



Chemours™

An Alternative Regulatory Approach to the Universal PFAS Restriction

October 2023

The Proposed PFAS Restriction at a Glance



Proposed Regulatory Scope

- **Full ban** of around **10,000 individual substances**
- **18-month transition phase** after the regulation's entry into force
- PFAS definition based on **chemical structure**



Implementation of a Grouping Approach

- Approach is focused on **persistence** as the common property
- Aim to **accelerate restriction process** and avoid potentially **regrettable substitutions**
- Ignores significant **differences between individual substances** (manufacturing process, uses, socio-economic benefits, health and environmental profiles)



Use-Specific Derogations

- Proposed **use-specific derogations** of five to 12 years if deemed critical for society and if alternatives do not (yet) exist
- Companies are obliged to provide **use-specific data** to demonstrate criticality and lack of alternatives

There Is a Better Way to Regulate Fluoropolymers

The current proposal



- Would **not address potential risks** as the manufacture and use of fluoropolymers and other substances would continue elsewhere
- Would have a significant **negative socio-economic impact** on the European economy
- Would **harm European strategic autonomy** and **global competitiveness**
- Would create **tremendous administrative efforts** for companies and authorities alike

Industry proposal: targeted, science-based, and coherent approach to regulation



- **Exempt fluoropolymers** (polymers of low concern) from the restriction
- Define science-based and most robust and rigorous **standards for chemical manufacturing**

The EU can seize the opportunity to **create a regulatory benchmark** for the safe manufacture and use of chemicals that supports innovation and the sustainable transformation of the economy.

Fluoropolymers – Drivers for Innovation & Sustainability

Fluoropolymers have a **unique combination of properties:**

- ✓ Durable
- ✓ Efficient
- ✓ Reliable
- ✓ Versatile

Fluoropolymers' **carbon-fluorine bond** is the strongest bond in organic chemistry and cannot easily be replaced or displaced

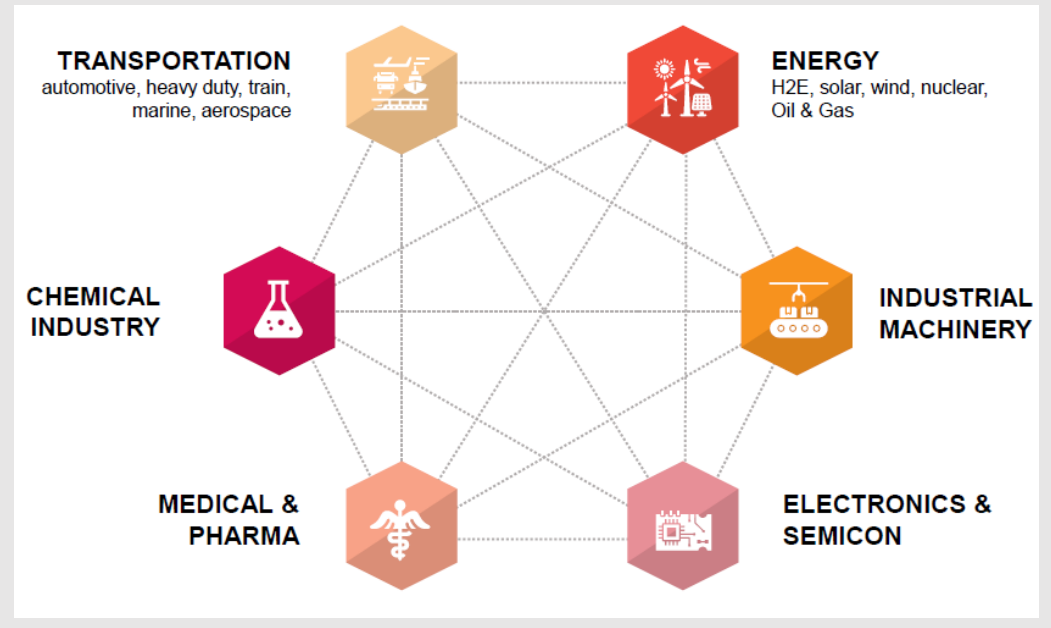


Their properties provide important characteristics for a wide range of products and technologies:

- ✓ Fire resistance
- ✓ Weather resistance
- ✓ Temperature resistance
- ✓ Chemical resistance
- ✓ Non-wetting and non-sticking properties
- ✓ High-performance dielectric properties



Given their unique properties and characteristics, fluoropolymers are used in components that touch 50% of the EU's \$16 trillion economy.



