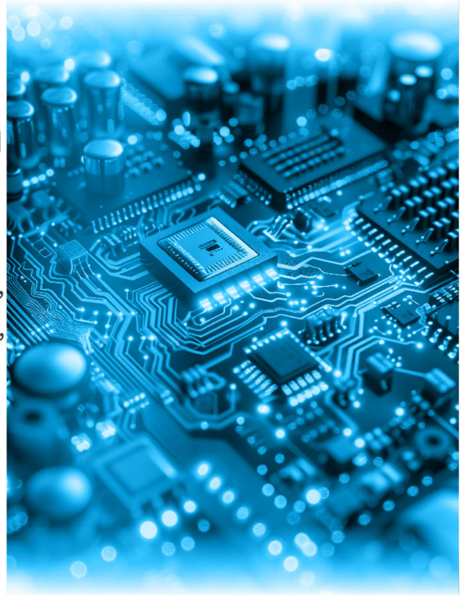
INDUSTRY FACT SHEET

PFAS are a diverse chemistry class that requires a risk-based approach

PFAS are a large and diverse group of chemicals that contain fluorine in their composition, with different chemical structures, properties, hazards and uses, and are used across a broad range of applications including automotive, semiconductors, electronics, alternative energy, pharmaceuticals, healthcare, building and construction, agriculture and aerospace.

Historical use of certain legacy per- and polyfluoroalkyl substances compounds, which have since been phased out both in Australia and internationally, should not be universally grouped with the broader range of PFAS in use today. A few of these PFAS compounds have received public and legal attention and are moving through the Australian legal system.



01 Managed and regulated in Australia by Federal and State Governments

Australia has a comprehensive chemicals management framework that regulates chemistry, operating at both the national and jurisdictional level. The framework allows PFAS to be appropriately managed through robust, risk-based regulation across a chemical's full lifecycle — from introduction, through use, to end-of-life.

AICIS

BEFORE INTRODUCTION

Assesses the risks of PFAS before they are introduced into Australia, and its existing introductions.

IChEMS

DURING USE

Governs ongoing manufacture, import and end-of-life of specific PFAS, and has restricted a number of high-risk substances.

NEMP

IN THE ENVIRONMENT

Governs the assessment and remediation of PFAS already present in the environment.

Together these give Australia a **three-pronged, risk-based approach**. This existing regulatory system provides a robust framework for assessing and managing PFAS across their full lifecycle — and this issue should continue to be managed through that evidence-based approach, rather than a one-size-fits-all response to the class as a whole.

02 Where PFAS chemistry shows up in daily life

Electronics

Improve insulation, weatherability, water resistance and smudge-resistant touchscreens. Used in dielectric and cooling-fluid applications.

Building & construction

Enhance durability, UV resistance and anticorrosive properties to extend the lifetime of surfaces and structures.

Automotive & aerospace

Provide durability and heat and chemical resistance to components, and high- and low-temperature brake and hydraulic fluids in aircraft control systems.

Healthcare

Used in medical equipment such as defibrillators, pacemakers and imaging devices, and to treat garments and curtains that protect against disease transmission.

Outdoor apparel & equipment

Create breathable membranes that provide water and oil repellency and stain and abrasion resistance.

ACROSS THE ECONOMY

From semiconductors and alternative energy to pharmaceuticals and agriculture — PFAS chemistries underpin performance in demanding, high-value applications.

03 PFAS is a broad range of unique substances

All risks are not the same with PFAS, and this broad range of substances can have different characteristics, chemical profiles and uses. It is neither scientifically accurate nor appropriate to group all PFAS together or take a one-size-fits-all regulatory approach across this wide range of substances.

Regulatory approaches should reflect differences in chemical structure, properties, hazard and exposure potential, rather than assuming all PFAS present the same level of risk.

PEER-REVIEWED EXPERT PANEL

Most experts agreed that **all PFAS should not be grouped together** for risk-assessment purposes — and that it is inappropriate to assume equal toxicity or potency across the diverse class. [1]

04 The myth of 'forever chemicals' — and what it really means

PFAS provide products with strength, durability, stability and resilience. These same properties — chemical and thermal stability in particular — mean that certain PFAS resist breakdown under typical environmental conditions, which has given rise to the popular term "forever chemicals."

That label is not an entirely accurate description of the class: it describes a functional persistence under everyday conditions, not literal indestructibility. PFAS chemistries can, in fact, be broken down through specific high-energy treatment processes, new emerging technologies and proper waste-management practices — meaning potential end-of-life issues can be managed rather than being permanent.

05 A future transition

Substitution is not always a straightforward option, and should be guided by science-based assessment rather than assumption, for several reasons:

01 **Hard-to-replicate performance.** PFAS are valued for their ability to simultaneously resist heat, water, oil and friction — a combination of properties that may be difficult for any single alternative material to replicate.

02 **Avoiding regrettable substitution.** Alternatives need to be considered through a rigorous, science-based approach. In demanding applications such as aerospace or medical devices, replacing a PFAS component with an unproven alternative risks compromising safety and performance.

03 **Time and collaboration.** Even if a viable and scalable alternative is identified, implementation takes time and requires collaboration across stakeholders in the value chain, including through regulatory approval processes.

REFERENCE

[1] Anderson, J.K. *et al.* (2022). “Grouping of PFAS for human health risk assessment: Findings from an independent panel of experts.” *Regulatory Toxicology and Pharmacology*, 134, 105226. doi:10.1016/j.yrtph.2022.105226 (PMID 35817206).