PRACTICE Greenhealth

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.

#	Topic	Environmental Questions	Preferred Answer	Definition	Rationale
1. (a)	Chemicals	Is this product free of intentionally added engineered nanomaterials? (Yes/No)	Yes	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.[i]
1. (b)	Chemicals	If "no" is the answer to 1(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)	Yes	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.[ii] 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.[iii]	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.[iv]
2.	Chemicals	Is this product free of fluorine or fluorinated compounds (such as	Yes	Perfluorinated compounds (PFCs) are family of compounds (including Perfluorooctane sulfate	PFCs are extremely persistent and bioaccumulative chemicals.[v] How we

		PFOS/PFOA chemicals used as grease barriers)? (Yes/No)		(PFOS), Polytetrafluorethylene (PTFE) and PFOA). PFOS is used in paper production to provide grease, oil, and water resistance to paper and paperboard used in food- and non-food-contact applications (such as paper plates, bowls and cups).	are exposed is not well documented but concern comes from the prevalence of PFCs in humans. In a study from Johns Hopkins Bloomberg School of Public Health, researchers analyzed cord blood samples from 300 newborns in Baltimore and found PFOS and PFOA in 99% and 100% of umbilical cord blood, respectively.[vi] In animal studies, PFOS is linked to bladder cancer, liver cancer, and developmental and reproductive toxicity (including neonatal mortality).
3.	Chemicals	Is this product and coatings free of intentionally added organohalogens? (Yes/no)	Yes	Halogenated organic compounds are chemicals that contain a halogen element, such as fluorine, chlorine, bromine, or iodine, bonded to carbon. Organohalogens are now commonly found in all humans, including newborns - exposed when these chemicals cross the placenta. Despite FDA approval for the use of many organohalogen additives, including organofluorines, in disposable food ware products, the prudent course of action is to not purchase food service ware products that contain organohalogens.	The organohalogens, especially the organo-chlorines and organo-bromines, have been a focus of international concern for many decades because they are associated with many negative environmental and human health impacts. Over the course of their life cycle organohalogens contribute to the formation and dispersion of chemicals of high concern -- especially persistent, bioaccumulative and toxic compounds like dioxins and furans -- into the environment and humans.

3.	Compostability	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)	Yes, if composting is available	Certified compostable means the product will fully and safely biodegrade in a commercial-scale compost facility in a specific number of days. If you're purchasing food service ware that contains biobased plastic, look for products that are certified by one or more of the following organizations: Biodegradable Products Institute (BPI) or Green Seal (USA), Din Certo (European Union), AIB Vincotte Inter (Belgium), Australian Environmental Labeling Association (Australia) or Biodegradable Bioplastics Association (Japan). BPI does not certify paper-based products unless they have a bioplastic liner. Some paper-based food service ware products contain a conventional plastic liner; these products may or may not be acceptable in commercial composting facilities. Cedar Grove is a commercial facility that tests and approves products. See product list, http://www.cedar-grove.com/acceptable/Accepted%20List.asp	It is important that compostable food service ware products are used in a facility that has a designated composting facility or system in place that will accept compostable biobased food service ware to enable the recovery of both the food waste and the food service ware product.
4.	Packaging	Is this product offered either in bulk or are the individual wrappings recyclable (e.g., paperboard) or certified as compostable in a commercial composting facility? (Yes/No)	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.
5.	Packaging	Is this product packaged without polystyrene (PS, commonly referred to as Styrofoam™) and polyvinyl chloride (PVC)? (Yes/No)	Yes	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. Polyvinyl chloride (PVC) or "vinyl" is a plastic polymer used in a wide array of products. It is the third most widely produced plastic.	Also referred to as 'PS' with the SPI (Society of the Plastics Industry) resin code 6, polystyrene is difficult for hospitals to recycle and there are environmentally preferable alternatives. Polystyrene is made with styrene.[vii] The International Agency for Research on Cancer (IARC) classifies styrene as a possible carcinogen.[viii] Foam blowing agents (called hydrochlorofluorocarbons, HCFCs) used to make polystyrene foam are compounds that have an ozone

					depletion potential[ix]. 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.
6.	Performance	Can at least 10 samples of this product be provided for testing upon request by member hospitals? (Yes/No)	Yes	Performance testing is an essential part of evaluating food ware.	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.
7.	Recycled Content	Does this product contain recycled content? (Yes/No) If yes, what is the percentage of total and postconsumer recycled content?	Yes/Highest percentage meeting performanc e needs	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.[x] 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.

