

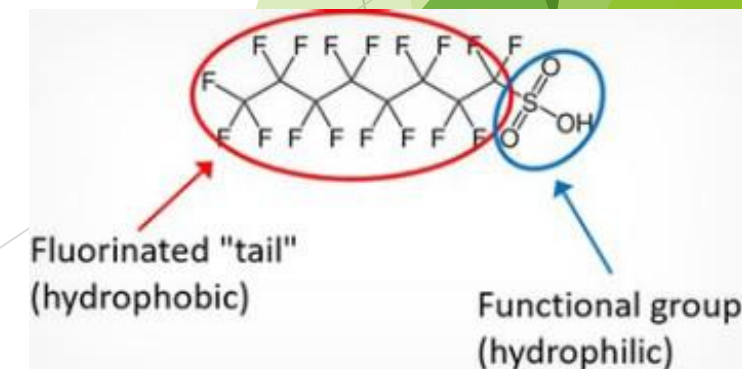
Preparation of meeting Chemours - PFAS REACH restrictions

What are PFAS?

- ▶ PFAS = Per- and Polyfluoroalkyl substances
 - ▶ Very diverse group of substances (5000 plus substances)
 - ▶ Characterized by C-F bond
 - ▶ Man made chemicals
- ▶ Water and grease repellent characteristics
- ▶ Stability and thermo resistance
- ▶ Used for a wide variety of products:
 - ▶ Firefighting foam
 - ▶ Textile treatment
 - ▶ Food contact materials
 - ▶ Coatings
 - ▶ Construction articles
 - ▶ Electronics
 - ▶ ...



