



invirobake<sup>TM</sup>

PFAS • PFOA FREE Non-stick coating

# Fluoropolymer based coatings containing PFAS and their risks

PFAS, commonly referred to as "forever chemicals," do not break down easily in nature, leading to long-term contamination in water sources, soil, and even human bodies. PFAS exposure have been linked to various health issues, including cancer, liver damage, immune system disruption, and reproductive problems. Their widespread use in bakeware and cookware industries has made eliminating them a global priority.

# Safer Alternatives to PFAS

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The transition to PFAS-free products is challenging but achievable. Research is ongoing to find innovative solutions to replace PFAS in industrial applications. Below are two alternatives to PFAS coatings

- **Silicone-Based Coatings**

Silicone Glaze and Silicone Elastomer are two old established coating systems that only go a small way in offering an alternative to PFAS coatings and do not last as long between recoats

- **Sol – Gel Advanced Ceramic Coatings**

Nonstick bakeware and cookware have been a major PFAS culprit, but Sol - Gel-based coatings are changing the game. Modern Sol-Gel bakeware and cookware pans provide excellent heat resistance and nonstick properties without the environmental baggage of traditional PFAS coatings.

# European Chemical Agency RAC Statements

- RAC concluded that, for fluoropolymer-containing non-stick coatings for Industrial Bakeware applications, there are “alternatives that can be considered to be of lower concern” when compared to PFAS
- RAC consequently concluded that it **does not support** the 6.5-year transitional period [i.e. 5-year derogation + 1.5 years standard transitional period] for Industrial Bakeware that was proposed by the dossier submitters in their Restriction Proposal document.
  - *Taken from the European Chemical Agency RAC (committee for risk assessment)*

# The Benefits of PFAS Alternatives

- **Reduced Health Risks**

PFAS alternatives eliminate exposure to harmful chemicals, lowering the risk of associated diseases and health complications. By transitioning to safer materials, consumers and workers benefit from reduced toxicity in everyday products.

- **Environmental Sustainability**

Unlike PFAS, which persist in soil and water for decades, alternative solutions are designed to degrade naturally. This reduces the long-term environmental burden and minimizes contamination of ecosystems.

- **Compliance with Regulations**

Governments worldwide are tightening restrictions on PFAS use. Companies that adopt PFAS-free alternatives proactively comply with environmental regulations.

# The Benefits of PFAS Alternatives

- **Enhanced Corporate Responsibility**

As consumers become more eco-conscious, businesses that prioritize **PFAS free solutions** gain a competitive advantage. Sustainable alternatives align with corporate social responsibility (CSR) goals and strengthen brand reputation.

# Challenges in PFAS Replacement

Despite promising developments, transitioning away from PFAS comes with its own challenges:

- **Cost and Scalability:** Many alternatives are still in early development and require significant investment for large-scale production.
- **Performance Matching:** PFAS offer unmatched chemical resistance and durability; finding equally effective replacements remains a key challenge.
- **Consumer Awareness:** Educating industries and consumers about PFAS-free options is crucial for widespread adoption.

# The Future of PFAS Alternatives: What's Next?

The future of PFAS alternatives is driven by innovation, regulation, and sustainability. Researchers are developing biodegradable, non-toxic materials that replicate PFAS's durability without its environmental and health risks. Governments worldwide are tightening regulations, pushing companies to adopt safer solutions. As awareness grows, investment in green chemistry and sustainable manufacturing is accelerating.

## **Invirocoat – the new PFAS free coating from Invicta**

- The new Invirobake range of coatings from Invicta are PFAS and PFOA (forever chemicals) free
- They are based on the latest Sol-Gel technology and offer a non-stick alternative to Fluoropolymer based non-stick coating systems; they operate at a higher in use temperature than Fluoropolymer coating systems
- Sol-Gel coatings have higher abrasion resistance than soft film Fluoropolymer coating systems
- They contain no harmful PFAS chemicals, which makes the coating systems environmentally friendly and sustainable, and complies to the latest EU and USA food standards



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