

What are per- and polyfluoroalkyl substances (PFAS)?

PFAS (per- and polyfluoroalkyl substances) are a group of human-made chemicals that have been widely used in industrial and consumer products since the mid-1900s.

Due to the unique physical and chemical properties of PFAS to resist heat, stains, grease and water, they have been used in items including firefighting foams, textiles and leather products, food packaging, non-stick cookware, cosmetics, sunscreens, denture cleaner and medical devices.

Because PFAS break down slowly, they are sometimes referred to as “forever chemicals.”

Is my water safe to drink?

Providing clean, safe drinking water is Seqwater’s number one priority and our water continues to meet the standards set by the Australian Drinking Water Guidelines (ADWG).

Who decides the amount of PFAS allowed in my drinking water?

The Australian Drinking Water Guidelines (ADWG) are determined by the National Health and Medical Research Council (NHMRC).

Are PFAS chemicals added to my drinking water?

No. Unlike other chemicals such as chlorine or fluoride which are added to water as part of our robust water treatment processes, Seqwater does not add PFAS to the region’s drinking water supplies.

However, PFAS can be present in water due to external sources. The NHMRC note that exposure to PFAS can occur through many pathways including consumer products, food packaging, air and dust, and drinking water. Exposure to PFOS and PFOA from drinking water has been previously estimated to be approximately 2-3% of total PFAS exposure¹ in areas with low levels of contamination.

The Australian Government has banned the manufacture and importation of some PFAS substances by July 2025, including everyday products that contain PFAS.

How regularly does Seqwater test for PFAS?

In accordance with the Australian Drinking Water Guidelines (ADWG), Seqwater tests for a wide range of contaminants in our source and treated water, plus off-grid supplies, which includes testing for PFAS in source water. Seqwater also undertakes risk assessments of our drinking water catchments (source waters), in addition to investigations conducted by the Queensland Government and other agencies.

The number of high-risk facilities such as fire-fighting training grounds, large airfields and heavy industrial facilities (particularly those with oil and chemical management and processing facilities) in Seqwater’s catchments are very low or not present. This is based on catchment understanding including Sanitary Surveys (which include both microbial and chemical risk identification elements).

¹ Thompson J, Eaglesham G, Mueller J (2011). Concentrations of PFOS, PFOA and other perfluorinated alkyl acids in Australian drinking water. Chemosphere 83; 1320-1325.

Based on the catchment risk assessment, and that results for PFAS monitoring across source, treated and off-grid water supplies in 2018 and in additional testing in subsequent years have been below the ADWG, Seqwater had previously adopted an intermittent approach to testing for PFAS.

Seqwater conducted its latest round of testing for PFAS in the region's source water in September 2024. All results were below the ADWG.

We understand there is increased global awareness of PFAS. Out of an abundance of caution, we're enhancing the frequency of our source water testing and will monitor for PFAS twice yearly from 2025.

Additional testing may also occur to support further catchment analysis and risk assessments.

How does Seqwater test for PFAS?

Seqwater employs multiple techniques to test for micropollutants such as PFAS, including the use of very sensitive passive sampling technology. This technology will be largely adopted as part of our enhanced PFAS monitoring program from 2025.

The University of Queensland supplies Seqwater with passive samplers to test for PFAS and other micropollutants across South East Queensland's source water supplies.

Developed by the Queensland Alliance for Environmental Health Sciences, the Microporous Polyethylene Tube (MPT) is deployed at Water Treatment Plant (WTP) offtakes for approximately one month and is designed to soak up any PFAS detections in the water.

Passive sampling technology is beneficial as it is highly sensitive to micropollutants such as PFAS and it provides readings over a period of time, supporting a better understanding of the presence of PFAS.

More information:

Seqwater adopts grab sampling and passive sampling technology to test for PFAS.

Passive sampling technology is beneficial as it is highly sensitive to micropollutants such as PFAS and it provides readings over a period time, supporting a better understanding of the presence of PFAS.

Grab sampling is also beneficial for providing time sensitive results. It is the most effective monitoring technique where results are required quickly to identify potential risks. Passive sampling technology also can't be used at every location due site and physical constraints.

Seqwater introduced the use of passive sampling technology to help overcome some of the challenges with grab sampling, including that it may not detect very low concentrations of micropollutants and may miss episodic event insights as it represents a single point in time.

Why does Seqwater predominately test source water for PFAS?