Source: OECD draft terminology report

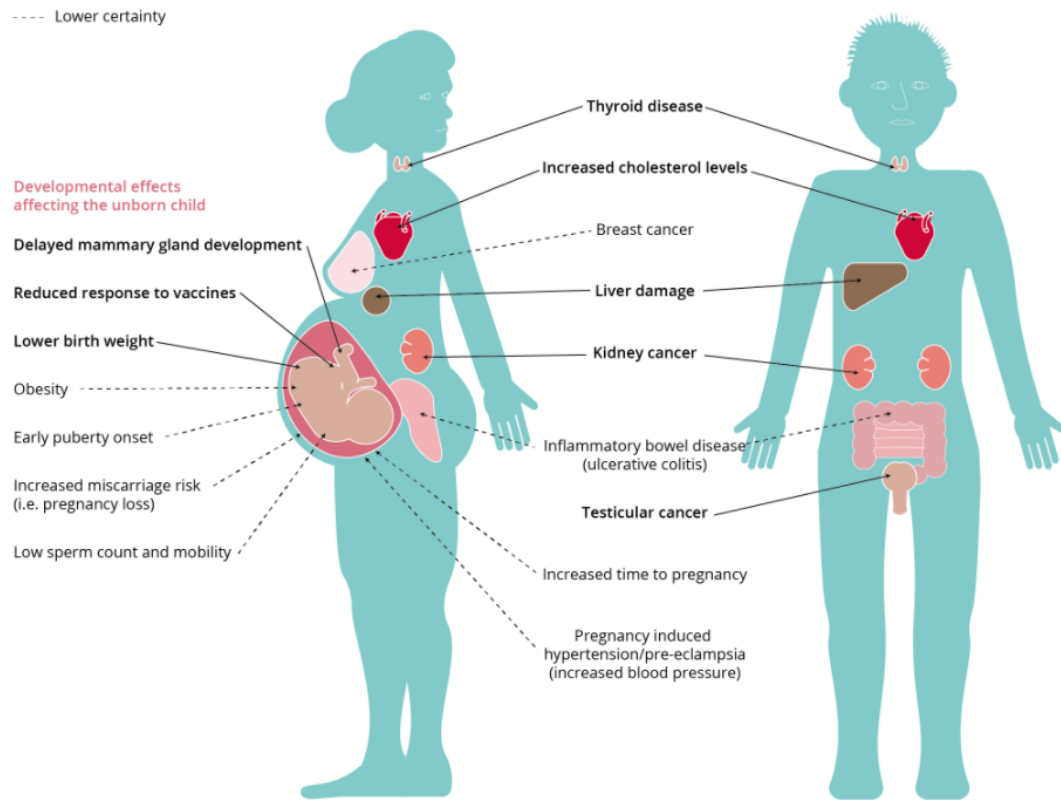


Concern

Main concern: Persistency

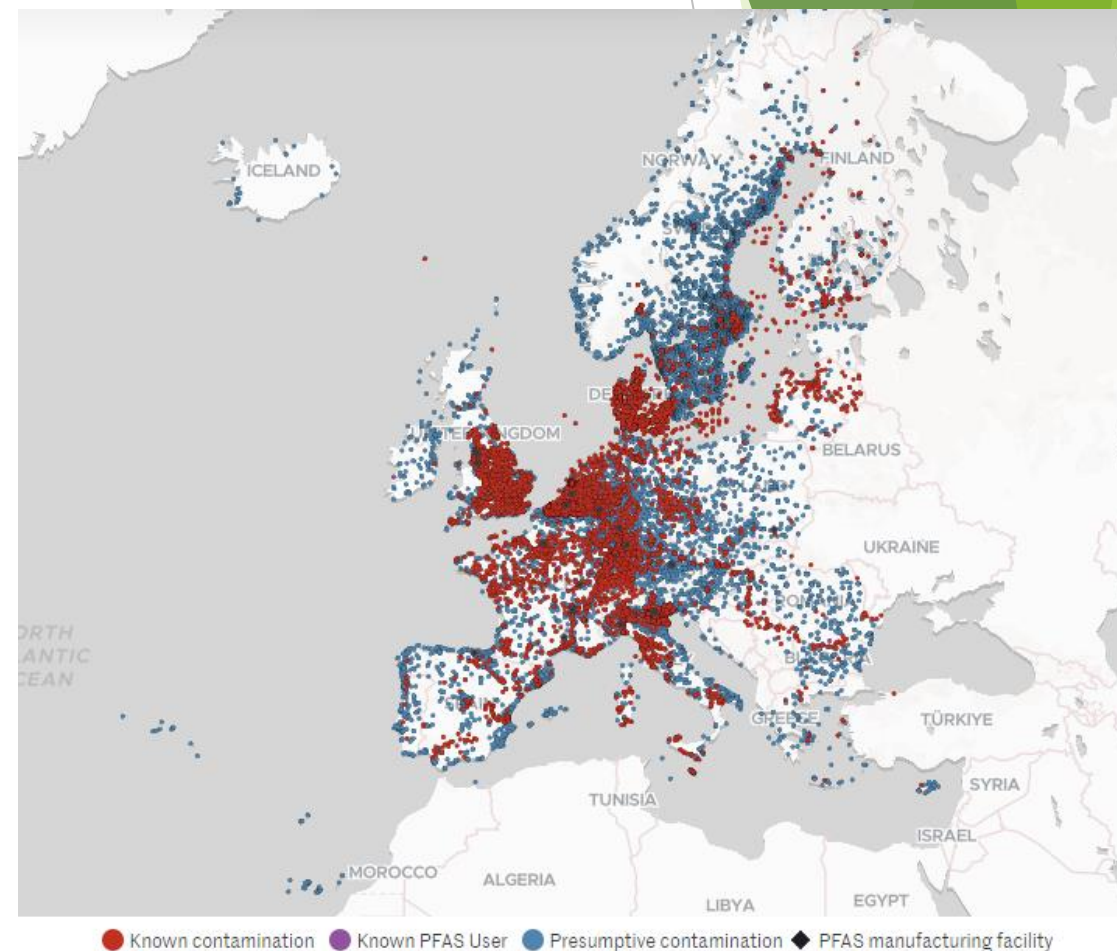
Toxicological effects

— High certainty
- - - Lower certainty



Sources: US National Toxicology Program, (2016); C8 Health Project Reports, (2012); WHO IARC, (2017); Barry et al., (2013); Fenton et al., (2009); and White et al., (2011).

