

SAFER, MORE SUSTAINABLE

Alternatives to PFAS for Non-Stick Cookware

A report sponsored by Target
as part of Change Chemistry's
Retailer Leadership Council



TABLE OF CONTENTS

3	WHY THIS MATTERS
4	EXECUTIVE SUMMARY
6	INTRODUCTION
7	REGULATORY BACKGROUND
8	ALTERNATIVES
10	SILICONES
11	CERAMIC (SOL-GEL)
15	PEEK
17	LONGER-TERM DEVELOPMENTS
17	CONCLUSION
18	NEXT STEPS

WHY THIS MATTERS

PFAS (“forever chemicals”) are widely used for non-stick coatings but persist in the environment and have been linked to serious health risks. Regulatory bans, consumer demand for safer products, and mounting lawsuits are accelerating the need for PFAS-free alternatives. Brands that act now can reduce liability, build trust, and lead in sustainability.

KEY DRIVERS:

- **Regulatory Pressure:** Minnesota’s ban on PFAS-containing cookware began January 2025, with more states and the EU following suit.
- **Consumer Demand:** Shoppers increasingly expect transparency and safer products.
- **Market Risk:** Legal actions and reputational damage are growing for brands that fail to act.

THE OPPORTUNITY:

Innovation in PFAS-free coatings can position brands as leaders in sustainability, reduce liability, and meet evolving consumer expectations.



“Any commercial strategy for transitioning away from PFAS and other chemicals of concern should include a robust alternatives assessment to avoid substitutions that could prove regrettable (and costly!) in the future.”

JASON PEARSON

Executive Director, Change Chemistry

EXECUTIVE SUMMARY: SAFER, MORE SUSTAINABLE ALTERNATIVES TO PFAS FOR NON-STICK COOKWARE

This study, completed in August 2024, investigates potential PFAS-free alternatives for non-stick cookware, addressing the growing need for safer, environmentally friendly options in light of increasing regulatory scrutiny and consumer demand. PFAS (per- and polyfluoroalkyl substances), known as “forever chemicals,” are widely used for their oil, stain, and water-repellent properties but pose significant environmental and health risks due to their persistence.

This project was sponsored by Target as a member of Change Chemistry’s Retailer Leadership Council.

The project compiles existing knowledge from press releases, patent filings, and supplier communications to identify chemicals and technologies that can achieve non-stick functionality without PFAS. While comprehensive performance comparisons of these alternatives could not be conducted, the report highlights the urgency for chemical suppliers and coatings formulators to innovate in response to upcoming regulations and rising consumer lawsuits against PFAS-containing products.

This study explores the current development and commercialization of PFAS-free alternatives for non-stick cookware, addressing the significant challenges posed by the unique properties of traditional non-stick materials, particularly PTFE (polytetrafluoroethylene). The carbon-fluorine bond in PTFE provides exceptional chemical and thermal properties, making it a difficult benchmark for alternative materials to meet.

The research excludes any alternatives that utilize confirmed or suspected PTFE in combination with other materials. A summary of the advantages and disadvantages of commercially available PFAS-free alternatives is provided in Table 1, while Table 4 outlines non-stick alternatives currently under development, categorized by their Technology Readiness Level (TRL), which reflects their stage of development rather than safety concerns.

KEY FINDINGS INCLUDE:

