

The Persistent Problem with Food Packaging: case for comprehensive UK legislation on PFAS

As we strive to reduce our reliance on single use plastic, are we simply swapping one visible pollutant for a longer lasting, and more toxic, chemical alternative? PFAS are a group of over 4,700 industrial chemicals widely used in paper and cardboard food packaging. Despite no natural sources, PFAS are now in the blood serum of people all over the world; children are now born with PFAS already in their bodies¹. Evidence shows that PFAS contaminate our air, water and soil, infiltrating our food chains, our homes and our natural environment. Widely recognized as harmful pollutants, many major food retailers and takeaways are already taking voluntary steps to remove PFAS from their supply chains². Now is the time to implement stringent UK policy, supporting companies that are already taking action, and ensuring the current drive towards 'sustainable' packaging isn't undermined by this hidden and persistent pollutant.

We ask that MPs urge the government to:

- **ban the use of all PFAS in food packaging by 2022, and**
- **include a commitment and timeline to phase PFAS out of all non-essential uses within the upcoming UK Chemicals Strategy.**

Where are PFAS found?

Per- and poly-fluorinated alkyl substances (PFAS) are used as industrial processing aids, fire-fighting foams and in a wide range of consumer products from clothing to carpets and cosmetics. PFAS are also used as water and oil repellent treatments in the manufacture of **paper and board food packaging**¹.



PFAS are lost to the environment during manufacture, use and disposal. They have been recorded in air, water and soils all across the globe, **contaminating both drinking water and food chains**, with fish, fruit

and eggs cited as key sources of human intake. PFAS also migrate from packaging directly onto our food¹.

PFAS have been detected in more than 90% of European rivers, and **all fish sampled from UK fresh, estuarine and coastal waters** under the Environment Agency's monitoring programme³.

PFAS have been found in the blood serum of 99% of people tested, with calculated intake levels for infants and young children approximately double that of adults¹.

"Toddlers and other children are the most exposed population groups" say EFSA scientists

PFAS is passed from mother to baby both in umbilical cord blood, and through breast milk¹.

The problem with PFAS

PFAS are known to be **toxic** to humans and wildlife, they **bioaccumulate**, and they can **persist** in the environment for thousands of years¹. PFAS are also extremely mobile, meaning they can be found far from any known source. Not only do they pose a threat to our iconic UK wildlife, but they are also a key concern to many vulnerable and remote arctic species².

The most recent list of associated human health impacts, described in EFSA's latest Scientific Opinion², confirms links to:

- **reduced antibody response to vaccination;**
- **increased propensity for infection;**
- **increased cholesterol; and**
- **decreased infant birth weight.**

Animal studies also show links to a range of further impacts including changes to the liver, thyroid and testosterone levels, increased fetal and neonatal mortality, developmental neurotoxic effects, and an increase in tumour development.

PFAS are extremely persistent chemicals. The carbon-fluorine bond that defines the group is one of the strongest bonds known in nature. This makes PFAS extremely resistant to degradation both in our bodies,

and in the environment. The estimated half-life for PFAS in our bodies, i.e. the time it takes for the total concentration to decrease by 50%, can be several years. **In soils, the half-life can be over 1000 years².**

Where are we now?

The UK has restricted the use of two forms of PFAS, PFOS and PFOA, under our commitments to the Stockholm Convention, whilst PFHxS, a common replacement for PFOS, is currently under review.

The EU's chemical management system, REACH, currently recognises six PFAS as Substances of Very High Concern (SVHCs), with the current expectation that these will be translated into UK REACH.

Both the European Commission⁴ and, in recent correspondence with Fidra, UK Environment Minister, Rebecca Pow MP², have acknowledged that the current one-by-one approach to regulation provides insufficient protections for our health or environment. With growing evidence that persistence and toxicity are consistent characteristics of PFAS, there is now widespread recognition that **a group-based approach to their restriction is essential.**

In its new Chemicals Strategy⁴, the EU singles out PFAS as requiring immediate attention, committing to a range of measures including **banning the use of PFAS for all purposes not proven to be essential for society.**

In July 2020, Denmark implemented a nationwide ban on the use of PFAS in food contact materials, with food minister, Mogens Jensen, quoted as saying:

"I do not want to accept the risk of harmful fluorinated substances (PFAS) migrating from the packaging and into our food. These substances represent such a health problem that we can no longer wait for the EU".

In January 2020, Fidra published research that demonstrated wide-scale use of PFAS across the UK food sector⁵. PFAS was detected in packaging from 8 out of 9 major UK supermarkets, and 100% of takeaways tested. The highest concentrations were

recorded in moulded fibre takeaway boxes, marketed as compostable and sustainable alternatives to plastic and polystyrene. With food suppliers heavily focussed on a move away from single-use plastic, the volume of paper, card and moulded fibre packaging on the UK market is set to increase dramatically.

Fidra have been working closely with UK retailers and industry, encouraging voluntary initiatives that demonstrate the viability of restricting *all* PFAS in food packaging². One major UK supermarket has already committed to removing PFAS from their food packaging, suppliers are getting their products tested and companies are investing in innovative new materials. With alternatives already in use across the UK, now is the time to implement stringent UK policy, supporting companies that are already taking action, and ensuring a consistent approach to high environmental standards.

Conclusions and Recommendations

We have an opportunity now for the UK to take a leading role in chemical management, setting a global standard in public health and environmental protection for others to follow.

It is both feasible and necessary to support and build on current industry momentum with urgent legislation that bans the use of *all* PFAS in food packaging. PFAS must have no place in the future of the UK's sustainable food packaging sector.

Additionally, the UK's chemical strategy must now confirm our ongoing commitment to strong chemical management, setting a clear timescale that will drive the UK towards a PFAS-free future.

Fidra is asking that MPs urge the government to:

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- **include a commitment and timeline to phase PFAS out of all non-essential uses within the upcoming UK Chemicals Strategy.**

¹ EFSA, [Risk to human health related to the presence of perfluoroalkyl substances in food](#). 2020

² www.pfasfree.org.uk and references therein

³ Environment Agency, [Perfluorooctane sulfonate \(PFOS\) and related substances: sources, pathways and environmental data](#). 2019.

⁴ European Commission, [Chemicals Strategy for Sustainability Towards a Toxic-Free Environment](#), 2020

⁵ Fidra, [Forever chemicals in the food aisle: PFAS content of UK supermarket and takeaway food packaging](#). 2020.