Wide-spread pollution

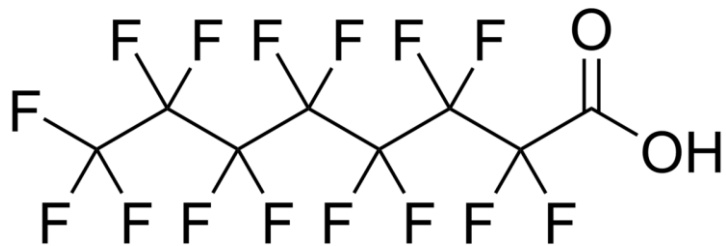


Source: Forever Pollution Project

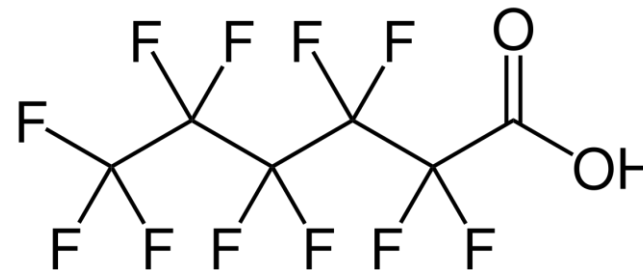
Legislative action on PFAS

- ▶ PFOS restricted since 2006
- ▶ Industry replaced PFOS with other PFAS (PFHxA) → regrettable substitution
- ▶ Now PFHxA is being restricted (2024)
- ▶ This warrants the need for a **group approach**

PFOS

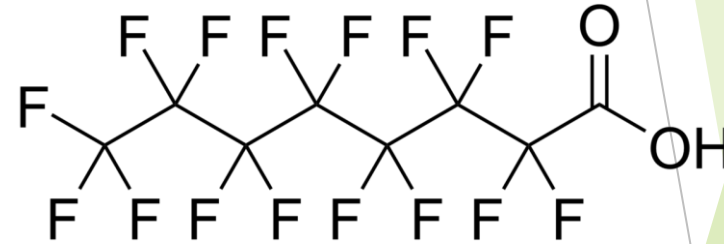
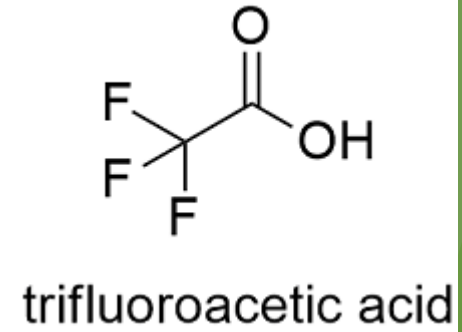
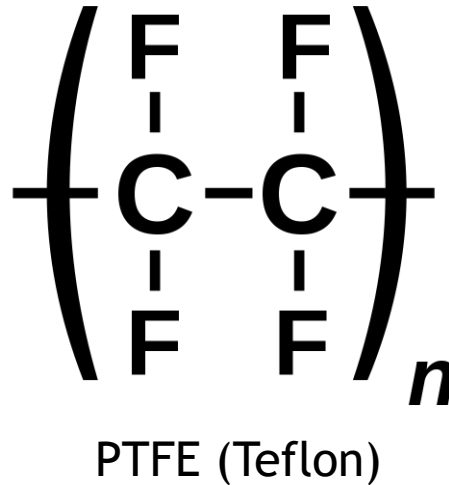
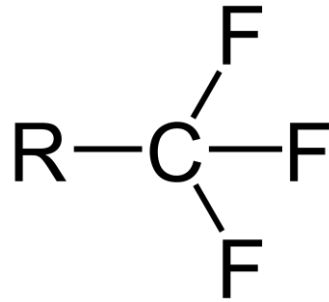


PFHxA



Universal PFAS restriction under REACH

- ▶ February 2023: 5 Member States proposed a universal PFAS restriction under REACH
- ▶ All PFAS in scope
 - ▶ If CF₃ or CF₂ in the structure → most likely a PFAS
- ▶ All uses of PFAS in scope
 - ▶ Also “essential uses”
 - ▶ Temporary derogations are being proposed