- **Regulatory Landscape:** A patchwork of state-level regulations is emerging, with Minnesota being the first state to restrict the sale of cookware containing intentionally added PFAS starting January 1, 2025. This inconsistency complicates compliance for manufacturers and retailers.
- **Market Drivers:** The increasing legal actions against PFAS products and the impending regulatory changes are pushing the industry towards developing PFAS-free alternatives. However, the history of regrettable substitutions in the chemical industry necessitates careful evaluation of the safety and sustainability of these new materials.
- **Consumer Trust Issues:** Building consumer confidence in PFAS-free alternatives is challenging due to a history of misleading marketing claims. Studies have shown that products labeled as “PFOA-free” or “PFOS-free” may still contain trace amounts of these substances, raising concerns about transparency in labeling.
- **Alternative Materials:** While several uncoated cookware options exist, such as cast iron and carbon steel, none replicate the non-stick performance of PTFE. Silicones and sol-gel ceramic coatings are emerging alternatives, but they come with their own set of challenges, including potential environmental and health risks associated with cyclic siloxanes. Additionally, the durability of non-stick cookware coatings has been seen to decrease with time, leading to more frequent replacements and contributing to increased waste and environmental pollution. Further, if these materials are not easily recyclable or biodegradable, they can persist and cause long-term environmental harm.
- **Performance Variability:** Customer reviews indicate significant variability in the durability and quality of commercially available ceramic coatings, with many losing their non-stick functionality within 1-2 years. Claims regarding reduced carbon emissions from these coatings remain unverified.

This study emphasizes the urgent need for innovation in non-stick cookware alternatives that balance performance, safety, and regulatory compliance, ultimately aiming to meet consumer expectations while addressing environmental concerns.

SAFER, MORE SUSTAINABLE ALTERNATIVES TO PFAS FOR NON-STICK COOKWARE

INTRODUCTION

The goal of this study, completed in August 2024, was to identify and investigate potential PFAS-free alternatives for non-stick cookware. This report compiles existing knowledge on chemicals and technologies capable of achieving non-stick functionality without the use of PFAS. Information is drawn from press releases, patent filings, and (when applicable) direct communication with suppliers. It also explores upcoming regulations that could influence the long-term viability of these alternatives. Unfortunately, information could not be collected to compare the performance of the alternatives identified.

PFAS chemicals offer remarkable versatility, repelling oil, stains and water in consumer products such as carpets, rain gear, and food packaging [\[link\]](#). They are also used in nearly every industry sector in countless applications and as processing & manufacturing aids. However, PFAS, nicknamed “forever chemicals,” are persistent in the environment and have been linked to a range of adverse human and environmental impacts.

Upcoming restrictions of PFAS for certain product categories is driving chemical suppliers to develop PFAS-free options. Another driver for identifying and commercializing alternatives is the rise in consumer product lawsuits related to PFAS (even though only a few have moved beyond the complaint stage). Private class-action plaintiffs and nonprofits are targeting the manufacturers and retailers of PFAS containing products purporting to be “natural”, “chemical-free”, “safe” or “environmentally friendly” despite containing fluorine or PFAS.

The patchwork of state-level PFAS regulations, with varying implementation deadlines across multiple consumer products (e.g., ski wax, fabric treatments, carpets, food packaging, apparel, cookware) creates a compliance challenge for brands [\[link\]](#). These regulations often have deadlines barely exceeding typical new product development cycles. This inconsistency further complicates managing existing inventory, returns, and repairs across different state jurisdictions.

Continued use of PFAS-containing formulations for product categories and applications not yet regulated poses a risk of unintentional contamination along the supply chain. This complexity makes guaranteeing a “PFAS-Free” claim challenging.

The chemical industry's history of regrettable substitutions - where replacements for known toxins proved equally or more harmful - compels retailers to scrutinize the safety, performance, and sustainability trade-offs of any PFAS alternative. For example, in the late 2000s, the industry transitioned from PFOA (a long-chain PFAS) to GenX (a shorter-chain alternative). However, recent evidence suggests GenX may be even more persistent and mobile in water, potentially posing similar health risks to long-chain PFAS molecules. [\[link\]](#)

The definition for cookware found in the State of Minnesota's HF 2310 (effective January 1st) was used to help define this project's scope. This research focuses on alternatives for non-stick coatings applied to metal surfaces that come into direct contact with food during cooking and includes products such as: frying pans, bakeware, electric skillets, and air fryer inserts with non-stick coatings. Non-food contact components (like electronic components of a blender) and products like milk frothers and utensils are outside the scope of this project because they don't utilize non-stick coatings.