As it will take years or decades to develop alternatives – if possible – a phase out of fluoropolymers would result in a **gap in capabilities for innovation, products, and industries.**

Fluoropolymers Are Safe for Their Intended Use

A substantial body of scientific data demonstrates that fluoropolymers **do not pose a significant risk to human health or the environment** because of their unique characteristics and responsible manufacturing principles.

1.

Persistency in fluoropolymers adds value to society, industries, and contributes to sustainability.

2.

All available data demonstrate that fluoropolymers are **NOT bio-available, toxic or even mobile.**

3.

Fluoropolymers do **NOT dissolve in or contaminate water** and **CANNOT enter or accumulate in a person's bloodstream.**

4.

Fluoropolymers meet the OECD's criteria for **"polymers of low concern"** as they do **NOT present significant toxicity concerns** and do **NOT degrade into other PFAS.**

Responsible Manufacturing: Managing Risks Effectively

Investments in state-of-the-art emissions control facilities

- Chemours already achieved a significant emission reduction, including fluorinated polymerization aid recovery for reuse, 99% reduction of air/water process emissions, and 99% plant emission reductions.
- Fluoropolymer manufacturers committed to the highest manufacturing standards worldwide, including:
 - Minimizing emissions of non-polymeric PFAS residues from polymerization aids
 - Promoting the adoption of commercially available state-of-the-art technologies to minimize non-polymeric PFAS emissions in manufacturing
 - Informing downstream users of fluoropolymers on their safe handling.

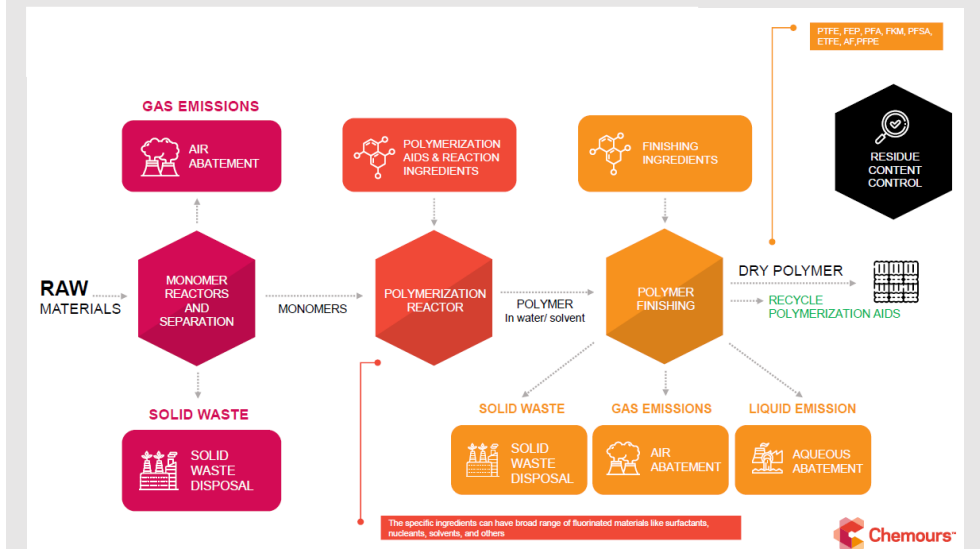
Amending existing regulatory guidelines to ensure safe manufacture and handling of fluorinated chemistry

- Expand regulatory framework of strictly controlled conditions, as defined in REACH Art 18(4) (a) – (f)
- Enhance Waste Framework Directive (WFD) with slight modifications/amendments
- Foster existing recycling and incineration processes and methods

Important to consider that a European ban on PFAS would not address potential risks

- The manufacture and use of fluoropolymers and other PFAS substances would continue in other regions

The Fluoropolymer Manufacturing Process



Already today, every stage of fluoropolymer manufacturing—from the earliest stages of raw materials and monomers to the creation of polymers—is completed responsibly, with thorough management of raw materials, polymerization aids, and the resulting polymers that are used in various product applications.