8.	Manufacturing Process	Is this product unbleached or made without the use of chlorine or any chlorine derivatives? (Yes/No)	Yes	Up until the late 1990s, chlorine was the chemical of choice for bleaching paper in the kraft pulping process.[xi] 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.	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.
9.	Multiple environmental attributes	Is this product certified by either Green Seal or EcoLogo? (Yes/No)	Yes	Green Seal-certified shall be defined as products or services that meet the standards of Green Seal, an independent nonprofit organization, and have been certified by Green Seal or other third party as meeting those standards. Types of institutional products certified include food-service packaging (GS-35 covers rigid and flexible wrap containers, trays) paper products (GS-1 covers napkins and paper towels) and paper food preparation materials (GS-18 covers coffee filters, cupcake liners, parchment paper). http://www.greenseal.org/GreenBusiness/Standards.aspx EcoLogo is a similar entity based in Canada. Their standards cover kitchen paper towels (CCD-085), and napkins (CCD 084). Formore information go to http://ecologo.org/en/criteria/search/.	Green Seal- and EcoLogo-certified products meet multiple environmental considerations that may include recycled content, performance, toxicity and other criteria specific to the product category.
11.	Sourcing	Is this product certified as sustainably produced by the Forest Stewardship Council (FSC), Rainforest Alliance, USDA Organic, Protected Harvest or Fair Trade USA? (Yes/No) If yes, please indicate which one.	Yes	Although there is no single definition of sustainable agriculture or forestry, several independent third party organizations certify products that contain agricultural or forestry products that do not harm the environment, protects workers from exposure to highly toxic pesticides and other hazards, respects animals, provides a fair wage to the farmer, and supports and enhances rural communities.	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, displacement of indigenous peoples. Certification would avoid this.

Non-Cutlery Products (includes plates, bowls and cups as well as napkins, placemats, trays, etc.)

Add the following questions for non-cutlery products.

#	Topic	Environmental Questions	Preferred Answer	Definition	Rationale
12.	Biobased	Does this biobased plastic product contain at least 90% biobased carbon content (excluding inorganic additives) based on ASTM D6866? (Yes/No) UNCOATED wood, paper and other fiber-based materials automatically comply.	Yes	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.	It is important that these products are used in a facility that has a designated composting facility or system in place that will accept compostable biobased food service ware to enable recovery of food service ware as well as other food waste from the facility.

Cutlery Questions

Add the following questions for any cutlery products.

#	Topic	Environmental Questions	Preferred Answer	Definition	Rationale
13.	Biobased	Does this biobased plastic product contain at least 70% biobased carbon content based on ASTM D6866? (Yes/No) UNCOATED wood, bamboo and other fiber-based materials automatically comply.	Yes	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.	It is important that these products are used in a facility that has a designated composting facility or system in place that will accept compostable biobased food service ware to enable recovery of food service ware as well as other food waste from the facility.

Additional Desirable Criteria

#	Topic	Environmental Questions	Preferred Answer	Definition	Rationale
14.	Sourcing	Was this product grown without genetically modified organisms (GMOs)? (Yes/No)	Yes	This product was not made with materials that contain genetically engineered/ modified (GE/GM) organisms. Prefer products that are certified to be GMO-free. Acceptable certifications include Non-GMO Project Verified (www.nongmoproject.org), CERT ID Non-GMO or ProTerra Certifications (www.genetic-id.com/services/certification). Or products can be tested by GeneScan, Inc. (www.gmotesting.com), a laboratory which verifying that products do not contain GMOs.	Products that contain corn, soy, canola and their derivatives (e.g., oil, high-fructose corn syrup, corn meal, soy protein, etc) may have been produced from genetically modified seeds. GMO containing foods or ingredients are not adequately assessed for their credible adverse effects on human or animal health, or on the environment in which they are produced. Also of concern is the threat posed by genetic engineering to environmentally sustainable food production and to the economic livelihood of farmers pursing sustainable food production. See related fact sheet: http://www.noharm.org/lib/downloads/food/Genetic_Engineered_Food_Stmnt.pdf

This resource is based in large part on the Sustainable Biomaterials Collaborative's BioSpec Purchasing Specifications for Compostable Biobased Food Service Ware prepared by the Green Purchasing Institute.

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[i] Galland, PhD., Amy; Passoff, Michael, *Sourcing Framework for Food and Food Packaging Products Containing Nanomaterials*, As You Sow, 2011, p 4.
[ii] Pat Rizzuto, "Limited Participation in Nano Program Spurs EPA to Examine Regulatory Authority," *BNA Daily Environment Report*, January 14, 2009, page A-3.
[iii] Galland, PhD., Amy; Passoff, Michael, *Sourcing Framework for Food and Food Packaging Products Containing Nanomaterials*, As You Sow, 2011, p 6.

[iv] Galland, PhD., Amy; Passoff, Michael, *Sourcing Framework for Food and Food Packaging Products Containing Nanomaterials*, As You Sow, 2011, p 6.
[v] Factsheet: *Perfluorinated compounds and Human Health Concerns*, Healthy Building Network, April 2009
[vi] 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.
[vii] U.S. Environmental Protection Agency, "Air Toxics- Styrene," http://www.epa.gov/ttnatw01/hlthef/styrene.html, website viewed June 2011
[viii] Ibid
[ix] *Phaseout of HCFCs*, Ozone Layer Depletion, U.S. EPA, http://www.epa.gov/ozone/title6/phaseout/classtwo.html viewed September 2011
[x] Background Document for the Final Comprehensive Procurement Guideline (CPG) III and Final Recovered Materials Advisory Notice (RMAN) III, U.S. EPA, September 1999, EPA530-R-00-002
[xi] Chlorine Free Processing, Conservatree, http://www.conservatree.org/paper/PaperTypes/CFDisc.shtml, Accessed February 2012