



GreenNY

Approved EO 4 Specifications

Food Service Containers and Wrappers

Covered Products

Containers and wrappers used to serve food, including but not limited to plates, bowls, hot and cold cups (including portion cups, lids and insulating sleeves); sandwich or other types of food wrappers made of paper, aluminum or other materials; food trays and liners; and food take-out containers with hinges, folding closures, or lids (e.g., clamshells, boxes, and soup containers). The specification does not cover containers or wrappers used at food processing locations, or used to ship food to retail or service locations. The specification does include requirements and desirable attributes for packaging used to ship empty food service containers to food service locations.

Goal

The goal of this guidance document is to increase sustainable practices in the State of New York's food service operations by encouraging the purchase and use of reusable food service containers and establishing minimum specifications for single-use food service containers and wrappers. The specification establishes a hierarchy of environmentally desirable attributes as follows: reusable; compostable in a commercial or municipal facility; easily recyclable; and made with a minimum percentage of post-consumer recycled content or sustainably harvested content. In addition, all covered products purchased by affected entities, offered by preferred sources, or on State contract shall not contain perfluorinated chemicals (PFCs) (as defined in this specification), or polystyrene.

Background

Due to the tremendous amount of waste generated from disposable food containers and wrappers and the cost of disposal, cafeterias and other food service operations are beginning to convert to more environmentally desirable food service products. This transition is complicated by the

wide range of product options available and the benefits and drawbacks associated with each. In order to significantly reduce the amount of waste generated from single-use containers, food service operators need to determine the types of food service products which best suit the needs of their customers while creating the least impact on the environment and public health.

Reusable Containers

Reusable food service containers such as ceramic plates, mugs, and bowls, cups are almost always more environmentally desirable than single-use containers. Reuse maintains the integrity of the original product, and therefore retains the embedded energy and value of the materials used, resulting in significant environmental benefits. Life cycle analyses reveal that when materials extraction, fabrication, transport, distribution and disposal are all considered, reusable food service containers have significantly less environmental impacts than single-use food service ware, including energy use and air pollution.

Compostable Containers

If reusable containers are not an option, or the washing of reusable food service containers is not possible, and the use of disposable containers or packaging is unavoidable, certified, commercially compostable materials that do not contain PFCs should be used. Compostable materials are the best choice for single-use food service products because composting is the easiest way for food service operators to divert left over food away from landfills. Users don't need to sort food containers into a different bin apart from food, and food left on containers or wrappers does not present a contamination problem, as it does for recycling. For this reason, the use of compostable food service ware can lead to greater food waste diversion than recyclable ware. According to the U.S. Environmental Protection Agency, food waste is the largest category of municipal solid waste sent to landfills in the United States, accounting for approximately 22% of the waste stream. More than 38 million tons of food waste are sent to landfills in the U.S. each year.

Diverting food waste from landfills conserves limited landfill space and helps to reduce greenhouse gas emissions. Food scraps that decompose in landfills in the absence of air break down into methane, a potent greenhouse gas. Composting food waste avoids the production of methane and produces a natural soil amendment, which can create healthier soil and reduce the need for synthetic fertilizers.

Before selecting compostable containers or wrappers, affected entities should check to make sure that a system for diversion to composting (or a comparable alternative treatment technology such as anaerobic digestion), is in place at the facility in which they will be used. As established in the EO 4 specification for Solid Waste Recycling and Management Services, affected entities are encouraged to seek out and contract with waste management vendors that offer composting services or other organics recycling technologies acceptable to the Department of Environmental Conservation, and will accept food and compostable food service containers and wrappers (see <https://www.ogs.ny.gov/purchase/snt/awardnotes/7901322760can.HTM>).

Affected entities are also encouraged to use the Organic Resource Locator, a web-based mapping tool developed by the New York State Pollution Prevention Institute, to locate options for diverting organic resources in New York State (see <https://www.rit.edu/affiliate/nysp2i/food/organic-resource-locator>).

Recyclable Containers

If reusable and compostable food service ware is not an option, or there is no system in place to compost or alternatively treat compostable products, containers that can be easily recycled should be selected. Potentially recyclable products include plastic cups, paper cups that are uncoated or coated with PLA bioplastic or wax, takeout containers, aluminum foil, hot cup sleeves, and tray liners (as long as they are not heavily contaminated with food). Recycling diverts material from landfills and trash incinerators and makes it available to be converted into other products. Manufacturing products from recyclable material often uses less energy and water than making them from virgin (i.e., nonrecycled) material.