Implementing strict regulatory standards to allow for the continued and safe use of fluoropolymers and other PFAS substances critical for society.

Importance of Fluorinated Polymerization Aids



Fluorinated polymerization aids provide fluoropolymers with a **very high purity and cleanliness**, which is key in medical applications, for color-coding tubes and wires, and in a number of other sectors.



In comparison to fluorinated polymerization aids, the use of a **non-fluorinated polymerization aid can yield more by-products** with varying compositions whose impact on the environment cannot immediately be known.



In the production of **PTFE, FEP and PFA** made by the emulsion polymerization process, **non-fluorinated polymerization aids currently lead to significantly lower quality and performance**, and there is currently no non-fluorinated polymerization aid technology available that can meet the respective performance requirements and have low levels of residues.

Non-Fluorinated Polymerization aids are not a holistic solution.

A Better Way to Regulate Fluoropolymers: Targeted, Science-Based, and Coherent

1

Exempt fluoropolymers (polymers of low concern) from the restriction

2

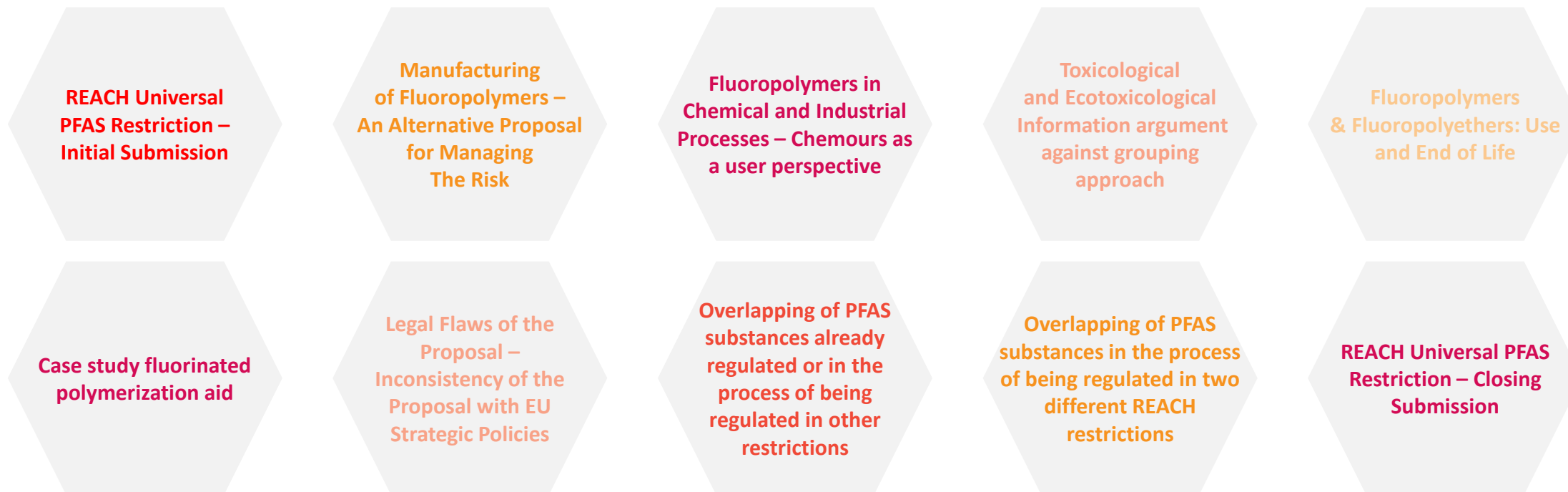
Define science-based and most robust and rigorous **standards for chemical manufacturing.**

3

Create a **regulatory benchmark** for the safe manufacture and use of chemicals that drives innovation and the sustainable transformation of the economy

Chemours Supports the Regulatory Process

- Chemours' Advanced Performance Materials (APM) business unit submitted a **total of 10 submissions**; idea to utilize unique **expertise as manufacturer** of fluorinated chemistries
- Submissions provide **detailed data and knowledge** about the manufacture, use, and end-of-life management of fluorinated chemistry
- Special emphasis on **interconnectedness of various downstream** uses
- Submissions focus on mitigating and controlling potential **risks** and assessing the **socio-economic** benefits of fluoropolymers in particular and fluorinated chemistry more broadly



- Thank you!