



Suggested Environmental Considerations for Disposable Food Ware

The suggested environmental disclosure questions may be used in your RFI/RFP to help inform your purchasing decisions. These questions can be applied to cutlery; plates, bowls and cups (for hot and cold applications); take-out packaging (such as clamshells, boxes or containers with separate lids); and ancillary items such as lids, and straws). These questions would not pertain to other food service items such as paper napkins and paper towels. For questions or comments, email procurement@practicegreenhealth.org.

Hierarchy of preferred foodware options: (1) reusable foodware, (2) PFAS-free compostable, and (3) PFAS-free recyclable.

#	Topic	Environmental Questions	Definition	Rationale	Alternative Product Lists
Required Criteria					
1	Chemicals	Is this product free of per- and poly-fluorinated alkyl compounds (PFAS)? (Yes/No) Prefer Yes	PFAS include long and short chain per- and polyfluorinated alkyl substances, including: - Perfluoroalkyl substances: Substances for which all hydrogen atoms on all carbon atoms (except for carbons associated with functional groups) have been replaced by fluorine atoms. - Polyfluoroalkyl substances: Substances for which all hydrogen atoms on at least one (but not all) carbon atom have been replaced by fluorine atoms. - Fluoropolymers: Carbon-only polymer backbone with fluorine atoms directly bound. - Perfluoropolyethers: Carbon and oxygen polymer backbone with fluorine atoms directly bound to carbon atoms. - Side-chain fluorinated polymers: Variable composition non-fluorinated polymer backbone with fluorinated side chains.	PFAS is an acronym for Per- and polyfluoroalkyl substances commonly used to manufacture non-stick, grease-resistant coatings in a variety of industrial and consumer products including food packaging and food service ware. Upon disposal they can contaminate drinking water, compost and agricultural crops. [i] PFAS are extremely persistent and bioaccumulative chemicals.[ii] We are exposed through direct contact or inhalation, food, consumer products, house dust, contaminated drinking water, eating fish or through workplace exposures. [iii] In a study from Johns Hopkins Bloomberg School of Public Health, researchers analyzed cord blood samples from 300 newborns in Baltimore and found PFAS in 99% and 100% of umbilical cord blood, respectively.[iv] In animal studies, some substances are linked to bladder cancer, liver cancer, and developmental and reproductive toxicity (including neonatal mortality).	Center for Environmental Health (CEH) Foodware Database, https://www.ceh.org/ceh-report-avoiding-hidden-hazards-purchasers-guide-safer-foodware/ ; Clean Production Action PFAS-free food service ware, https://www.cleanproduction.org/resources/entry/pfas

2	Comp ostabil ity	Is this product certified as “commercially” compostable (i.e., does it meet ASTM D6400 or D6868, DIN EN 13432, AS 4376, or ISO 17088) or is this a paper product approved for commercial composting (i.e., Cedar Grove approved or other reputable commercial composting facility)? (Yes/No) Prefer Yes	Certified compostable means the product will fully and safely biodegrade in a commercial-scale compost facility in a specific number of days. Look for food service ware (if it contains biobased plastic) certified by one or more of the following organizations: Biodegradable Products Institute (BPI), Din Certo (European Union), AIB Vincotte Inter (Belgium), Australian Environmental Labeling Association (Australia) or Biodegradable Bioplastics Association (Japan).	It is important that compostable food service ware products has a designated composting facility or system in place that will accept compostable food service ware to enable the recovery of both the food waste (left on the product) and the food service ware product. Confirm the compostable products are free of PFAS; the supplier has answered Yes to question #1 and can verify this.	Cedar Grove is a commercial facility (Pacific Northwest) that tests and approves products. See product list, https://cedar-grove.com/compostable/accepted-items . For a list of products certified to the Biodegradable Products Institute as compostable, see http://products.bpiworld.org/ . Note: BPI does not certify paper-based products unless they have a bioplastic liner. BPI will not certify foodware free of PFAS until January 2020. Some paper-based food service ware products contain a conventional plastic liner; these products may or may not be acceptable in commercial composting facilities.
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3	Recyclable	Is this product recyclable? (Yes/No)	<p>Recyclable, according to the FTC Green Guides, means the product 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. Any unqualified claims of recyclability indicates the supplier can demonstrate that at least 60% (substantial majority) of consumers or communities where the item is sold have recycling facilities. If recycling facilities are available to less than a substantial majority of consumers and communities, then marketers should qualify all recyclable claims by stating the percentage of consumers or communities that have access to facilities that recycle the item.</p> <p>Recyclable does not describe FDA-regulated single-use device reprocessing. This question refers to the product only, not packaging. Products that become regulated medical waste after use cannot claim to be recyclable. Primary packaging is not considered part of the product for the purpose of this question.</p>	<p>Recyclable products in communities in the U.S. reduce materials going to the waste stream and their associated costs.</p> <p>For details, refer to the FTC Green Guides, https://www.ftc.gov/sites/default/files/attachments/press-releases/ftc-issues-revised-green-guides/greenguides.pdf.</p>	
4	Packaging	Is this product offered in bulk or recyclable individual wrappings (e.g., paperboard) or certified as compostable in a commercial composting facility? (Yes/No) Prefer Yes	Sustainable packaging can take a number of forms but reduces waste and associated disposal or recycling costs.	Purchasing products in bulk form (rather than individually wrapped units) cuts down on waste.	NA

