons & canisters	Paper-based mono-materials Consider replacement with cans, bottles, jars, jugs, tubs that meet preferred standards	Multi-layer containers for shelf-stable products (e.g., aseptic boxes) and coated containers for refrigerated products (e.g., gable top)	
Cushion, dunnage, inserts	Avoid. When necessary: paper, corrugate, and molded fiber that meet preferred paper standards (see Boxes)		PE, solid plastics, bubble wrap, wood, air pillows, foam
Trays, clamshells, thermoforms	<ol style="list-style-type: none"> Paper and fiber-based that meet preferred paper standards (see Boxes) Mono PET or HDPE with ≥30% recycled content* 	Mono PET or HDPE with ≤ 30% recycled content*	PP
Tubes	Consider replacement with bottles or tubs that meet preferred standards.	<ol style="list-style-type: none"> Paper that meets preferred paper standards (see Boxes) Aluminum with ≥30% recycled content* Mono PET, HDPE, PP with ≥ 30% recycled content* 	

* Aim to align with the strictest state recycled-content requirement at any given time, with acknowledgement that our ability to match this is dependent upon national/global supply constraints. In addition, when recycled content is used, it should be appropriately tested for contaminants.

** For local products, check local state/city/town-level glass recycling laws and prioritize over second-choice preferred material only where it is recyclable.

Glossary of Terms

Adhesive – any product that is used to bond one surface to another by attachment.

Bio-plastic – a type of plastic derived from biological substances rather than from petroleum; substances include polylactic acid (PLA, corn), polyhydroxyalkanoates (PHA, bacterial fermentation of sugar or lipids) and other bio-based materials such as seaweed.

Bisphenols – a large class of chemical compounds that contain two hydroxyphenyl functionalities within the molecule; Bisphenol A (BPA) is a chemical compound primarily used in the manufacture of various plastics.

BoPET – Biaxially Oriented Polyethylene Terephthalate; a polyester film made from orientated polyethylene terephthalate (PET).

Compostability – a package is compostable when it can disintegrate into usable compost in a safe and timely manner (i.e., at a rate consistent with similar organic materials).

EVA – ethylene vinyl acetate.

Feasibility – A technically and commercially feasible package is one where the type of package and the materials used allow for containment and transportation of the product without damage, leakage or spoilage, and displays the product as necessary and is financially viable.

FSC – [Forest Stewardship Council](#); FSC certification certifies that products come from responsibly managed forests that provide environmental, social and economic benefits.

FSC certified material – FSC 100%, FSC Mix or FSC recycled material that is supplied with an FSC claim by an organization which has been assessed by an FSC-accredited certification body for conformity with FSC Forest Management and/or Chain of Custody requirements.

FSC 100% – FSC-certified virgin material originating from FSC-certified forests or plantations that has not been mixed with material of another material category throughout the supply chain. FSC 100% products are eligible to be used in FSC 100% or FSC Mix product groups.

FSC Mix – FSC-certified virgin material based on input from FSC-certified, controlled, and/or reclaimed sources, and supplied with a percentage claim or credit claim. FSC Mix material is only eligible to be used in FSC Mix product groups.

FSC Recycled – FSC-certified reclaimed material based on exclusive input from reclaimed sources and supplied with a percentage claim or credit claim. FSC Recycled material or products are eligible to be used in FSC Mix or FSC Recycled product groups.

HDPE – High Density Polyethylene; a polyethylene thermoplastic made from petroleum; resin code #2.

Intentionally added – the deliberate utilization of a listed chemical or class in the formation of a package or packaging component, including utilization as a processing aid.

Mono-materials – a product which is only composed of a single type of material.

Package – Product to be used for the containment, protection, handling, delivery, storage, transport and presentation of goods, from raw materials to processed goods and from the producer to the user or consumer, including processor, assembler or other intermediary.

Packaging component – part of packaging that can be separated by hand or by using simple physical means—for example, a cap, a lid and (non-in-mold) labels.

PE – Polyethylene; subtypes include HDPE, LDPE, and PET.

PET – polyethylene terephthalate; chemical name for polyester; clear, strong, and lightweight form of plastic that is widely used for packaging foods and beverages; resin code #1.

PFAS – Per- and Polyfluoroalkyl Substances.

Phthalates – a group of chemicals used to make plastics softer and more flexible; often used as "plasticizers."

PP – polypropylene; a thermoplastic "addition polymer" made from the combination of propylene monomers used in a variety of applications to include packaging for consumer products, plastic parts for various industries including the automotive industry, special devices like living hinges, and textiles; resin code #5.

Primary Packaging – packaging that goes home with the customer; for example, the box and inner bag of a granola product, the box and tube of a body care product; examples of what is NOT primary packaging are shipping packaging like cases of product, pallets and pallet wrap.

PS – polystyrene; a synthetic aromatic hydrocarbon polymer made from the monomer known as styrene; resin code #6.

PVC – Polyvinyl chloride; a high strength thermoplastic material widely used in applications, such as pipes, medical devices, wire and cable insulation; resin code #3.

Recoverability – ability to be reused, recycled, composted or otherwise diverted from landfill or incineration. See definitions for compostability and recyclability.

Recyclability – a package is recyclable when it can be collected, separated or otherwise recovered from the waste stream through an established recycling program for reuse or use in manufacturing or assembling another item that is available to at least 60% of consumers or communities in U.S. where the item is sold.

Recycled Content – "recycled content" can refer to both post-consumer and pre-consumer recycled content. The combination of postconsumer and pre-consumer content provides the total recycled content.

Post-consumer material – Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.

Pre-consumer material – Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

TPE – thermoplastic elastomer often used for lid or cap seals/closures.