Food service operators should determine what types of products are accepted by their local recyclers before purchasing potentially recyclable products. Plastic containers are usually made from a specific type of plastic resin and some plastic resins are more readily recyclable than others. Easily recyclable plastic products may include cold cups, lids, and take-out containers made from PET (#1) or polypropylene (#5). It is important to note that recyclers may not accept recyclable food service containers or wrappers that are heavily soiled with food. In addition, paper food service containers lined with polyethylene plastic are generally not considered recyclable.

Food service containers made with polystyrene (plastic resin #6) (including expanded polystyrene or “foam,” sometimes referred to as “Styrofoam”) should be avoided. The National Toxicology Program concluded in 2011 that styrene is “reasonably anticipated to be a human carcinogen” (Report on Carcinogens, Twelfth Edition). A primary use of styrene is in the manufacture of polystyrene, which is used extensively to make plastic packaging and disposable food containers. The National Academy of Sciences states that: “[s]ources of environmental exposure includ[e] food (from migration of styrene from polymer packaging materials)” (Review of the Styrene Assessment in the National Toxicology Program 12th Report on Carcinogens, 2014). Polystyrene is very slow to degrade, and foam waste in particular is abundant in litter, particularly along shores and waterways and in the ocean. There are currently only two facilities that recycle expanded polystyrene foam in New York State.

Recycled and Sustainably Harvested Content

In addition to the considerations discussed above, a number of compostable and recyclable food service containers and wrappers have recycled and sustainably harvested content, making them the best choices within their category. Where the use of disposable containers or wrappers is unavoidable, and neither compostable nor recyclable containers or wrappers are cost competitive or meet form, function and utility requirements, affected entities are encouraged to purchase products that have recycled or sustainably harvested content, or both. For example:

- A number of paper products (notably folded take-out containers, coffee cups, and paper plates) are made with recycled content, including post-consumer recycled content. Those with the highest level of post-consumer recycled content are best.
- Some cold cups, clear bowls and takeout containers are made with post-consumer recycled-content PET plastic.
- Some molded fiber and paper products are certified by the Forest Stewardship Council (FSC) or Sustainable Forestry Initiative (SFI), which means they are made with sustainably harvested bio-based materials.

Perfluorinated Chemicals in Food Service Containers and Wrappers

Single-use food service containers and wrappers can contain perfluorinated chemicals (PFCs) (see definition below). PFCs are widely used to make everyday products more resistant to stains, grease and water.

Most of the science on the health risks associated with long-term human exposure to PFCs focuses on two chemicals – perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) – that were used for decades to manufacture hundreds of different products before studies indicated that exposure to them over certain levels may result in adverse health effects.

In 2006, the U.S. Environmental Protection Agency (EPA) launched its PFOA Stewardship Program, under which major manufacturers phased out the use of certain long-chain PFCs of concern. In 2011, the major manufacturers of PFCs used in food containers voluntarily ceased their use of certain long-chain chemicals. In a series of actions between 2010 and 2016, the U.S. Food and Drug Administration (FDA) revoked its previous approval of long-chain PFCs for food contact use. To replace these chemicals, manufacturers developed short-chain alternatives, which are used to make molded fiber plates, bowls and clamshells, as well as some food wrappers and take-out containers, less prone to leaking. A number of short-chain PFCs are currently approved by the FDA for food contact use.

Research into the human health risks associated with both long- and short-chain PFCs is ongoing. According to a July 2016 fact sheet issued by the National Institutes of Health (NIH), the concerns driving continued study of PFCs as a class include widespread exposure to humans, persistence in the environment, observed toxicity of certain PFCs in animals (such as PFOA and PFOS), and “insufficient information to properly assess human health risk across the entire structural class.” According to the NIH’s Substances of Concern Database (as of April 13, 2018),

“shorter chain PFCs (those with four to six carbons) are considered to be less toxic than longer chain PFCs, however, there is limited toxicological data on shorter chain PFCs and, since they are similarly structured and could therefore have similar properties, using these as alternatives to their longer chain counterparts could result in a regrettable substitution.”