5	Packaging	<p>Is this product packaged without polystyrene (PS, commonly referred to as Styrofoam™) and polyvinyl chloride (PVC)? (Yes/No) Prefer Yes</p>	<p>Polystyrene (CAS 9003-53-6) is a plastic polymer from the monomer styrene. It comes in many forms: sheet, expanded or extruded foam, or as oriented polystyrene. What is commonly known as Styrofoam™ refers only to the extruded form of polystyrene. Packaging refers to all materials (primary, secondary, etc) used to transport and protect a product from damage. Alternatives to polystyrene packaging are available.</p> <p>Polyvinyl chloride (PVC) or “vinyl” is a plastic polymer used in a wide array of products. It is the third most widely produced plastic.</p>	<p>Polystyrene, or PS, can be identified by resin code “6,” which is shown inside chasing arrows on applicable plastic products. Polystyrene is difficult for hospitals to recycle because it is rarely included in recycling programs. Foam blowing agents (called hydrochlorofluorocarbons (HCFCs) used to make polystyrene foam are compounds that can deplete the ozone layer. Every step of the polystyrene production involves highly hazardous chemicals, in contrast to many other plastics. Alternative packaging materials are readily available.</p> <p>Production and incineration of PVC releases dioxins and other harmful chemicals. Dioxins are widely distributed throughout the environment in low concentrations and are persistent, bioaccumulative and toxic (PBT). Dioxins are potent toxicants with many health impacts even at low exposure levels.</p>	NA
6	Performance	<p>Can at least 10 samples of this product be provided for testing upon request by member hospitals? (Yes/No) Prefer Yes</p>	<p>Performance testing is an essential part of evaluating food ware.</p>	<p>Hospitals may want to performance test compostable food service ware to ensure that it does not leak, deform in hot water, or create sharp edges when broken.</p>	NA
Optional Criteria					

7	Recycled Content Does this product contain recycled content? (Yes/No) If yes, what is the percentage of total and postconsumer recycled content?	Recycled content is the percentage of recovered material, including preconsumer and postconsumer materials that, at a minimum, meets the U.S. EPA's Comprehensive Procurement Guidelines, or contains at least 30% postconsumer content. Currently, there are a small number of disposal food service items that contain recycled content; these include paper plates, bowls and cups; and ancillary food service items such as coffee filters, napkins, tray liners and paper towels. Most food-contact products have only pre-consumer recycled content.	Buying recycled-content products ensures that the materials collected in recycling programs will be used again in the manufacture of new products. According to EPA, recommending postconsumer recycled content levels for items will have the most positive impact on reducing the amount of solid waste requiring disposal. Purchasers should prefer products with the highest postconsumer recycled content that also meet other considerations. Use of postconsumer recycled content is fundamental to closing the loop in the recycling process, using fewer natural resources, and based on EPA's ReCon Tool, can reduce greenhouse gas emissions.	NA
8	Manufacturing Processes Is this product unbleached or made without the use of chlorine or any chlorine derivatives? (Yes/No)	Up until the late 1990s, chlorine was the chemical of choice for bleaching paper in the kraft pulping process. Chlorine and chlorine derivatives are used to "whiten" paper in paper making process. Unbleached paper typically does not use whitening agents. Some food service ware products are whitened with chlorine-free compounds such as hydrogen peroxide or ozone which are safer for workers and the environment. This is referred to as "Processed Chlorine-free (PCF)" and is preferable compared to elemental chlorine-free (ECF) which uses chlorine derivatives. Totally chlorine-free (TCF) is also preferable but means the paper does not have postconsumer recycled content.	Dioxins are formed when paper products are manufactured or bleached with chlorine or chlorinated compounds. They are widely distributed throughout the environment in low concentrations and are persistent, bioaccumulative and toxic (PBT). Dioxins are potent toxicants with many health impacts even at low exposure levels.	Canopy Planet database may be helpful, http://epd.canopyplanet.org/

