

Frequently Asked Questions (FAQs) PFAS in Drinking Water

NOTE: Research in the area of PFAS is ongoing. New scientific evidence is likely to emerge in the short and medium term. These FAQs are therefore interim and will be kept under review.

What are PFAS?

Per- and poly-fluoroalkyl substances (PFAS) are man-made chemicals. Approximately 4,700 PFAS have been identified to date (1).

PFAS have been used in many industrial and consumer products since the 1950s (1).

- They are used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water (2).
- PFAS have the ability to reduce friction and are used in a variety of industries including aerospace, construction, automotive and electronics and can be found in a range of different products (3).
- Some specific products that may contain PFAS include (4,5):
 - Some grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes, and sweet wrappers
 - Non-stick cookware
 - Stain resistant coatings used on carpets, upholstery, and other fabrics
 - Water-resistant clothing
 - Cleaning products
 - Personal care products (shampoo, dental floss) and cosmetics (nail polish, eye makeup)
 - Paints, varnishes, and sealants
 - Firefighting foams

Why are PFAS receiving so much attention recently?

The widespread use of PFAS over the past decade implies that most people are now exposed to these chemicals (4).

PFAS can pass into the soil, water, and air during their production and use (6). They are present at low levels in a variety of food products and in the environment (6). Most PFAS can persist in the environment (6). Some PFAS can also build up in people and animals with repeated exposure over time (6). PFAS have been found in the blood of people and animals all over the world (6).

Scientific studies have shown that exposure to some PFAS may be linked to harmful health effects in humans and animals (6). Research is ongoing to better understand these possible effects (4,7).

Legislation to control and limit production of PFAS has come into effect both within the European Union and internationally over the last decade. Following on from the new *EU Drinking Water Directive*, recommended limits for PFAS in drinking water will be law in Ireland by 12th January 2023 (i.e. limits for total PFAS of 0.5 µg/L and the sum of 20 PFAS of most concern of 0.1 µg/L) (1).

How might PFAS get into my drinking water supply?

PFAS are highly persistent chemicals and are mobile in our environment. If they make their way into our waterways they may end up in our drinking water supplies.

How can I be exposed to PFAS?

Because PFAS are so widespread in our environment, exposure to PFAS is possible in a number of ways.

PFAS can be **ingested**, if present food and water, **inhaled**, if present in dust, and **absorbed through the skin**, if present in personal care products or home consumer products (4).

For the general public, exposure may occur by (4):

- Drinking PFAS contaminated water
- Consuming food grown or produced in PFAS contaminated areas
- Consuming food stored in food-packaging that contains PFAS
- Using consumer products containing PFAS
- Breathing in house dust that contains PFAS released from consumer products
- Accidentally swallowing soil or dust contaminated with PFAS

For certain workers (4):

- Workers involved in producing PFAS and materials that contain PFAS may inhale these substances.
- Firefighters can be exposed when using foams to extinguish fires.

Pregnancy / Breastfeeding

- PFAS can pass through the placenta and reach the unborn child (4). PFAS can also transfer from mother to child during breastfeeding (4). [Note: Breastfeeding mothers should continue to breastfeed (4,5). Breastfeeding is good for the health of both infants and mothers (3). Based on current science, the benefits of breastfeeding appear to outweigh the risks for infants exposed to PFAS in breast milk (5,8). Scientists continue to do research in this area (5)].

What are the potential health effects of PFAS?

Scientific studies are ongoing to better understand how exposure to PFAS might affect people's health — especially with regard to PFAS in water and food (9).

Some (but not all) PFAS accumulate in the body. The levels of some PFAS decrease slowly over time once exposure stops (9).

Scientific research involving humans suggests that high levels of certain PFAS may lead to certain health effects. However for most of these potential health effects, current scientific evidence is not clearcut or conclusive.

Potential health effects include (9,10):

- Increased cholesterol levels
- Changes in liver enzymes
- Decreased vaccine response in children
- Increased risk of high blood pressure or pre-eclampsia in pregnant women
- Small decreases in infant birth weights
- Increased risk of kidney or testicular cancer

The types of health effects potentially associated with PFAS are known to be caused by, or associated with, many other factors (lifestyle, environmental, social, genetic factors). It is possible that PFAS may have contributed to such health effects but there is no way to know if PFAS exposure has caused an illness or made it worse (3).

If you have been exposed to PFAS and have any health concerns, you should talk to your doctor.

Can I be tested for PFAS?

If you are concerned that you might have been exposed to PFAS in your drinking water and have health concerns, you should contact your General Practitioner/Family Doctor.

For information:

- Blood testing for PFAS is not a regular test offered by doctors or hospitals in Ireland.
- Laboratory test results cannot tell if PFAS exposure has caused a particular health condition (9).
- Based on studies undertaken in the United States, when tested, most people will have one or more specific PFAS detected in their blood - especially PFOS and PFOA (9).

How can I reduce my exposure to PFAS in drinking water?

PFAS are widely present in the environment. It is therefore not possible to completely avoid being exposed to PFAS (4).

With regard to drinking water:



- If you live in or near an area known to be contaminated with PFAS, you may reduce your risk of exposure by following health advice issued from authorities regarding recommended drinking water sources.
- When the new *EU Drinking Water Directive* comes into force from January 2026, public water supplies in Ireland will be monitored for PFAS by water authorities. Where an elevated level of PFAS is detected, consumers of the supply will be notified and advice given.
- As the above legislation only covers public water supplies, private well owners who might arrange to get their water tested privately for PFAS should contact their Local Authority if advice is required.

What should I do if there are raised levels of PFAS in my drinking water?

If you have a public water supply and the Local Authority finds that there are raised levels of PFAS in your drinking water (above the EU limit), then you will be contacted and advised.

Boiling your water will not remove PFAS.

If you have a private well and raised levels of PFAS are detected in your drinking water following procurement of private testing – it is recommended that you seek advice from your Local Authority in the first instance (Local Authorities are the statutory agencies in relation to private drinking water supplies).

How can I learn more about PFAS?

Further information may be found online at these websites:

Environmental Protection Agency (EPA) –

<https://www.epa.ie/our-services/monitoring--assessment/waste/chemicals/pfas/>

Agency for Toxic Substances and Disease Registry (ATSDR) -

<https://www.atsdr.cdc.gov/pfas/>

National Institute for Public Health and the Environment (The Netherlands) RIVM –

<https://www.rivm.nl/pfas/vraag-antwoord>

European Chemicals Agency (ECHA) –

<https://echa.europa.eu/hot-topics/perfluoroalkyl-chemicals-pfas>

European Environment Agency (EEA) –

<https://www.eea.europa.eu/publications/emerging-chemical-risks-in-europe>

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