



THE COOKWARE & BAKEWARE ALLIANCE

Building industry excellence through engineering, engagement, education and expertise.

PFAS Advocacy & Education

A Statement from the Alliance

We are facing unique and challenging times in our industry as we work to understand and comply with enacted state legislations regarding PFAS chemicals. Knowledge is powerful. This is a key element in why The Cookware & Bakeware Alliance was formed back in 1922, to collect and share important information and create safe consumer products.

For years we have answered questions and shared resources on important topics facing our industry. Many times, only part of the answer, or one viewpoint is shared. Our Good Science (<https://cookwareandbakeware.org/good-science/>) site has been created to help provide resources and access to more information on important topics.

In an effort to help educate those who are either involved in deciding on PFAS legislation, or for consumers looking to purchase our products, we created an education series on PFAS. The series is shared on the Good Science site and helps explain key differences of fluorochemicals vs fluoropolymers, life cycle assessment, alternatives, and the science on the impact of fluoropolymers on human health.

Part 1: Cookware & Bakeware, PFAS, and PTFE, the definition of PFAS involving a large family of substances with significantly varied properties and uses, was discussed. PFAS was divided into two distinct groups: non-polymeric and polymeric. The polymeric PFAS (fluoropolymers) are neither water soluble, nor mobile, nor bioavailable, nor bio accumulative.

Part 2, Fluoropolymers and Human Health it was shown that fluoropolymers do not present an unacceptable risk to human health and are classified as polymers of low concern. PTFE coated cookware and bakeware are assessed by authorities in the US and Europe as safe for the user. In addition, the emissions of PFAS (of concern) into the environment during the production of PTFE coated cookware is negligible, and more importantly manageable.

Part 3: A Closer Look at PFAS in Cookware & Bakeware: other contested issues with fluoropolymers are discussed such as, Environmental Emissions of PFAS, End of Life of Nonstick Cookware, Feasibility of Alternatives to PTFE.

Highlights from the Series

In the series, you will read about and find links to resources that present information and evidence that:

- Fluoropolymers do not present an unacceptable risk to human health.
- Use of fluoropolymers in cookware and bakeware does not lead to negative health impacts.
- Fluoropolymers, including PTFE, are widely used in other applications, such as medical devices, with no evidence of negative health effects.

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- Polymeric PFAS (fluoropolymers), such as PTFE, which are used in nonstick cookware and bakeware coatings, are not water soluble, and have documented safety profiles. They are thermally, biologically, and chemically stable. They are also nonmobile, non-bioavailable, non-bioaccumulative, nontoxic, and most importantly, they are not soluble in water. Although fluoropolymers fit the current PFAS structural definition, they have very different physical, chemical, environmental, and toxicological properties when compared with other PFAS of concern.
- PTFE is the most stable fluoropolymer and has a continuous use temperature of 500°F (260°C). (Plastics Safe Handling Guide 2018). This temperature is well above temperatures realized during normal cooking and baking activities when a nonstick housewares article is used per the manufacturers' use and care instructions.
- There is no scientific basis that PTFE-coated cookware and bakeware poses a hazard or risk to humans or the environment when used under normal conditions. Therefore, in our opinion it is safe to use and should not be restricted.
- There are negligible emissions of non-polymeric fluorochemicals in landfill due to PTFE-coated cookware.
- Using the best-available technology and appropriate temperatures, PTFE and other fluoropolymers are of no concern for emissions of PFAS into the environment.
- Important points regarding PTFE-based nonstick coatings:
 1. PTFE-based nonstick coatings will retain their nonstick properties for as long as the coating is present on the coated article. This is due to the inherent nonstick properties of PTFE, a fluoropolymer. Alternative nonstick coating technologies will lose the nonstick characteristics over time.
 2. PTFE-based nonstick coatings are unaffected by household dishwashers.
 3. PTFE-based nonstick coatings emit very low levels of volatile organic compounds (VOCs) during the coating application process.
 4. The risk of PTFE-based nonstick coatings releasing low molecular weight PFAS substances of concern or any other substance that might adulterate food during normal use is very low.
- Not enough is scientifically known about the full lifecycle of ceramic or sol-gel coated cookware to declare this a viable alternative to PTFE coated cookware and bakeware. The risk of a regrettable substitution is significant.
- PTFE-coated cookware and bakeware has throughout its full lifecycle a negligible risk for PFAS emissions into the environment and is safe to use for the consumer. Therefore, there is no foundation to restrict its manufacturing, usage, or recycling.

In the 100+ years of our Alliance, we have stood by good science to create the standards for all our products. We have been dedicated to consumer safety and will continue to do so now and into the future.

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