



ALTERNATIVES TO PFAS-COATED FOOD PACKAGING

Nonstick chemicals known as per- and poly-fluorinated alkyl substances (PFAS) are commonly used in disposable food packaging and food service ware as an oil and grease barrier. Concerns about their hazards are creating demand among grocery stores and government, health care, educational and other institutional purchasers for safer alternatives.

Food service ware products and product categories that may contain PFAS include:

- bowls
- plates
- clamshells/take-out containers
- food trays/boats
- bags such as for rotisserie chicken
- straws
- boxes such as for pizza, pastry
- wrappers and liners such as muffin papers, cookie bags, hot or cold sandwich bags, parchment paper, self-serve sheets

Food service ware products and product categories that typically do NOT contain PFAS include:

- cups (hot and cold)
- cutlery
- stirrers
- coffee sleeves
- napkins

ALTERNATIVES ARE AVAILABLE

Single-use disposable food packaging and service ware are available without PFAS, including uncoated paper products, products made with materials other than paper, and paper products treated with coatings other than PFAS. The table below summarizes the product categories of single-use compostable food service ware that typically contain PFAS and the PFAS-free alternative materials and/or coatings available.

Product Category	Alternates to Paper	Alternate Treatments
Bowls	PLA (compostable plastic) Bamboo Palm leaf	None (Uncoated) PLA Clay Soak Proof Shield™
Plates	Bamboo Palm Leaf	None (Uncoated) Soak Proof Shield™ Clay
Clamshells & Take out Containers	PLA	PLA Enshield®
Food trays/boats	PLA	None (Uncoated) Clay
Boxes		Bio-wax
Wrappers and Liners		Bio-wax

COMPOSTABLE PFAS-FREE ALTERNATIVES

Below is a description of compostable PFAS-free alternatives and associated manufacturers and brands. Some products from these brands may contain PFAS, so it is important for purchasers to specify PFAS-free.

Uncoated Products: an alternate mechanical process can make paper and paperboard grease-resistant by compressing the fibers—currently made by Nordic Paper. Another manufacturer of uncoated paper plates is AJM Packaging Corporation.

Alternative Materials: Compostable materials other than paper are used to make oil and grease resistant food service ware.

- Polylactic Acid (PLA) is a compostable plastic typically made from corn—made by a number of manufacturers including Natureworks under the Ingeo® brand and used by Eco-Products, Greensafe Products, GrowPlastics, and World Centric®. Products include bowls, clamshells, take-out containers and lids, deli containers, cutlery, and portion cups.
- Bamboo—Bambu® manufactures disposable plates and bowls from thin sheets of bamboo.
- Palm Leaf produced by Resposable and by BioMass Packaging under the Leafware® brand.

Alternative Treatments: Paper coated with PLA, silicone, clay, and other proprietary-branded coatings and treatments are used to impart oil and grease resistance to disposable food service ware.

- PLA—PLA coated paperboard soup bowls and take-out containers have been produced by: Practiv's Earthchoice, Graphic Packaging International's Ecotainer®, Eco-Products® World Art™, PrimeLink Solutions' PrimeWare®, Karat, Vegware, and World Centric®.
- Clay—Dart Container Corporation manufactures clay-coated paper plates under the brand Bare® By Solo® Eco-Forward®. Eco-Products and Monogram also make clay coated food boats.
- Bio-wax—Bio-based wax coatings are produced by Clondakin Group under the Ecowax® brand and by Paramelt under the Paraflex NoWax™ brand for a variety of food contact applications including bags, wraps, and boxes.
- Proprietary branded coatings of unknown hazard profile:
 - Soak Proof Shield™—Georgia-Pacific manufactures a line of paper plates and bowls under the Dixie® brand coated with Soak Proof Shield™, an acrylic-based coating that does not contain silicone.
 - Enshield®— West Rock produces oil and grease resistant paperboard coated with Enshield® for a variety of food service applications including take-out, bakery, and frozen foods.
 - Unknown – Brands of plates and bowls with unknown coating or possibly no coating include Cheeky, Target's store brand Up & Up, and Walgreen's store brand Nice!.

Durable and reusable food service ware is preferred over single use disposable materials to reduce consumption of materials and waste generation. Compostable materials need a dedicated collection system and industrial composting facility to adequately close the materials loop. Most petroleum based single use plastics are not recycled. A lifecycle perspective of material type and waste infrastructure should also be considered when addressing the toxicity profile of materials.

MORE ALTERNATIVES ARE COMING

Manufacturers are responding to the market demand for fluorine-free compostable food service ware products from large-scale purchasers e.g., academic institutions, state governments, the education sector and health care systems. Manufacturers are actively working on non-fluorinated alternatives and new products are expected to be on the market within the coming year.

The following organizations contributed research and testing results that helped inform this fact sheet: Center for Environmental Health, Responsible Purchasing Network, and San Francisco Department of the Environment.

FOR MORE INFORMATION CONTACT:

Shari Franjevic, Clean Production Action, 781-391-6743 x117

Erika Schreder, Toxic-Free Future, 206-632-1545 x 119

