

EU Universal PFAS Restriction

Public Consultation – Initial Submission, Chemours TSS (Thermal & Specialized Solutions)

Please note this is an initial general contribution that describes our approach to the public consultation, detailed submissions will be submitted separately.

General Chemours Company Introduction

Per- and polyfluoroalkyl substances (PFAS) enable high levels of performance in critical technologies, including those required for the EU's transition to a green economy. The proposed blanket ban on PFAS under REACH has not been demonstrated to be an appropriate, proportionate, regulatory measure and it would have significant negative impacts on the EU achieving its policy objectives and EU strategic autonomy. Chemours, as an expert stakeholder on the properties, manufacture and applications of PFAS, intends to engage constructively in the public consultation and would like to take the opportunity to inform ECHA of its plans to submit information with the aim of facilitating better, more proportionate, regulation of PFAS through the restriction process.

PFAS are a large class of substances that have diverse and unique chemical properties. Given the range of relevant applications, it is not possible for Chemours to respond meaningfully to the consultation on a generic level. Rather, Chemours' two business units specializing in fluoropolymers and f-gases: Advanced Performance Materials (APM) and Thermal & Specialized Solutions (TSS) will make separate submissions to the public consultation.

Whilst TSS and APM will submit separate comments, both business units share a common objective: to demonstrate, that a more tailored (differentiated) approach to the scope and conditions of a restriction, recognizing the different properties and conditions of use of different PFAS, would ensure the safe use of PFAS without compromising the EU's policy and strategic objectives.

Chemours will structure its contribution using three complementary comment types. Where relevant, the effectiveness, practicality and monitorability of the proposed restriction will be compared with alternative restriction scenarios to objectively identify a more appropriate restriction scope and conditions.

To begin with, comments from both Business Units will focus on the risk assessment presented in the Annex XV report (the case-by-case risk assessment) that concluded that the whole PFAS class poses a risk that is not adequately controlled on an EU-wide basis. The comments in this part will explore if it is scientifically appropriate to group all PFAS for the purposes of a risk assessment and, specifically, if it is scientifically acceptable to read-across the hazard properties of some PFAS to other only distantly related substances. These comments will also explore if existing EU legislation, such as the F-gas regulation, the industrial Emissions Directive and the End-of-Life Vehicles Directive, to quote just a few, which provide already sufficiently stringent control of the potential risks deriving from PFAS across their lifecycle in specific uses.

Through additional comments, Chemours will explore, assuming that all PFAS are concluded to pose a risk, whether a restriction option other than a ban, for example, the mandatory use of specific risk management measures that control or minimize emissions and exposures across

complete product lifecycles, would be a more appropriate approach to regulation that mitigates any identified risks; allowing uses with no credible alternatives to continue. These comments will present alternative risk and regulatory management options as a counterpoint to the limited restriction option analysis presented in the Annex XV report.

Finally, Chemours will explore if, and under what circumstances, a phase-out of the use of PFAS could be managed differently, to ensure that their critical functions are not lost to society prematurely. Specifically, these comments will explore the scope and duration of transitional periods.

Thermal & Specialized Solutions

As manufacturer, seller and downstream user of F-gases, Chemours' *Thermal & Specialized Solutions* (TSS) business unit recognizes the concerns raised by the Dossier Submitters with the safety profiles of some PFAS. TSS is aware of the increased scrutiny on PFASs as outlined in the EU's chemical strategy for sustainability. With expertise in the manufacture, properties and application of fluorinated gases (F-gases), TSS is committed to take an active, responsible and constructive role in the public consultation on the proposed restriction to facilitate the development of a coherent approach to the regulation of PFAS.

TSS intends to demonstrate that an alternative restriction proposal that focuses on risk management via emission reduction and circularity would be more proportionate than the proposed restriction and ensure that the EU realises its policy ambitions whilst maintaining its competitiveness and strategic autonomy.

- The grouping approach used by the dossier submitters would lead to the restriction of substances which are safe to use. Instead, a science-based regulation, which considers the differences among PFAS subclasses, is critical for achieving EU ambitions and competitiveness.
- Significant emission reduction is possible without a ban through an alternative risk management approach that is focused on emission minimization and circularity.
- A ban of all PFAS would heavily impact a range of European industries, which are key to achieving the EU's sustainability goals and which rely on the use of F-gases, as there are no viable alternatives for several technical and/or economic reasons. A more proportionate phase-out, if ultimately preferred by the decision maker over alternative risk management approaches, would be to allow for transitional periods of appropriate duration per industry that recognize the applicable innovation cycle and the high effectiveness of risk management measures in certain uses and the costs to society of the loss of technical functionality.