Seqwater adopts the ADWG multi-barrier approach for the management of drinking water.

The drinking water system must have, and continuously maintain, robust multiple barriers appropriate to the level of potential contamination facing the source water supply (i.e. our region's rivers and lakes that supply our water treatment plants).

To safeguard drinking water quality, Seqwater undertakes rigorous water catchment testing for a range of physical, organic and chemical parameters in line with health advice and the ADWG.

Because PFAS chemicals break down slowly and have been used in a wide variety of applications over time, they are present in many environments.

Therefore, Seqwater undertakes source water testing to monitor this risk from the catchment, which is validated by independent laboratories that can detect low levels.

Seqwater will monitor for PFAS in treated water if we are aware of a risk of detecting levels that are higher than usual, or if increased PFAS levels are detected in source water.

When does Seqwater test treated drinking water?

Treated drinking water is routinely tested on a range of important water quality parameters to ensure the supply of clean, safe drinking water in line with the ADWG.

PFAS are not routinely monitored in our region's treated water due to very low levels of PFAS presence in our region's source water.

Seqwater will monitor for PFAS in treated water if we are aware of a risk of detecting levels that are higher than usual, or if increased PFAS levels are detected in source water.

If PFAS were detected at high levels in source or treated water, what steps would Seqwater take?

Seqwater is committed to the provision of clean, safe drinking water.

If PFAS are detected at high levels in source or treated water, Seqwater would adopt a risk-informed approach to the management of drinking water quality.

Several factors influence this approach and can include, but are not limited to:

- The types of PFAS detected and their measured concentrations
- The location of sampling
- The availability of alternative water sources.

Any actions by Seqwater would be undertaken in consultation with the Queensland Government's Water Supply Regulator and Queensland Health and can include, but are not limited to:

- Follow up testing
- Utilising alternate water supplies if available
- The provision of information to the general public.

Can Seqwater remove PFAS for water?

PFAS are difficult to remove from water using conventional water treatment methods such as coagulation and filtration. Proven technologies that remove or reduce PFAS levels in water include:

- Activated carbon
- Anion exchange
- Reverse osmosis or nanofiltration.

Some of Seqwater's water treatment plants have activated carbon treatment processes. These assets were not specifically designed to remove PFAS but may assist if elevated levels are present. The Gold Coast Desalination Plant also utilises reverse osmosis which is also effective at removing PFAS.

Will Seqwater adopt any of these removal options across the region?

Seqwater's number one priority is to deliver clean, safe and valued drinking water to South East Queenslanders. Seqwater ensures water treatment options are adopted based on risk level so that SEQ's drinking water continues to meet the standards set by the Australian Drinking Water Guidelines, while being delivered in a cost-effective way.

Why can't PFAS be removed at traditional water treatment plants?

The properties of PFAS that make them useful for fire retardants or resistant to stains mean they are not amenable to removal through conventional water treatment processes including coagulation, flocculation, settling and filtration or oxidation with chlorine or ozone.

Removing PFAS from water involves separating it through absorption (activated carbon or ion exchange) or by size exclusion through high pressure membranes (reverse osmosis or nanofiltration).

What is Seqwater's position on the draft updated ADWG?

The ADWG for PFAS are currently being reviewed by the NHMRC and a public consultation period is underway on the draft update for PFAS which includes lower levels for three types of PFAS (PFOS, PFOA and PFHxS) and the introduction of a limit for PFBS.

Seqwater welcomes the release of the updated draft ADWG on PFAS by the NHMRC. We support the rolling review of the ADWG in line with the latest scientific data to maintain clean, safe and sustainable drinking water across South East Queensland for generations to come.

Seqwater will conduct a review of the draft guidelines and provide any feedback, including how they can be best implemented, as part of our consultation with the Water Services Association of Australia.

The new ADWG guideline for PFAS is a draft only until public consultation is completed, after which each state will determine how best to incorporate the recommendations into their regulatory controls over water supplies. Any changes could come into effect in mid-2025.

Will filtering my water make it safe from PFAS?

South East Queensland's drinking water continues to meet the standards set by the ADWG.

Any PFAS queries relating to public health should be direct to Queensland Health on 13HEALTH (13 43 25 84).

Where can I find more information on PFAS?

For public health enquiries, call Queensland Health on 13HEALTH (13 43 25 84).

For more information on The Australia Drinking Water Guidelines, visit The National Health and Medical Research Council.

For more information on PFAS, visit Water Services Association of Australia.