

# PFAS AND DRINKING WATER: FREQUENTLY ASKED QUESTIONS

## 1. What are PFAS chemicals and where do they come from?

PFAS are a group of human-made chemicals (per and polyfluoroalkyl substances) that have been widely used in industrial and consumer products since the mid-1900s. They have unique physical and chemical properties that make them very good at resisting heat, stains, grease, and water. However, they do not easily breakdown in the environment.

They have been manufactured in the United States, Europe and Asia by large chemical companies such as 3M and DuPont,. They have not been manufactured in Australia, but they have been imported and used in many everyday products.

Over time, authorities have identified that high levels of these chemicals can be harmful to human health and the environment. Manufacturers in the United States have started to phase down the manufacture of PFAS chemicals. 3M will cease all production of PFAS chemicals by early 2026. The US Congress is considering the phase out of all non-essential uses of PFAS over ten years.

## 2. Where are PFAS chemicals used?

PFAS chemicals have been used in hundreds of everyday household and industrial products. This includes sunscreens, cosmetics, clothing, carpet, non-stick cookware, paint, dental floss, food packaging, feminine hygiene products, fertilisers and pesticides used in agriculture.

They have also been used in firefighting foam that has often been used in training exercises at some airports and defence force bases.

## 3. Where have PFAS chemicals been found?

Unfortunately, due to their widespread use and production, and their difficulty in breaking down, PFAS chemicals have been found across the globe. Low levels of PFAS chemicals are in the environment, particularly in urban areas, but even in remote places such as the Antarctic. They have been detected in forests, mountains, rivers and oceans, animals and humans.

In countries where testing has been done, most people have some level of PFAS chemicals in their blood. In the US, the levels of PFAS chemicals in people's blood are often higher than elsewhere due to the presence of production facilities and the high numbers of polluted sites there. However, studies and testing show that as the production of the historically used PFAS chemicals has scaled down over the past 20 years, concentrations of these PFAS in human blood samples have also reduced, showing that restricting production and use reduces human exposure over time.

## 4. What is being done about controlling PFAS?

Controlling PFAS at the source (ie controlling if it is used in firefighting foams and everyday products), and preventing it entering raw water sources, is generally lower cost, less energy intensive and more effective than implementing treatment technology to remove PFAS from drinking water.

### Media enquiries

Danielle Francis, Manager Customer and Policy 0427 021 115

Email: [media@wsaa.asn.au](mailto:media@wsaa.asn.au)

Website: [www.wsaa.asn.au](http://www.wsaa.asn.au)

The Australian Government has banned the manufacture and importation of the three PFAS chemicals of highest current concern into the country by July 2025 – including products containing these PFAS. Action has also been taken to restrict or replace the use of firefighting foams containing PFAS in Australia.

## 5. How could PFAS get into our water?

While PFAS chemicals are not manufactured in Australia, PFAS is widespread around the globe due to its manufacturing and widespread use in consumer products. The US has had contamination because its water sources are often closer to cities, and industrial activity involving PFAS.

The use of some firefighting foams, leaks from PFAS storage sites, and the shedding of PFAS from everyday household products or from industries to sewers, can lead to PFAS passing into our environmental waters. For example, PFAS in clothes, cooking pans and other products can pass into wastewater. As it doesn't break down easily, it can still be there months or years later.

On occasion, this has also led to PFAS being present in some water sources. Places where drinking water levels have approached or exceeded these Australian Drinking Water Guideline health benchmarks have been identified and are being addressed. In most cases these areas have highly contaminated land and waters due to the use and storage of firefighting foams containing PFAS.

In these situations water and health authorities take appropriate action to ensure public health. This may include treatment or dilution processes. Or, alternative water sources may be available.

## 6. Is Australian drinking water safe?

Yes. We are fortunate that the vast majority of Australians have access to water that meets the Australian Drinking Water Guidelines. Unfortunately, our exposure to PFAS is everywhere – in our kitchen pans, in makeup, many consumer products. Our tap water is safe to drink.

The NHMRC note that exposure to PFAS can occur through many pathways including drinking tap water, consumer products, food packaging, air and dust. The guidelines assume that 10% of a person's exposure is due to drinking water. Up to 90% of PFAS exposure is estimated to come from sources other than drinking water.

## 7. What about the drinking water where I live?

PFAS chemicals are not added to Australian drinking water. Australians enjoy some of the highest quality of drinking water compared to most other countries around the world. For most Australians, drinking water is sourced from well protected or pristine catchments, or it goes through multiple barrier treatment processes.