The following paragraphs will outline TSS' line of reasoning for the submission in detail. A submission timetable can be found at the end.

I. Appropriate, specific and science-based regulation is critical to achieving EU ambitions & competitiveness

A REACH restriction is any measure on the manufacture, placing on the market and/or use of a substance (on its own, in a mixture or in an article) to address an 'unacceptable' risk. REACH restrictions, therefore, are not limited to bans but can comprise, for example, requirements for use of risk management measures, training or certification. Before a restriction can be implemented, the European Commission and the EU Member States must have concluded that it is the most appropriate means to address the identified risk. To inform this decision, restriction proposals (also called Annex

XV restriction reports) should include a comprehensive restriction and regulatory management option analysis (RMOA).

TSS considers that because the Annex XV report does not objectively identify and assess a complete range of potential restriction or regulatory management options (it only assesses the appropriateness of a ban), it has not been clearly demonstrated that the proposed restriction is the most appropriate means to regulate the potential risks of PFASs.

Specifically, the Annex XV report should include a comprehensive comparative regulatory management option analysis based on the criteria given in Annex XV of REACH of effectiveness, practicality and monitorability.

Chemours supports a science-based regulation to PFASs, which recognizes many of the concerns of the Dossier Submitter and civil society. Chemours agrees that there are problematic PFAS classes, which require regulation. However, not all PFAS are the same, nor should they be regulated in the same way, given the vast differences in structure and risk. PFAS can be and are, safely used across many applications.

The current approach by the dossier submitters would have unintended consequences by banning also effective, safe, and already regulated technologies. For example, F-gases, such as Hydrofluorocarbons (HFCs), low global warming potential Hydrofluoroolefins (HFOs), and HFO blends have the potential to be banned due to the atmospheric degradation profile of some of them. These technologies are safely being used across the EU, are essential to achieving the EU Green Deal, and are successfully regulated, defined, studied and documented under the F-Gas Regulation and Montreal Protocol.

Some of the F-Gases within the scope of the proposed restriction break down to form trifluoroacetic acid (TFA). TFA is not classified as a Persistent Bioaccumulative or Toxic (PBT) substance or a very Persistent and very Bioaccumulative (vPvB) substance according to the criteria under the REACH Regulation. Furthermore, it is not classified as a carcinogenic, mutagenic, or reprotoxic (CMR) substance according to the criteria set forth under the Globally Harmonized System (GHS) of Classification and Labelling. TFA is a naturally occurring substance that is found in seawater and soil—in fact, more than 95% of TFA found in oceans today is estimated to be from natural sources.¹ Other manmade sources of TFA include agricultural products, specifically from the breakdown of specific fertilizers and herbicides, pharmaceutical products, as well as sewage treatment processes where TFA is formed during the breakdown and ozonation of some effluents. Only certain F-gases degrade into TFA at varying yields and it occurs only when released into the atmosphere, releases that can be minimised through conditions of use and system design. As the UN Environmental Program report stated, “The properties of TFA indicate that it should not be included in this class [PFAS] for the purposes of generic regulatory risk assessment² [...] To regulate these substances as a class (as has been suggested) is not science-based and TFA should be treated as a unique chemical for the purposes of regulation.”³

¹ Aung, N. (2019, August 21). Environmental effects of ozone depletion and its interactions with climate change: 2014 Assessment. Ozone Secretariat. <https://ozone.unep.org/node/3314>

² *Environmental Effects of Stratospheric Ozone Depletion, UV Radiation, and Interactions with Climate Change*, UNEP 2022 Assessment Report, pg. 279

³ *Environmental Effects of Stratospheric Ozone Depletion, UV Radiation, and Interactions with Climate Change*, UNEP 2022 Assessment Report, pg. 292

We advocate for a specific, science-based regulatory approach, that includes scientific analysis of individual PFAS compounds and that acknowledges key distinctions between the types of PFAS as well as subgroups—including their different physical and chemical properties, health and environmental profiles, uses, and benefits. F-gases can be manufactured, contained during use and recycled at end of life responsibly in a way that decreases emissions to the environment to the lowest possible levels allowed by technology.

