

Bioplastics: Snickers® Candy Bars Have It Wrapped Up

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[A team of researchers from Yale University, the University of Maryland and the University of Wisconsin-Madison just published a study on a durable, biodegradable plastic alternative made 100% of wood.](#) This study is just one example of the advent of a new generation of biobased plastics or bioplastics, a term broadly referring to products made from organic matter that have the same properties as “ordinary” plastic. The attractiveness of bioplastics is due to their potential to meet environmental as well as economic goals. [According to current estimates, the bioplastics market size is expected to reach at least USD \\$20.0 billion by 2026.](#)

Presently, the food and beverage sector is leading in terms of adoption and implementation of bioplastics. [In 2016, for instance, Mars introduced a bioplastic wrapper made from potato starch by-products for Snickers® candy bars.](#) Bioplastic food packaging, like the Snickers® wrapper, remains and will continue to remain in high demand. Like other food packaging, bioplastic food packaging must be approved by the Food and Drug Administration (FDA). The FDA currently does not have a definition of or specific regulations for bioplastic food packaging. Accordingly, bioplastic food packaging must comply with the same food safety laws and regulations as petroleum-based plastic food packaging. The primary approval pathway is through the FDA’s so-called Food Contact Notification (FCN) process.

Under the FCN process, a manufacturer or supplier of a new “food contact substance,” or “any substance intended for use as a component of materials used in manufacturing, packing, packaging, transporting, or holding food if such use is not intended to have a technical effect in such food,” submits a notification to the FDA. Generally speaking, the notification should include information on: (a) the composition, specifications, and method of manufacture for a substance; (b) the intended conditions of use; (c) the quantity and identity of substances likely to become components of foods under the intended use conditions; and (d) toxicology data demonstrating the safety of the expected intake level. If the FDA does not object within 120 days to the substance’s use based on safety grounds, in writing, the submitter may market the substance. Critically, the FDA does not regulate labeling claims relating to bioplastic packaging, but biodegradability advertising has been the subject of [action by the Federal Trade Commission](#).

Although a number of bioplastics have been cleared under the FCN process, some question whether the FDA should (1) define the term “bioplastics” by, among other things, specifying the percentage of carbon that must originate from biological sources as opposed to fossil fuels (currently, a product made almost entirely out fossil fuels can be considered a “bioplastic”); and (2) attempt to harmonize its regulations on bioplastics with international standards to avoid barriers to the international trade of bioplastics. Opinions on these considerations differ but watch this space for further developments, especially in light of the recently [reintroduced “Break Free From Plastic Pollution Act”](#) and the April 6, 2021 [United Nations Environment Program legislative guide on the regulation of plastic products](#). If uptake by major brands like Snickers® is any indication of the future, bioplastics will play a meaningful role in the bioeconomy.

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