9(a)	Chemicals	Is this product free of intentionally added engineered nanomaterials? (Yes/No)	Nanotechnology is the science of manipulating matter at the molecular scale to build structures, tools, or products, known as nanomaterials. Nanomaterials are those whose small scale imparts unique physical properties.	The risks and benefits of this emerging technology are still being discovered; yet the development, use, and manufacturing of nanomaterials are being conducted with little transparency and inadequate regulatory oversight. This is particularly concerning to the food industry where human exposure is virtually guaranteed.[v]	NA
9(b)	Chemicals	If “no” is the answer to 9(a), has this product been either (1) registered with the EPA or the Project on Emerging Nanotechnologies in the U.S. or, (2) at a minimum, has the product been added to any voluntary reporting programs including, but not limited to, the U.S. EPA’s Nanoscale Materials Stewardship Program and the United Kingdom’s Department for Environment, Food and Rural Affairs (DEFRA) Voluntary Reporting Scheme for Engineered Nanoscale Materials? (Yes/No)	The Environmental Protection Agency (EPA) found that approximately 90% of the different nanoscale materials that are likely to be commercially available for industry were not reported under its voluntary reporting program, and nearly two-thirds of the chemical substances from which commercially available nanoscale materials are based were not reported either. ^[vi] Thus, the government and, in turn, industry does not have full access to either the potential existence of nanomaterials or the risks related to the nanomaterials enhancing products. ^[vii]	This transparency and disclosing information to stakeholders is important in order to mitigate its exposure to risks related to the use of nanomaterials in food and food packaging.[viii]	NA

10	Sourcing	Is this product certified as sustainably produced by the Forest Stewardship Council (FSC)? (Yes/No) Prefer Yes	The Forest Stewardship Council certifies products are sourced from sustainably harvested forests. FSC prohibits the harvest of rare old-growth forest, prevents the loss of natural forest cover and prohibits the use of highly hazardous chemicals.	Product ingredients may have been produced with synthetic pesticides and fertilizers, antibiotics, or added hormones. They may have been harvested in ways that contribute to habitat destruction, water pollution, or displacement of indigenous peoples. Certification would avoid this.	No list of FSC certified food ware is available through FSC online resources. If supplier claims "yes, " ask for FSC certification verification.
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11	Biobased	<p>Does this biobased plastic product contain at least 70% biobased carbon content based on ASTM D6866? (Yes/No)</p> <p>UNCOATED wood, bamboo and other fiber-based materials automatically comply.</p>	<p>Biobased products are derived from plants and other renewable agricultural, marine and forestry materials and provide an alternative to conventional petroleum derived products.</p> <p>Biobased content indicates the percentage of total carbon that is biobased in a bioplastic food service ware product or coating. Companies may be asked to verify the biobased content (based on ASTM D6866) by providing laboratory test data or by showing certification of the biobased content by the USDA's BioPreferred Program, Vincotte's OK Biobased Program, or another third party certifier.</p>	<p>A product containing a percentage of biobased materials does not mean the product is compostable or free of chemicals of concern. Refer to responses above.</p> <p>Federal law, the Federal Acquisition Regulation and Presidential Executive Order require federal agencies to purchase biobased products in categories identified by the USDA. The USDA BioPreferred Program offers a catalog of targeted products to consider. To date, they have identified 97 categories (e.g., cleaners, carpet, lubricants, paints) and have set minimum biobased content standards. In this category, a higher biobased content is recommended compared to the USDA's BioPreferred Program, which recommends a minimum of 48% for disposable cutlery.</p>	<p>USDA Department of Agriculture's BioPreferred Products Catalog, https://www.biopreferred.gov/BioPreferred/faces/catalog/Catalog.xhtml#</p>
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[i] [Factsheet: Hazards of PFAS, Collaborative Network for a Cancer Free Economy, June 2018](#)

[ii] [Factsheet: Perfluorinated compounds and Human Health Concerns, Healthy Building Network, April 2009](#)

[iii] [Factsheet: Hazards of PFAS, Collaborative Network for a Cancer Free Economy, June 2018](#)

[iv] [Apelberg, B, Goldman L, Calafat A, Herbstman J, Kuklenyik Z, Heidler J, Needham L, Halden R, Witter F. Determinants of Fetal Exposure to Polyfluoroalkyl Compounds in Baltimore, Maryland . Environmental Science and Technology, in press and online edition dated April 2007.](#)

[v] [Galland, PhD., Amy; Passoff, Michael, Sourcing Framework for Food and Food Packaging Products Containing Nanomaterials, As You Sow, 2011, p 4.](#)

[vi] [Pat Rizzuto, "Limited Participation in Nano Program Spurs EPA to Examine Regulatory Authority," BNA Daily Environment Report, January 14, 2009, page A-3.](#)

[vii] [Galland, PhD., Amy; Passoff, Michael, Sourcing Framework for Food and Food Packaging Products Containing Nanomaterials, As You Sow, 2011, p 6.](#)

[viii] [Galland, PhD., Amy; Passoff, Michael, Sourcing Framework for Food and Food Packaging Products Containing Nanomaterials, As You Sow, 2011, p 6.](#)

[September 1999, EPA530-R-00-002](#)