II. Significant emission reduction is possible without a ban and further strengthening the existing risk management measures will enable circularity

The currently proposed restriction is disproportionate, considering the low risk posed by F-gas emissions and the existing regulatory framework in the EU to minimize F-gas emissions to the environment. TSS is proposing an alternative, more cost-effective approach, which is more proportionate to the risks posed by F-gases and is focused on emission reduction measures. A more proportionate, efficient, and scientifically-sound approach is strengthening existing Risk Management Measures (RMMs) across all relevant life-cycle stages, including:

- End of life management, reclaiming circularity as a result of the implementation of the proposed strengthened RMMs
- Required equipment inspection intervals, testing for leaks
- System design architecture improvements
- Certification of technicians

F-gases are produced, and can be used, reclaimed, and recycled within closed operating system across most applications. With enhanced end of life management, inspections, emission control, and system design requirements, F-gas emissions from equipment can be significantly reduced, thus minimizing indirect TFA emissions. Through specific regulations, such as the F-Gas Regulation⁴, the MAC Directive⁵ or the End-of-life of Vehicles Directive⁶, F-gases are already posing significantly less emission risk. Further measures are required to continue this downward emission trend more rapidly to ensure the full circularity potential of F-gases is utilized. By further strengthening these regulations—through monitoring, record-keeping, Extend Producer Responsibility (EPR) schemes, progressive increase of reclaim, and improved emission control—the EU can continue to maintain all the benefits of F-gas systems and further reduce the already low risk of emissions.

III. A phase-out of the use of F-gases would heavily impact a range of European industries, which rely on F-gas applications

F-gases power the world's largest industries and value chains—from automotive, aerospace, and advanced electronics to construction, HVACR, food, vaccine and multiple perishables preservation, and data centres. F-gases are key for the EU to achieve its ambitions - they are crucial solutions that will enable the energy transition, electrify transport, power artificial intelligence, and contribute to the decarbonization of the European building inventory by using high efficiency insulation foam blown with fluorinated blowing agents. The ban of F-gases would lead to significant disruptions across all industries.

⁴ No 517/2014 of the European Parliament and of the Council of 16 April 2014 on fluorinated greenhouse gases and repealing Regulation (EC) No 842/2006

⁵ Directive 2006/40/EC relating to emissions from air-conditioning systems in motor vehicles ("MAC Directive")

⁶ Directive 2000/53/EC on end-of-life vehicles ("ELV Directive")

F-gases are used in applications because of their unique combination of performance, efficiency, safety, and sustainability. While alternatives exist in some applications, they simply cannot match the performance and safety across climates and applications. For example, industrial gas alternatives, often called naturals, lack versatility, as they cannot be used for all critical applications. They have lower energy and resource efficiency, pose safety concerns (such as flammability and toxicity), are not recyclable, and can lead to significantly higher operating costs. Since each application and its circumstances is different, generalizing statements on the suitability of alternatives cannot be made.

The socio-economic impact of a broad ban of F-gases is disproportionate to their critical use in European industry, where there are no viable alternatives in the short- or mid-term. A broad ban of F-gases will also increase the bar significantly and affect the achievement of other important EU policy objectives that are e.g. targeting energy efficiency, electrification, affordability and renewable energy objectives⁷. Therefore, there is a clear need for a derogations for F-gases.

Time-table and next steps

Following this high-level submission, TSS plans to make an aggregated submission in September based on their role as a manufacturer, seller, and downstream user of F-gases. A legal submission has already been sent to ECHA. The schedule for the submissions will be:

- Overall approach submission – July
- Legal arguments – May/June/July
- More cost-effective ways of achieving emission reductions rather than a ban, summary and conclusions – September

TSS is committed to evidence-based policy and regulation. We are confident that by working together with regulators, authorities and industry stakeholders it is possible to achieve a coherent, regulatory approach for PFASs that leads to the better use of safer, better-performing chemicals in the EU, ensures circularity of these chemicals, and enables the sustainability and success of the EU industrial value chain. This can contribute to a future where the safe use of F-gases will advance progress towards many other important EU policy priorities.

⁷ European Commission. (2023). "Press corner." Retrieved from https://ec.europa.eu/commission/presscorner/detail/en/IP_23_2061