The NIH’s recommended reduction strategies include “selecting products and materials that do not contain PFCs,” for example, “choosing food packaging . . . made without PFCs.”

The Washington State Departments of Ecology and Health released an Interim Action Plan for Per- and Polyfluorinated Alkyl Substances in April 2018 that summarizes the latest science concerning the safety of this major class of PFCs:

“Some short-chain PFAS appear to be less bioaccumulative in people than long-chain compounds, but publicly available data on their hazards is limited to a few compounds. Like long-chain PFAS, many of the short-chain substances are extremely persistent or degrade into extremely persistent forms. Short-chain PFAS also tend to be more water soluble and more mobile than the long-chain substances. This means they can move more easily through soil to contaminate groundwater or surface water, and are harder to filter out of

drinking water. The short-chain replacements may be regrettable substitutes for PFOA and PFOS. If environmental exposures to short-chain PFAS are found to pose health risks to people or the environment, mitigation will be difficult and expensive.”

Avoiding the use of PFCs in food service containers and packaging can help to reduce human exposure and potential sources of PFCs in the environment.

Definitions

Bagasse – is a fibrous, pulpy material that remains after sugar is extracted from sugarcane. It is often molded into food service products such as compostable plates, bowls and takeout containers. Because it can insulate food, it can replace expanded polystyrene foam. Unfortunately, many bagasse food service products have been found to contain PFCs.

Bio-based Materials – means plant-derived materials that are commonly used to make single-use food service containers and wrappers. These include (but are not limited to):

- Wood cellulose, used to make conventional paper plates, bowls and cups, including both recycled and virgin paper.
- Fiber crops such as hemp and flax.
- Bamboo, silver grass (i.e., miscanthus) and other grasses.
- Agricultural waste such as bagasse (sugarcane waste) as well as wheat and rice straw.
- Materials derived from agricultural products (such as corn starch) that are turned into polylactic acid (PLA), a compostable clear plastic material used to make cold cups and other food service ware, and to coat paper and other fiber-based products.

Bioplastic – is any plastic derived from plant-based materials that can replace traditional plastics derived from petroleum.

Compostable – means all the materials in a product or package are capable of undergoing biological decomposition in an appropriate (i.e. commercial or municipal) compost facility as part of an available program in a safe and timely manner (no more than 180 days), such that the material is not visually distinguishable and breaks down into carbon dioxide, water, inorganic compounds, and biomass suitable for use as a soil amendment (e.g., compost, soil-conditioning material, mulch), leaving no toxic residue. To be considered a compostable product under this specification, a product must be certified by the Biodegradable Products Institute (BPI) or an equivalent certifier, or be on the Cedar Grove list of Commercially Accepted Items (or a comparable list created by another member of the Compost Manufacturing Alliance), and must not contain PFCs.

Perfluorinated Chemical (PFC) – means any perfluorinated or polyfluorinated chemical, including but not limited to long- and short-chain per- or polyfluorinated alkyl compounds (PFASs), fluorinated sulfonate compounds, fluorinated polyethers, and fluorinated polymers.

Molded Fiber – means bagasse, wheat straw, recycled paper and other types of fibrous materials that are put into a pulping device and formed into various types of food service products such as plates, bowls and takeout containers. Some molded fiber products are certified as compostable by the Biodegradable Products Institute or appear on other lists of approved compostable food service products. Unfortunately, many molded fiber food service products have been found to contain PFCs.

Polylactic Acid (PLA) – is a clear bioplastic that resembles common petrochemical-based plastics such as polyethylene and polypropylene. PLA food service products are sometimes labeled with the #7 plastic resin recycling symbol.

Post-Consumer Recycled Content (PCRC) – means only those products, packages or materials generated by a business or consumer which have served their intended end use as consumer items, and which have been separated or diverted from the waste stream for the purposes of collection and recycling as a secondary material feedstock, but shall not include waste material generated by the manufacturer or converter during or after the completion of a manufacturing or converting process.

Polystyrene – means all forms of the plastic resin polystyrene (#6), including expanded polystyrene or “foam,” sometimes referred to as “Styrofoam.”