REGULATORY BACKGROUND

The federal government has been slow to address the growing scientific evidence and public concern regarding the potential dangers of certain PFAS chemicals present in consumer products. This lack of federal action on PFAS in consumer products has resulted in US states taking on this responsibility. This has created a patchwork of regulations – with varying scopes, implementation dates, requirements and enforcement mechanisms and has created a great deal of confusion.

A single, universally agreed-upon definition for per- and polyfluoroalkyl substances (PFAS) has yet to be established. However, many state legislatures, including Minnesota's, have adopted this broad definition: "a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom." [line 156.26 of MN's [HF2310](#)] This definition includes fluoropolymers like PTFE, which the fluorochemical industry continues to defend as safe for end customers [\[link\]](#); but researchers highlight the impacts these fluoropolymers have on environmental and human health during their production, application and disposal due to their extreme persistence [\[link\]](#). The FDA has worked with industry to eliminate PFAS-coated food contact packaging paper and paperboard for the US market, but continues to authorize the use of PTFE for cookware citing studies showing minimal migration risk from the highly polymerized PTFE coatings [\[link\]](#).

Currently, two states (California and Colorado) require disclosure if a cookware product contains intentionally added PFAS. Minnesota was the first state to restrict the sale of cookware containing PFAS. Starting on January 1st, 2025, Minnesota prohibited sales of cookware with intentionally added PFAS except for used products. The Minnesota regulation defines intentionally added when “PFAS is deliberately added during the manufacture of the product and the continued presence of PFAS is desirable in the final product of one of the product’s components to perform a specific function.” In the 2024 legislative sessions, several states enacted or amended restrictions on PFAS in cookware. These restrictions include bans (in Vermont and Maine) and requirements for prior notification and product labeling (in Connecticut). The regulations will take effect starting in 2026.

The European Commission is weighing a significant restriction on all PFAS under REACH. The European Chemical’s Agency (ECHA) reviewed the 5,600 public comments received during the consultation phase in 2023 and the proposals are currently being updated. Throughout 2024, ECHA held multiple meetings to further evaluate the proposed restrictions. Due to the proposal’s complexity and the need for thorough review, it is unlikely the restrictions will be finalized before the end of 2025 (with the first set of restrictions going into effect 18 months later).

ALTERNATIVES

Developing and commercializing PFAS-Free alternatives remains a significant challenge. This challenge stems from the unique properties of the carbon-fluorine bond in PTFE. The exceptional chemical and thermal stability, low surface tension, and oleophobicity make it a formidable performance benchmark to match. This research excludes alternatives that utilize (confirmed or suspected) PTFE in combination with other materials. The advantages and disadvantages of commercially available PFAS-Free alternative materials are summarized in Table 1. The end of this section (Table 4) provides a summary of non-stick alternatives currently under development, as defined with a Technology Readiness Level (TRL) of less than 7. The TRL rating is based solely on the development/commercialization stage of the material, not on the suspected safety of the chemical composition.

TABLE 1 – PFAS-FREE MATERIAL ALTERNATIVES		
Alternatives	Advantages	Disadvantages
Silicones	PFAS-Free*	May become a regrettable substitution due to the presence of cyclic siloxanes. Concerns about the migration of small molecules from silicone food contact materials into food.
Sol-Gel (aka 'Ceramic')	PFAS-Free*	Does not deliver long-lasting non-stick performance. Eventually, these coatings may be under regulatory pressure due to the presence of cyclic siloxanes. Furthermore, nanoparticles <i>may</i> be present, but not necessarily.
PEEK	PFAS-Free*	Much more expensive than PTFE. Long-term performance is reportedly superior to ceramic coatings, but uncertain how the long-term performance compares to PTFE.
Uncoated (i.e. cast iron, carbon steel or enamel)	Durable, PFAS-Free*	Not as non-stick (not easy to clean) as customers have become accustomed to with PTFE non-stick coatings.

