

PFAS Position Paper

France

AGC

About AGC

Established in 1907 and headquartered in Tokyo, Japan, AGC Inc. is a global materials and solutions provider. The AGC Group operates businesses in more than 30 countries and regions across Asia, Europe and the Americas, employing more than 57,000 people worldwide, including 17,200 in Europe alone. The group is a world-leading supplier of flat, automotive and display glass, chemicals, ceramics and other high-tech materials and components.

About AGC Chemicals

AGC's chemical business, AGC Chemicals Company, is one of the world's leading producers of fluorochemicals and fluorochemical materials. Its portfolio features a wide range of products, including fluoropolymers, fluorotelomers, fluorinated gases (F-gases) and solvents.

These products are used around thousands of applications and designed to support sustainable modern daily life in various forms and shapes – from contributing to the transport and mobility sector to strengthening social and construction infrastructure, providing agricultural and healthcare solutions, or supporting the overall green transition in the EU.

In France, AGC supplies critical products to the chemical industry, which are then used for the manufacturing of consumer appliances, electric vehicles, trains, airplanes, energy equipment (including for hydrogen), among others.

Focus on fluoropolymers

Fluoropolymers hold unique properties, such as temperature resilience, chemical resistance, and electrical and mechanical performance, making them irreplaceable.

Fluoropolymers play a key role in achieving France's climate goals, as they are widely used in applications serving as key enablers of several net-zero technologies, such as the production and transport of hydrogen. They are also used in coatings for photovoltaic panels and the production of lithium-ion batteries.

AGC's views on the EU PFAS restriction proposal

A recent proposal by five European countries has called for a ban of around 10,000 PFASs, allowing for a limited number of derogations, arguing that they pose a risk to human health and the environment.

The term "PFAS" (per- and polyfluoroalkyl substances) stands for a diverse group of substances with very different chemical, physical, thermal, and biological properties. This term is applicable to polymers and non-polymers (including fluoropolymers), solids, liquids and gases as well as persistent and nonpersistent substances, to name but a few.

AGC Chemicals in Europe – Key facts

- Approx. 200 employees
- More than 500 direct and indirect customers
- More than 5,000 downstream users of AGC's products, including major aerospace and semiconductor companies
- Member of Cefic (which includes France Chimie) and Hydrogen Europe (which includes France Hydrogène)

In our view, a blanket ban applied to such a broad and diverse range of chemical substances is neither necessary nor proportionate. When assessing potential risks, properties such as toxicity, bioaccumulation, toxicokinetics, and exposure profiles (e.g. whether leakage into water or soil is possible) should be considered. These characteristics vary greatly among the different PFAS substances and a blanket ban would fail to take this into account.

Should the proposal be adopted in its current form, it will challenge French and European sovereignty, put French industry at a competitive disadvantage, undermine investment decisions and increase dependencies on imports in a number of critical areas (e.g., aerospace, semiconductors, hydrogen, batteries, pharmaceutical production and more).

Key considerations around a restriction

Any restriction needs to be substance-related and risk-based. It must acknowledge the differences between the various chemical groups and subgroups, the risks associated with their uses and exclude safe substance groups from the proposal.

The EU has previously identified PFOA and PFOS substances as presenting a risk to human health and the environment and rightfully banned them. AGC supports a similar approach to assessing the risk posed by specific groups or sub-groups, while moving away from a blanket ban approach on the PFAS family as a whole.

PFAS

Key facts

1. Many PFAS substances do not pose a risk to human health
2. The industry is already committed to managing the environmental impact of PFAS through their lifecycle, from production to end of life
3. The use of alternatives will hamper product performance and may be detrimental to the environment
4. A blanket ban would prevent the use of essential products, which are critical to achieving France's and the EU's sustainability and sovereignty goals
5. The proposed PFAS ban would have serious trade implications

AGC's requests

1. A differentiated, substance-related and risk-based approach to be adopted within the restriction proposal to distinguish between the various PFAS categories.
2. An explicit carve-out of fluoropolymers and f-gases from the restriction proposal or a time-unlimited derogation for all uses/applications.
3. A voluntary commitment by the industry on responsible manufacturing of fluoropolymers.

Case Studies

Use of PFAS in the aerospace industry



PFAS are essential components to a wide range of technologies and industrial applications, some of which are key to France's and the EU's industrial sovereignty. This is true for sectors as diverse as hydrogen, semiconductors, electric vehicles or aerospace. For instance, a made-in-France airplane will contain a multitude of parts made safer and more efficient thanks to PFAS produced by AGC (through an emission-controlled process), such as electrical wires, window insulation, sensor cables, seals, and so on.

The difference PFAS make is critical: they ensure that essential products are non-flammable and self-extinguishing, they provide ideal electrical insulation, they offer significant temperature, chemical and UV-ray resistance, and all that while enhancing durability. There is no better alternative.

A PFAS ban would have stark consequences for a made-in-France airplane. Put simply, the ban would make this plane less performant, less durable, and more importantly, less safe for users. In addition, this would mean that any airplane containing PFAS would not be allowed to enter the EU market, which could have serious trade implications (in addition to practicality issues).

Use of PFAS in hydrogen and fuel cells



The French government's France 2030 industrial plan, which is meant to support the country's industrial development and the green transition while providing massive investments in innovative technologies, gives a key role to the development of hydrogen production as a mean to decarbonize industry.

The move to hydrogen relies on two things: electrolyzers and fuel cells. The former are essential to the production of hydrogen, the latter for the conversion of hydrogen into electrical energy. Without PFAS, neither of these critical products work.

Electrolyzers contain a solid, semi-permeable membrane which splits water into hydrogen and oxygen. The membrane has to be made of highly conductive materials that are at the same time chemically stable and able to withstand high temperatures and humid conditions. PFAS enable the membrane and gas diffusion layers to function properly by preventing the mixing of hydrogen and oxygen. They also make the membrane last longer. AGC products used for this application are called Forblue Ionomer i-series and Forblue S-series.

PFAS-free ionomers and membrane materials have been known for decades. While the properties and performance of these materials can usually be quite good, the durability is often poor due to oxidation. The currently available concepts for non-fluorinated membranes are therefore still very immature and only last a few dozen hours, although a service life of more than 25,000 hours is required. Today, fluoropolymers are indispensable in the production of fuel cells. A blanket ban of PFAS would substantially slow down the climate and energy transition – and push the industry most likely out of France.