Pre-Consumer Recycled Content – means materials, by-products or fibrous waste generated after the completion of a papermaking or manufacturing process, which have not reached a business or consumer for an intended end use and have been recovered or diverted from the waste stream, including but not limited to industrial scrap material; overstock, obsolete inventories, or rejected unused stock from distributors, wholesalers, and other companies; envelope cuttings; bindery trimmings; printing waste; cutting and other converting waste; butt rolls and mill wrappers. Such term does not include materials, by-products, or fibrous waste generated from, and commonly reused within, an original manufacturing process, such as fibers recovered from wastewater or trimmings of paper machine rolls (mill broke) regardless of whether such materials are used by the same or another company; fibrous by-products of harvesting, extractive, or woodcutting processes; forest residues such as bark; or on-site converting waste. On-site converting waste can be claimed as recycled material if the manufacturer or advertiser can substantiate that the material would otherwise have entered the solid waste stream.

Recyclable Material – means any material that can be used as an ingredient in a manufacturing process to create another product.

Total Recycled Content (TRC) – means total combined post-consumer and pre-consumer recycled content.

Standard Setting and Certifying Programs

ASTM International (American Society for Testing Materials) – One of the largest voluntary standards development organizations in the world, ASTM is a trusted source for technical standards for materials, products, systems, and services known for their high technical quality and market relevancy. ASTM International standards play an important role in the information infrastructure that guides design, manufacturing and trade in the global economy.

ASTM D6400 – Standard Specification for Compostable Plastics. This specification establishes requirements for labeling of materials and products, including food service products made from bioplastics, as “compostable in municipal and industrial composting facilities.” The properties in this specification are those required to determine if plastics and products made from plastics will compost satisfactorily, including biodegrading at a rate comparable to known compostable materials. Further, the properties in the specification are required to assure that the degradation of these materials will not diminish the value or utility of the compost resulting from the composting process.

ASTM D6868 – Standard Specification for Biodegradable Plastics Used as Coatings on Paper and Other Compostable Substrates. This specification establishes requirements for labeling of materials and products (including packaging), wherein a biodegradable plastic film or coating is attached (either through lamination or extrusion directly onto the paper) to compostable substrates and the entire product or package is designed to be composted in municipal and industrial aerobic composting facilities. The properties in this specification are those required to determine if products will compost satisfactorily, including biodegrading at a rate comparable to known compostable materials. It does not, however, specify the contents of the product or their performance with regards to compostability or biodegradability. In order to compost satisfactorily, the product must demonstrate each of the three characteristics as follows: (1) proper disintegration during composting; (2) adequate level of inherent biodegradation; and (3) no adverse impacts on the value or utility of composts to support plant growth.

Biodegradable Products Institute (BPI) – A professional membership association of key individuals and groups from government, industry and academia, which promotes the use of—and certifies—a wide array of compostable products

including, but not limited to food service ware. The BPI will certify any materials or products which can be demonstrated (via scientifically proven techniques) to be completely biodegradable in municipal or commercial aerobic composting facilities.

Specifications

1. Avoid Chemicals of Concern

Where such products are cost competitive and meet form, function and utility requirements, affected entities shall, to the maximum extent practicable, purchase food service containers and wrappers which contain no intentionally added perfluorinated chemicals or polystyrene.

Affected entities are encouraged to purchase food service containers and wrappers which contain no intentionally added chemicals known to the State of California to cause cancer or reproductive toxicity and are listed pursuant to the Safe Drinking Water and Toxic Enforcement Act of 1986 (CA Proposition 65). Chemicals listed under CA Proposition 65 which may be found in food service containers and wrappers include polyvinyl chloride, vinylidene chloride, bisphenols and phthalates.

2. Minimize the Purchase of Single-Use Food Containers

Where such products are cost competitive and meet form, function and utility requirements, affected entities shall, to the maximum extent practicable, purchase and utilize reusable food service containers, including, but not limited to, ceramic plates, bowls and mugs.

3. Purchase Compostable Single-Use Food Service Containers and Wrappers

If the purchase of single-use food service containers or wrappers cannot be avoided, affected entities shall, to the maximum extent practicable, purchase single-use food containers and wrappers that meet one of the following attributes, where such products are cost competitive, meet form, function and utility requirements, and will be managed in a municipal or commercial composting facility:

- Are certified by the Biodegradable Products Institute (BPI) per ASTM D6400 or D6868 and labeled “Compostable” (BPI-certified products can be accessed at <http://products.bpiworld.org/>); or
- Appear on the list of Commercially Accepted Items developed by the Cedar Grove composting facility in Washington State (this list can be accessed at <http://cedar-grove.com/compostable/accepted-items>), or a comparable list created by another member of the Compost Manufacturing Alliance.

