

'Forever chemicals' could be phased out in Australia under new restrictions. Here's what you need to know

August 8 2023, by Sarah Wilson and Rachael Wakefield-Rann



Credit: AI-generated image ([disclaimer](#))

There's growing global concern about potential risks to human health and the environment from a group of industrial chemicals commonly known as PFAS, or "forever chemicals."

While the full extent of harm from PFAS is still emerging, the fact these chemicals persist in the environment and accumulate in the body is alarming enough. Some scientists believe they will [never break down](#).

Until now, Australia has not restricted the trade or use of most PFAS chemicals. But that's about to change.

The federal government intends to stop the import, manufacture and use of some types of PFAS within two years. We want to raise awareness and encourage industry to be proactive about finding alternatives. The sooner industry acts on this, the faster we can eliminate PFAS from the products we use and our waste. With untold benefits for people and our planet.

Hang on, what is PFAS again?

PFAS (or per- and poly-fluoroalkyl substances) are a group of around 9,000 individual [chemical](#) compounds found in many everyday products.

These complex substances are made by joining carbon and fluorine atoms, creating one of the strongest bonds in organic chemistry. As a result, they are stain-resistant, water-resistant, grease-resistant and heat-resistant. That makes them enormously useful in products such as [food packaging](#), non-stick cookware, semiconductors and other electronics, refrigerants, stain or waterproof textiles and cosmetics. PFAS has even been found in [toilet paper](#).

But PFAS chemicals also appear to be toxic. They have been linked to a range of [human](#) and [environmental health problems](#).

The use of potentially hazardous chemicals such as PFAS also undermines recycling and the [circular economy](#). Compost made from food and garden organics may be [contaminated](#) through packaging and

other sources. PFAS in sewage also challenges the use of biosolids as fertilizer on farms.

What is changing and what will this mean?

The [federal government](#) recently reviewed the industrial chemical regulatory frameworks protecting human and environmental health. As a result, the federal, state and territory governments established the new Australian [Industrial Chemical Environmental Management Standard](#) in 2021.

Chemicals with [industrial applications](#) are placed into [one of seven categories](#) or "schedules," according to the level of environmental risk they represent. The standard sets out the measures required to manage such risks.

Schedule 7 is reserved for industrial chemicals likely to cause serious or irreversible harm to the environment.

Last month, the federal Department of Climate Change, Energy, the Environment and Water announced its [intention](#) to regulate three groups of PFAS chemicals and pentachlorobenzene (PeCB) under Schedule 7.

This means businesses will have to stop importing, manufacturing or using these PFAS groups, either as bulk chemicals or in consumer products.

Schedule 7 also states "[no essential uses](#)." This means the chemicals cannot be used, even when it is necessary for the health, safety or functioning of society, or when there are no other available alternatives.

The timing of the proposed Australian restrictions aligns with the [EU phase-out](#). The [United States](#) and Canada are also pursuing similar

action.

Increasingly, countries are pursuing coordinated regulatory actions that will shift market standards around industrial chemical use and management.

What should business do?

At this stage, [research indicates](#) low levels of industry awareness and action globally. Industry risks being caught short, facing the economic and administrative consequences of compliance when new rules come into effect.

Phasing out potentially hazardous chemicals such as PFAS will require careful consideration of both risk and technical function. In many cases, products have been designed around these chemicals. This means substitutions will need to be found. However, businesses also need to be aware of the potential for "regrettable substitution," where a potentially hazardous chemical is replaced by a similar, but lesser-known chemical that also threatens [human health](#) and the environment.

There are some tools available to help find safe alternatives. For example, the European non-government organization ChemSec has compiled a [database](#) of hazardous chemicals that are likely to be regulated in future, if not already, and a [marketplace](#) for safe substitutions.

In some cases, avoiding regrettable substitution will necessitate rethinking how the function of a product can be delivered in an entirely new way.

Market-leading businesses are experimenting with recent advances in engineering, material sciences, and technology to redesign products

without hazardous chemicals.

For example, outdoor-wear companies have redesigned textiles to deliver waterproof products without PFAS chemicals. The North Face has started using an advanced material called "[FUTURELIGHT](#)," which uses nanotechnology to create a waterproof nano-fiber structure. Helly Hansen introduced "[Lifa Infinity Pro](#)" that uses advanced textile engineering to create a hydrophobic (water-hating) material, without having to add chemicals.

Emerging new services design-out problematic products entirely. For example, reusable food packaging services, intended to address the environmental impacts of single-use-packaging, generally use reusable materials such as stainless steel that do not require hazardous chemicals to function.

In support of industry action, governments industry, universities and non-governmental organizations are helping support better chemical management. For example, ChemSec has convened an [Investor Initiative on Hazardous Chemicals](#) to help reduce the impacts of hazardous chemicals, while also reducing financial risks to investors. Or in Australia, the [Product Stewardship Center of Excellence](#) is providing [tools](#) for business and government to ensure safe, clean supply chains.

Governments also have a role to play in helping business transition away from hazardous chemicals. They can encourage business to take a whole-of-system approach to reducing chemicals across supply chains. This might involve tracking and tracing mechanisms, certification and labeling, or supporting research into [safer alternatives](#).

The Department of Climate Change, Energy, the Environment and Water is inviting [feedback on the proposed scheduling decisions](#) before submissions close on September 1 this year. The government says

feedback will help Australian governments and businesses to better manage the environmental risks of these chemicals.

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