**these are all inherently PFAS-Free, but these alternatives may have been combined with PFAS to improve performance or durability*

Building consumer trust in non-stick alternatives may be challenging due to a history of misleading marketing claims and limited transparency. Researchers at the Ecology Center of Ann Arbor, MI identified PTFE on cookware labeled “PFOA-free” or “PFOS-free,” [\[link\]](#). Consumer Reports researchers detected a very low level of PFOA on a product labeled “PFOA-free” [\[link\]](#). In a much larger 2020 study, by the Ecology Center, PTFE was detected in some products marketed as “granite,” “stone,” and “diamond.” This study also detected BPA-based epoxy, silicones, and silicone dioxide/silica (a ‘ceramic’ coating produced via the sol-gel method). California now limits cookware manufacturers’ ability to claim “PFOS-Free” unless their products are also free of a broader list of intentionally added PFAS designated by the state [\[link\]](#).

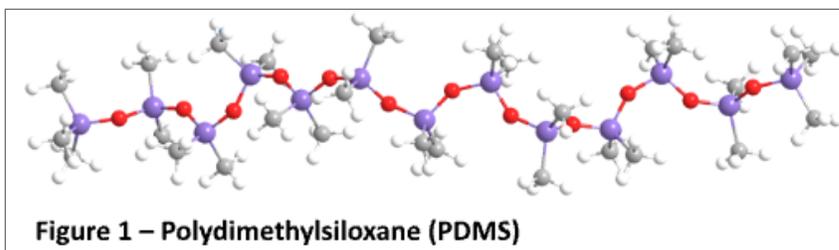
Silicones, ‘ceramic’ (aka sol-gel) and enamel materials are distinct in their production methods and final properties. Silicones are typically a component used to improve durability of a sol-gel coating. A detailed discussion of silicas and silicones follows in the following pages.

Several uncoated cookware options exist as well, but none of them exactly replicate PTFE's non-stick performance, durability, and ease of use. Cast iron and carbon steel (sometimes called black steel) require "seasoning" to create a non-stick surface somewhat comparable to PTFE. Stainless steel, tempered glass, and copper lined tin are also recommended uncoated alternatives, though none offer the same ease of use and cleaning as cookware with non-stick coatings. However, these uncoated options do provide superior longevity compared to current non-stick coatings.

SILICONES

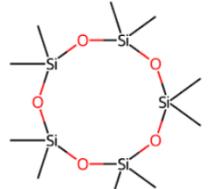
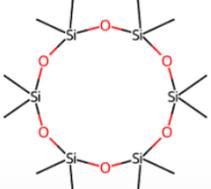
Silicones, technically known as polysiloxanes, offer non-stick properties for bakeware, cooking utensils, and even parchment paper. These silicone

polymers feature an inorganic linear backbone comprising thousands of alternating silicon and oxygen atoms (Figure 1). Various organic groups are typically attached to the sides of this backbone. Polymer producers use cyclic and linear siloxanes as building blocks (monomers) to produce silicone polymers. Common monomers for commercial production include D4, D5, D6, L2, L3, L4, and L5. Trace amounts of residual monomers and other byproducts may be present after polymerization. Manufacturers incorporate other additives as processing aids, plasticizers, antioxidants, fillers, and colorants to achieve specific functionality and appearance in the final product.



Silicones have been used as a PFAS alternative in bakeware, but may become a regrettable substitution due to the presence of cyclic siloxanes. Under REACH, ECHA has classified 3 cyclic siloxanes (abbreviated as D4, D5 and D6) as substances of very high concern (SVHC) due to their environmental persistence and concern over potential endocrine disrupting and reprotoxic effects (Table 2). Further research is needed to understand the food safety and public health risks of these compounds migrating from food-contact products. The US EPA is currently performing a risk evaluation of one of these molecules, D4.

Several studies over the past seven years have raised concerns about the migration of small molecules from silicone food contact materials into food. Based on the data thus far, researchers have hypothesized that greater attention to the formulation, raw material selection, and curing conditions could reduce the presence and migration of potentially harmful substances.

