

PFAS in Food – Policy and Proposed Solutions

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Perspectives on FDA

- Politico's "[The FDA's Food Failure](#)" April 8, 2022 article:
 - “Over the years, the food side of FDA has been so ignored and grown so dysfunctional that even former FDA commissioners readily acknowledged problems in interviews.”
 - “There is a remarkable level of consensus that the agency is simply not working. Current and former officials and industry professionals used terms like “ridiculous,” “impossible,” “broken,” “byzantine” and “a joke” to describe the state of food regulation at FDA.”
 - Examples: Irrigation water, heavy metals in baby food, sodium and infant formula.
 - My experience with [food additives](#) is similar to Politico's findings:
 - Perchlorate, phthalates, bisphenol A, PFAS, etc.
 - States and retailers leading the way on food packaging. FDA playing catch-up.
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Environmental Contamination of Food

- *Situation:* FDA tested 365 Total Diet Study (TDS) samples for 16 types of PFAS collected in 2019 and 20 types in 2021 with limits of 16 to 70 ppt:
 - PFOS most common with three others reported.
 - Only reported found in tilapia, cod, shrimp, and ground turkey.
- *Policy:*
 - FDA's reporting is based on a regulatory limit of quantification and not screening limit of detection (unlike toxic elements such as lead, arsenic and cadmium); and
 - FDA does not test for PFAS it currently authorizes in food contact materials.
- *Solution:* FDA should:
 - Test all TDS samples for PFAS and report results like other toxic elements;
 - Develop test methods for authorized PFAS; and
 - Set irrigation water and biosolid standards for agricultural uses for PFAS.

PFAS as a Class

- Law directs FDA to consider dietary intake of chemically-related or pharmacologically-related substances in food. [21 USC § 348](#) (since 1958)
 - “Food additives that cause similar or **related pharmacological effects will be regarded as a class**, and in the absence of evidence to the contrary, as having **additive toxic effects** and will be considered as related food additives.” [21 CFR § 170.18](#) (since 1959)
 - FDA Letter to Daikin in October 2019 about 6:2 fluorotelomer alcohol:
 - “FDA has recently become aware of **toxicological data that is relevant to short-chain (SC) PFAS as a class**. FDA’s review of these newly available toxicological data has **revealed safety concerns for SC-PFAS** which are applicable to the food contact use authorized under [specific Food Contact Substance Notifications].
 - “Short-chain PFAS” refers to PFAS with seven or fewer carbons in an alkyl chain (**n-1 carbons are perfluorinated**).
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Packaging v. Processing Equipment



GREASE-PROOFING
FIBER-BASED MATERIALS

PROCESSING-AID IN
PLASTIC
MANUFACTURING




COMPONENTS OF
FOOD PROCESSING
EQUIPMENT

Limits of State and Retailer Action

- *Situation:* States and retailers leading the way on food packaging, but final packaging is not only use and about 20% of food is imported.
- *Policy:*
 - FDA has been [authorizing PFAS](#) as a “processing aid” for plastics.
 - FDA does not test food contact materials for PFAS; trust but not verify.
- *Solution:* FDA should:
 - Act on its class designation and revoke authorizations; and
 - Adopt total fluorine test methods as a compliance screening tool.

Fluorinated Polyolefin – Making PFAS on Plastic

- In 1983, FDA at 21 CFR § [177.1615](#) allows use of fluorine gas in combination with gaseous nitrogen as an inert diluent to treat **polyethylene** food-contact articles. Total fluorine in food in the container must be less than 5,000 parts per billion (ppb).
 - Fluorination forms a barrier on the plastic's surface but leads to the inadvertent creation of PFAS in presence of oxygen. HOWEVER, FDA set no limit on concentration of oxygen in nitrogen.
 - Companies market fluorinated **polyolefin** products for food.
 - [FDA issues letter](#) reminding industry on plastic fluorination compliance.
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Thank You!

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