Affected entities are encouraged not to purchase compostable products for use in facilities that do not send

their waste to a municipal or commercial composting facility.

NOTE: If a biobased container is manufactured with a polyethylene-coated material, it is not compostable, and therefore does not meet the intent of this specification.

4. Purchase Recyclable Food Service Containers

Where municipal or commercial composting facilities, or compostable food service products, are not available, affected entities shall, to the maximum extent practicable, purchase single-use food containers and wrappers that meet one of the following attributes, where such products are cost competitive and meet form, function and utility requirements:

- Be made of one of the following types of easily recyclable plastic materials and labeled with a visually legible Resin Identify Code (i.e., chasing arrow and number):
 - PET plastic (#1)
 - Polypropylene plastic (#5); or
- Be made of uncoated plain or corrugated paper, paper coated with wax or lined with PLA, or aluminum foil.

Before purchasing recyclable food service products, affected entities are strongly encouraged to confirm with their waste hauler, municipal solid waste management agency, or other authoritative source whether the type of materials contained in the product are both accepted for recycling and are actually recycled.

5. Purchase Food Service Containers with Recycled or Sustainably Harvested Content and Other Environmental Attributes

Affected entities are encouraged to purchase food service containers and wrappers with one or more of the following types of recycled or sustainably harvested content or environmental attributes:

- Paper with 10% or more post-consumer recycled content, which can be found, for example, in some brands of folded take-out containers, coffee cups and paper plates; or
- PET plastic with 20% or more post-consumer recycled content, which can be found, for example, in some brands of clear cold cups, lids and takeout containers; or
- Materials certified by the Forest Stewardship Council (FSC) or Sustainable Forestry Initiative (SFI) as sustainably harvested; or
- Paper products manufactured entirely with chlorine-free processing, meaning that no chlorine or chlorine compounds were used in the manufacture of the

products; or

- Inks for printing and graphics that are vegetable-based and approved for use by U.S. Food and Drug Administration, where such approval is required.

Verification of Third-Party Certification and Compliance With this Specification

Affected entities should ask bidders or vendors to declare in the bid sheet (or other appropriate documentation) the following information about each product in its offering.

- **For all products:**

- Any certifications the product has earned.
- The name of any chemical known to the State of California to cause cancer or reproductive toxicity and is listed pursuant to the Safe Drinking Water and Toxic Enforcement Act of 1986 which was intentionally added to the product during its manufacture.

- **For all compostable products, where applicable:**

- That the product appears on the list of Commercially Accepted Items developed by the Cedar Grove composting facility in Washington State or a comparable list created by another member of the Compost Manufacturing Alliance.
- For compostable plates, bowls, cups, clamshells (or other food take-out containers) made of molded fiber, or wrappers or take-out containers made of paper or other types of fiber: Whether or not perfluorinated chemicals (PFCs) were intentionally added to the product during its manufacture.
- For products made with recycled material: The percentage of total recycled content and post-consumer recycled content in the product.

- The use of reusable packaging.
- The use of innovative packaging that reduces the weight of packaging, reduces packaging waste, or utilizes packaging that is a component of the product.
- That all packaging remain the property of the supplier and not become the property of the affected state entity under any circumstance or condition. The vendor shall certify that the packaging material will be reused, recycled, or composted, and managed in compliance with applicable local, state, and federal laws.
- Packaging that maximizes recycled content and/or meets or exceeds the minimum post-consumer content level for packaging in the U.S. Environmental Protection Agency Comprehensive Procurement Guidelines.
- Packaging that is recyclable or compostable.

Packaging

Packaging shall comply with Environmental Conservation Law section 37-0205. Packaging shall not contain inks, dyes, pigments, adhesives, stabilizers, or any other additives to which any lead, cadmium, mercury or hexavalent chromium is intentionally added or contain incidental concentrations of lead, cadmium, mercury or hexavalent chromium which together are greater than 100 parts per million by weight (0.01%).

New York State encourages affected entities to adopt the following:

- The use of bulk packaging.