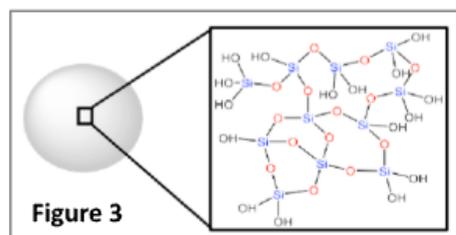
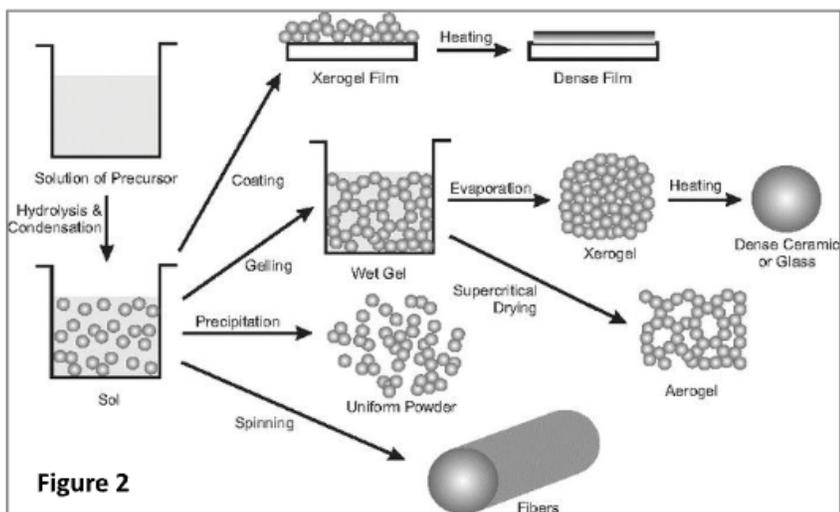
TABLE 2 – KNOWN PROPERTIES OF CONCERN OF CYCLIC SILOXANES			
Common Abbreviation	Chemical Structure	CAS #	Properties of Concern
D4		556-67-2	<p>R Suspected to be Toxic to Reproduction</p> <p>PBT Persistent, Bioaccumulative and Toxic</p> <p>POP Under assessment as Persistent Organic Pollutant More details</p>
D5		541-02-6	<p>PBT Persistent, Bioaccumulative and Toxic</p> <p>POP Under assessment as Persistent Organic Pollutant More details</p>
D6		540-97-6	<p>Properties of concern ?</p> <p>PBT Persistent, Bioaccumulative and Toxic</p> <p>POP Under assessment as Persistent Organic Pollutant More details</p>

'CERAMIC' (SOL-GEL)

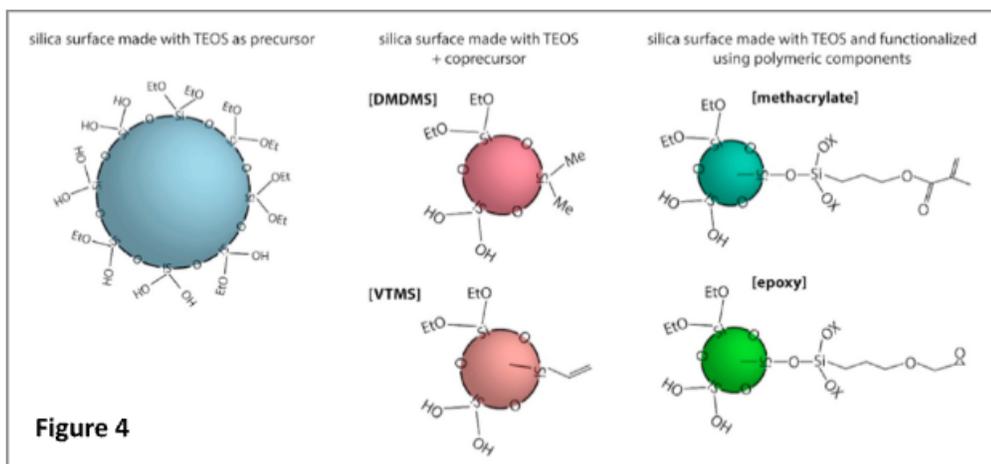
Most of the commercially available 'ceramic' cookware features a silica (silicon dioxide) - based sol-gel coating. Customer reviews of these coatings reveal significant variations in durability and quality across these products. Even the highest-rated options often lose their non-stick functionality within 1-2 years. While some brands claim their 'ceramic' coatings reduce carbon dioxide emissions by 50% compared to PTFE, this claim could not be independently verified. It is important to note that other silicon-containing materials, like enamel (used in cookware like Le Creuset's Dutch ovens) and silicone polymers (discussed in the previous section) are also used for non-stick performance, but differ in their production, chemical structure, and advantages. Both silicone and silica include alternating silicon and oxygen atoms, but the arrangement differs. Silica results in a three-dimensional network, while silicone forms linear polymers.