Most water supplies in Australia are below the current and proposed guideline values. But utilities will remain vigilant, and continue to monitor water and share information with regulators and update the community.

In isolated instances where water is outside the values, the NHMRC has indicated that short-term exposure to higher levels is unlikely to change this risk. The NHMRC noted this should be seen as a trigger to investigate, not a pass/fail measure.

For information about your local area, contact your water utility by looking at their website or calling them. If you do not know who your local water utility is, look at your water bill (if you receive one) or ask your local council.

### Media enquiries

Danielle Francis, Manager Customer and Policy 0427 021 115

Email: [media@wsaa.asn.au](mailto:media@wsaa.asn.au)

Website: [www.wsaa.asn.au](http://www.wsaa.asn.au)

## 8. What are the Australian Drinking Water Guidelines?

The [Australian Drinking Water Guidelines](#) provide guidance to water regulators and suppliers on monitoring and managing drinking water quality. They are set by the National Health and Medical Research Council, Australia's leading expert body in health and medical research. It is [made up of](#) State and Commonwealth Chief Medical Officers, public health officials and other medical professionals. It is advised by independent experts in toxicology, microbiology, epidemiology and other fields of public health.

The guidelines on PFAS indicate how much PFAS in drinking water a person can consume over a lifetime, without any increased risk to health. The guidelines are set by the National Health and Medical Research Council. The NHMRC and its Water Quality Advisory Committee are constantly reviewing the guidelines to ensure they remain up to date and informed by all the relevant scientific research in Australia and around the world.

NHMRC released draft PFAS guidelines on 21 October 2024. Anyone, including members of the public, can make a submission on the draft guidelines [here](#). It will be open for at least 30 days. The proposed draft guidelines do not become final until they are published in the Australian Drinking Water Guidelines.

## 9. What are the current, and draft new guidelines for levels of PFAS in drinking water?

The guidelines set health-protective values for how much of a substance a person can consume over their lifetime, without any increased risk to their health. The values are very conservative, and include a range of uncertainty factors, which always err on the side of caution, to ensure public health. They include a wide safety margin and are expected to be well below the level at which any negative effects could occur.

Chemical	Existing ADWG level	Draft updated level
PFOS	70 ng/L or 70 parts per trillion (Less than 0.07 micrograms per litre of PFOS and PFHxS combined)	4 ng/L (Less than 0.004 micrograms per litre)
PFHxS		30 ng/L (Less than 0.03 micrograms per litre)
PFOA	560 ng/L, or 560 parts per trillion (Less than 0.56 micrograms per litre)	200 ng/L (Less than 0.2 micrograms per litre)
PFBS	-	1000 ng/L (Less than 1.0 micrograms per litre)

## 10. When do our new guidelines take effect?

Timeframes have not been set for when water utilities need to meet the new guidelines. Following the public consultation and the release of the final new guideline values in April 2025, state and territory authorities will likely set timelines. In the US, water utilities were given 5 years.

Until then, the current Australian Drinking Water Guideline values apply. The NHMRC have indicated that concentrations of PFAS below the proposed guideline values would not be expected to result in any significant risk to health over a lifetime of consumption. Short-term exposures to higher levels of PFAS are unlikely to change this risk.

### Media enquiries

Danielle Francis, Manager Customer and Policy 0427 021 115

Email: [media@wsaa.asn.au](mailto:media@wsaa.asn.au)

Website: [www.wsaa.asn.au](http://www.wsaa.asn.au)

## 11. Why are the draft levels different to the US guidelines and other countries?

As the NHMRC explained in detail in their guidance, this is not something to be concerned about. Various other countries have also not matched the US levels – all countries have their own scientists and health assessment processes.

The NHMRC is advised by independent experts in the fields of microbiology, toxicology, epidemiology and other public health fields. They consider the quality of the reviews used to inform the international advice, the scientific evidence that underpins those reviews, and whether the advice is relevant to the Australian context. Other countries also issue advice based on their legislative framework, which may not be relevant to Australia. Australia applies a similar approach to the World Health Organisation. Our methods are widely accepted by the Australian and international risk assessment community.

The Australian values are very conservative, include a wide margin for safety and include a range of uncertainty factors which err on the side of caution. The NHMRC carefully considered international recommendations, including the US EPA's, in developing the draft Australian health-based guidelines.