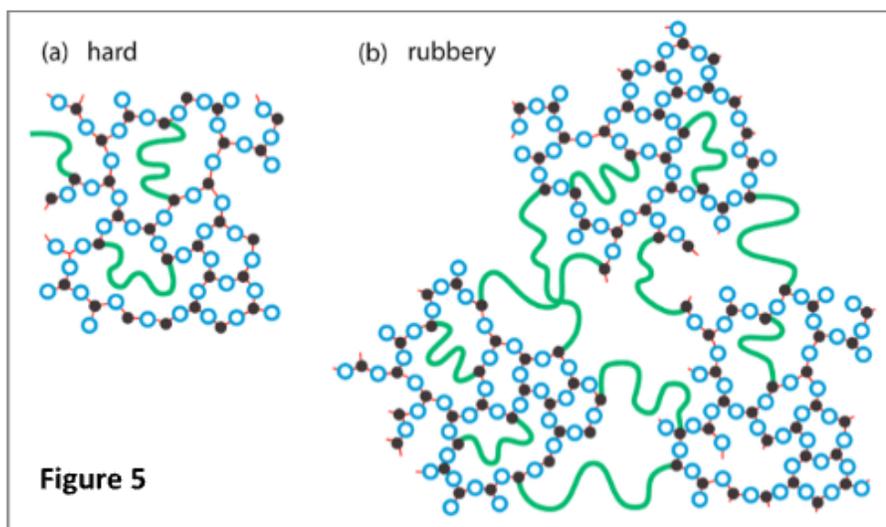
The term "sol-gel" refers to a versatile chemical process, not a specific material or application. The sol-gel process allows for the creation of variety of end products with diverse and tunable

properties. The process begins by creating a solution (sol) of discrete solid particles. As these particles grow and number, they interact and form a gelled network. Removing the solvent (typically water or alcohol) with heat transforms the sol-gel into a solid cured coating. (Figure 2). In contrast, traditional ceramic coatings, like the enamel found on cast iron and Xtrema pans, involve fusing inorganic particles (called frit) under very high heat.



Silica (silicon dioxide, SiO_2) is the material most frequently formed in the sol-gel particles. It features a silicon atom covalently bonded to four oxygen atoms (Figure 3). Tetraethoxysilane (TEOS) and tetramethoxysilane (TMOS) are widely used precursors for synthesizing silica particles. Precursors can also include oxides of titanium or other metals, used alone or in combination. Sol-gels are generally described as inorganic-organic hybrid materials with 'ceramic'-like properties. Individual particles can be pure silica, or incorporate organic moieties when using Organically Modified Silicates (ORMOSILs) as precursors (Figure 4). These organic moieties often contain reactive groups for further chemical reactions.





Additionally, polymers can be integrated into the coating to enhance specific properties. Figure 5 illustrates how silicone polymers (green lines) could be incorporated into a sol-gel material.

Due to the variety of formulation variables inherent to the sol-gel process, different coatings likely utilize different reaction parameters and raw materials. This could produce different particle sizes (ranging from nanometers to microns) and particle composition (i.e. titanium). Additionally, various polymers, such as silicones (i.e. Polydimethylsiloxane), can be incorporated to enhance mechanical durability.