The risk from PFAS in drinking water is low for most Australians. There was large scale contamination in the US. In Australia, we are good at looking after our water sources – the places we get our water from. Our dams are further away from the city – and thus less impacted by industry. Unfortunately that's not always the case in the USA.

Globally, while the US has set the strictest levels, other countries such as Germany, the UK, Canada and Japan have set some levels that are not as low as the US. In fact, some of Australia's PFAS draft updated guidelines are stricter than those countries.

Also, the standard in the US, until a few months ago – was exactly the same as the current Australian standard. When the US did change its standard for PFAS, it gave water utilities five years and considerable federal funding to meet it.

## 12. How do water authorities test for PFAS chemicals in water?

Water authorities test for PFAS chemicals in different parts of their water supply, including the raw untreated water (such as in the rivers, dams and aquifers), and the drinking water that has been through the water treatment process.

Where they test and how often they test, is normally determined by the risk of potential external contamination. For example, water utilities test more in places where firefighting foam has been used in the past, such as airports and landfill areas where PFAs could leach out. The NHMRC has confirmed this approach, recommending a site-specific approach based on water utilities having strong knowledge of their catchments where water comes from, and monitoring source waters, particularly if new pollution sources have appeared.

When testing, water authorities must follow a set of stringent criteria to ensure there is no contamination of the samples during the collection, storage and analysis of samples and laboratory testing. For example, the specialists collecting the samples cannot wash their hair or wear makeup, perfume, insect repellent or sunscreen for a defined period, to ensure they do not contaminate the samples. Specific types of containers and clothing must also be used to ensure no contamination. The tests are carried out using sophisticated spectrometry equipment at highly specialised laboratories.

Water authorities typically report results to their health regulators and publish test results on their websites.

### Media enquiries

Danielle Francis, Manager Customer and Policy 0427 021 115

Email: [media@wsaa.asn.au](mailto:media@wsaa.asn.au)

Website: [www.wsaa.asn.au](http://www.wsaa.asn.au)

### **13. What do water utilities do if they find levels of PFAS chemicals in water that do not comply with drinking water guidelines?**

The NHMRC noted that most water supplies are within both the current and proposed guidelines. Also that the guidelines are set with a wide margin of safety, and are expected to be well below the level at which any negative effects could occur.

If elevated levels of PFAS chemicals are detected at or near the Australian Drinking Water Guidelines, water utilities take immediate action, which includes notifying their health authority. Investigation into the potential source of the PFAS contamination is also undertaken, to determine the source of the contamination and understand the best way to reduce the concentrations in the treated water. This could include taking the water supply offline, replacing or blending with alternative uncontaminated sources, or further treatment processes at water filtration plants, for example reverse osmosis, granular activated carbon, and ion exchange.

Public safety and protecting drinking water quality is always the highest priority for our water utilities.

### **14. What about bottled water?**

Water utilities are not responsible for the production, monitoring or regulation of bottled water. Bottled water also comes from the environment, therefore it's also possible that PFAS could be present in the raw water supplies where the water was drawn from. Australia has a code setting legal standards for all food and water sold in Australia which is developed and maintained by Food Standards Australia New Zealand (FSANZ).

### **15. Should I install a home filter?**

Using a home filter is not necessary for health reasons in most parts of Australia, because drinking water is already sufficiently treated at a water treatment plant. The NHMRC said that:

- households who receive piped drinking water supply from a utility, with PFAS levels below the guideline values, do not need extra home water treatment. This is most Australians.
- There are many water filters on the market, but not all address PFAS, or are effective at removing all PFAS. They display varying levels of effectiveness at removing PFAS. If you choose to use a filter, make sure that the device has been proven to remove PFAS by independent testing.
- The [US EPA have a fact sheet](#) on home filters
- Home filters can reduce beneficial aspects of tap water such as chlorine and fluoride, which are in water to protect public health
- Exposure to PFOS and PFOA during showering and baths is negligible.

If you choose to use a filter, it is very important that you purchase a filter that is independently certified to remove PFAS and maintain the filter according to the manufacturer's instructions accurately, to avoid increasing risks to the household.

#### **Media enquiries**

Danielle Francis, Manager Customer and Policy 0427 021 115

Email: [media@wsaa.asn.au](mailto:media@wsaa.asn.au)

Website: [www.wsaa.asn.au](http://www.wsaa.asn.au)