The majority of cookware using a ‘ceramic’ non-stick coating source the material from Thermolon™. The higher rated brands on the market do not associate themselves with a specific tradename, and only disclose generic descriptors like “sol-gel” or “hybrid inorganic-organic coating”. Thermolon continues filing patents for enhanced formulations since their first patent application in 2007.

Silicones are a component in most sol-gel coatings, but no research has been published studying the migration of cyclic siloxanes from silica based sol-gel cookware. However, a 2016 Slovenian study did study the migration of titanium dioxide nanoparticles from a non-stick sol-gel cookware coating into food simulants. This coating comprised silica microparticles and titanium nanoparticles embedded in a silicone polymer matrix [\[link\]](#). Although safety guidelines exist for workers [\[link\]](#) and researchers [\[link\]](#) handling nanoparticles, many questions about their safety and toxicology remain unanswered.

There are a number of suppliers providing ceramic sol-gel or silicone materials for non-stick coating applications (Table 3).

TABLE 3 – SUPPLIER LANDSCAPE FOR CERAMIC & SILICONE NON-STICK COATINGS

Chemical Supplier	Tradename	Base Material	TRL	Claims
Flouorocarbon Surface Technologies	F-LON® 9000 [link]	Ceramic Sol-Gel	unk	PTFE & C8-Free, 9H Pencil hardness
Rhenotherm	Rhenolease® MK II-SG-5G [link]	Ceramic Sol-Gel	unk	PFAS-free. Ideal for PU tubs, transport rollers and cookware. >9H pencil hardness
Weilburger	Greblon®Q-Line [link]	Ceramic Sol-Gel	9	PFAS-free
GMM Non-Stick Coatings	DURACERAM® [link]	Multiple Formulations	9	A 2-coat ceramic coating, free of PTFE with a pencil hardness of 8-9H, can be applied to various metal substrates w/light sand blasting
ACS Coating Systems	DURAQUARZ® or DURAPEK® [link]	Multiple Formulations	9	Patent pending, PFAS-Free coatings utilizing PAEK polymers (by itself or in combination with silica)
BRB	BRB Siloen® SR 385FD [link]	Silicone	unk	Suitable for non-sticking bakery pans (bread, rusks, biscuits, cakes, etc.) and non-stick coatings (toaster, grills, BBQs, etc).

PEEK

PEEK (polyetheretherketone), a highly specialized polymer, has emerged as another potential alternative non-stick coating for cookware. PEEK is inherently PFAS-free, however most pans on the market until recently either blended PEEK with or featured an outer PTFE coating to enhance the non-stick performance (for example, the Greblon® C3+ PEEK coating includes PTFE). Victrex, the world's largest PEEK producer, typically pursues applications replacing metal components (i.e., cookie cutters in production lines or orthopedic implants). However, their new "FG" grade - free of intentionally added PFAS - is certified for food contact by multiple government agencies.

ACS Coating Systems has commercialized two different PAEK-based non-stick coatings (PEEK is the most common polymer of this material class). DURAQUARZ®, a powder coating comprising both silica (SiO₂) & PAEK, requires several applied layers. According to their [website](#), the "non-stick effect is comparable to Teflon and in some applications even better... in contrast to the well-known old conventional ceramic coatings, the non-stick effect does not disappear over time".

While PEEK boasts superior durability compared to ceramic coatings, its non-stick properties are not as effective as PTFE. This explains why it has typically been combined with fluorochemicals, particularly PTFE. Victrex is currently collaborating with a formulator to optimize a PEEK coating with enhanced non-stick performance. Despite the 10x higher cost of PEEK compared to PTFE, Victrex's formulation partner estimates a 2.5-3x premium when coated onto cookware, since a primer is not required, and the PEEK constitutes about 50% of the coating. Since this solution is still under development, it can be found with other long-term solutions in Table 4.

TABLE 4 – TECHNOLOGY LANDSCAPE FOR NON-STICK COATINGS UNDER DEVELOPMENT

Chemical Supplier	Tradename	Base Material	TRL	Comments
Fraunhofer IFAM	PLASLON® [link]	Gradient layers (of siloxanes) coated onto 'nearly all' metallic substrates.	7	Hardness comparable to enamel ("harder than stainless steel"). PFAS-Free & lower environmental impact. Estimating cost of € 0.60 and € 1 per pan at scale. This plasma process (aka PE-CVD) widely used in semiconductor industry.
Victrex/ Confidential Partner	TBD	PEEK-blend	6-7	Fine tuning formulation to improve non-stick level with an undisclosed partner. Primer unnecessary, sprayable application like PTFE.
BIO-SUSHY	EXOCOAT™ (via Axcentive/ Materia Nova partnership) [link]	Sol-Gel	unk	With the recent partnership, Axcentive could commercialize coatings developed under the Horizon project. Cookware coatings are not included.
Adelheim	EXCALIBUR® [link]	Proprietary process for creating permanent surface roughness on stainless steel.	unk	Unclear if the durability of a PFAS-Free alternative coating would be enhanced with this proprietary surface roughness, they have not sourced a PFAS-Free alternative to trial.

LONGER-TERM DEVELOPMENTS

Finding a universal replacement for PFAS across all applications is unlikely. For example, ActNano's coatings excel in electronics but lack the mechanical properties for non-stick cookware. Most currently commercialized alternatives focus on fire-fighting foams, food-contact packaging, and water-repellent textiles. The scarcity of PFAS-free non-stick alternatives for cookware likely stems from a few factors. First, suitable specialty polymers that maintain performance at high temperatures may be cost-prohibitive. Second, the existence of such alternative solutions (despite the potential hazards or future regulations) may not justify the research investment required for developing new cookware coatings.

Table 4 describes a few longer term potential alternatives and their technology readiness level (TRL). None of the current Horizon Europe project's are explicitly focused on cookware coatings, but may be of interest long-term since they do prioritize alternatives that are safer and more renewable (demonstrated lower carbon footprint).

Fraunhofer IFAM has been developing a technology, PLASLON™, as a PFAS-Free non-stick coating. Hexamethyldisiloxane (CAS # 107-46-0; [HMDSO](#), aka L2) is the primary starting material. Through the plasma application process, the monomer is fully polymerized. The resulting layer is an amorphous, ceramic thin film with a hardness level comparable to enamel or glass. Restaurant chefs reportedly did not notice a decrease in performance after 250 uses. Samples are available to trial.

CONCLUSION

This study successfully identified potential PFAS-free alternatives for non-stick cookware. However, while the Safety Data Sheets (SDSs) for the alternatives were readily obtainable from companies, they did not provide comprehensive chemical composition information needed for a thorough evaluation of potential human health and environmental impacts. Confidentiality concerns may make companies hesitant to disclose details about the full product formulation and the purity of raw materials and additives used in their formulations (e.g., catalysts, crosslinkers, processing aids, fillers). Patents can provide more detailed information, but may not always reflect the most current formulations, as optimization typically occurs after the patent is filed.

To address these limitations, this study will continue to engage formulators and chemical suppliers to gain additional insights into their chemistries, coating processes, potential risks of

unintentional PFAS contamination, and their willingness to participate in a third-party chemical Trade Name assessment, such as that offered by ChemFORWARD. The hazard information for the identified alternatives must be known in more detail before concluding if they are safer alternatives to PFAS.

NEXT STEPS

FOR RETAILERS & BRANDS:

- Audit product lines for PFAS-containing coatings.
- Engage suppliers for full chemical disclosure.
- Prioritize PFAS chemistries for phase out of products.
- Align product development with upcoming regulations.

FOR SUPPLIERS:

- Accelerate innovation in PFAS-free coatings.
- Participate in third-party safety assessments and certifications (e.g., ChemFORWARD, GreenSeal).

FOR ALL STAKEHOLDERS:

- Stay informed on evolving regulations.
- Characterize chemical portfolios and prioritize chemicals for phase out or substitution.
- Lead the market with safer, sustainable solutions.

CONTACT

info@changechemistry.org | changechemistry.org