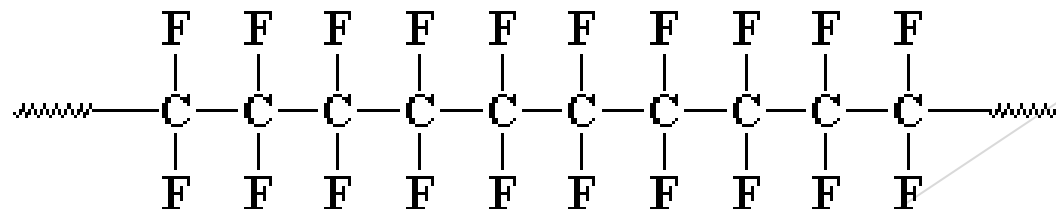
The road to the restriction proposal



Main concern for industry: Fluoropolymers

- ▶ Subgroup of PFAS
- ▶ Long carbon chain (polymer) that is (fully) fluorinated
- ▶ Very stable molecules
 - ▶ Do not interact with other molecules and can't pass the cell barrier
 - ▶ Up to now no evidence of toxic properties has been found
- ▶ Used in many “essential” applications
 - ▶ Fire resistant electrical wiring
 - ▶ Medical packaging
 - ▶ Fire resistant personal protection equipment
 - ▶ Batteries
 - ▶ Etc.

Industry asks for complete exemption from the restriction



Main arguments by industry

- ▶ *“Fluoropolymers are inert and do not have toxic properties”*
 - ▶ However: During **production** of fluoropolymers other (toxic) PFAS can be used
 - ▶ Also concerns on **the end-of-life** → during incineration they might break down to shorter-chain (toxic) PFAS, some of which are also potent greenhouse gasses
- ▶ *“Fluoropolymers are used in essential applications”*
 - ▶ However: many of the fluoropolymer uses are **not essential** (e.g. non stick pans)
 - ▶ For many essential uses **alternatives are available**
 - ▶ Even if the use is essential → only specific uses should be **temporarily exempted** until alternatives are available
- ▶ *“Fluoropolymer producer can make a voluntary commitment to minimize emissions during production”*
 - ▶ However: this will not have any legal certainty and will not tackle the end-of-life concerns

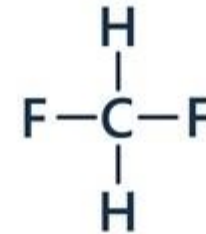
Main concern industry: fluorinated gasses

- ▶ Gasses containing fluorine
- ▶ Used for:
 - ▶ Heating pumps
 - ▶ Insulation sprays
 - ▶ Refrigerants
 - ▶ Etc.
- ▶ Main Industry argument: *“Fluorinated gasses are already regulated under the Montreal Protocol/F-gas regulation”*
 - ▶ However: main concern under F-gas reg is the **greenhouse gas potency**, while the REACH restriction focus is on wider concern of **persistence**
 - ▶ Also several fluorinated gasses are not covered by the F-gas regulation

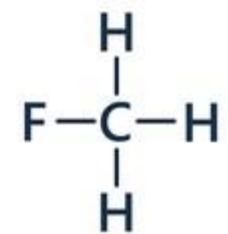
Greenhouse gases Hydrofluorocarbons



Fluoroform
(HFC-23)



Difluoromethane
(HFC-32)



Fluoromethane
(HFC-41)

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Why is the industry contacting us?

► REACH restriction process:



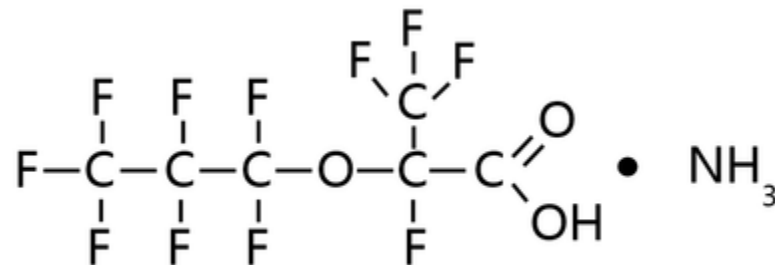
- Public consultation on the proposal is running until **25 September**
- In this consultation stakeholders can provide info and data to the scientific committees RAC and SEAC

Our role in the Public Consultation

- ▶ Belgium coordinated comments are being submitted to the consultation
 - ▶ Include data on emissions and monitoring from the regional authorities
 - ▶ Also market studies from federal authorities
- ▶ Coordinated via the **CCIM PFAS Working group**
 - ▶ Subgroup of the CCIM Chemicals steering group
- ▶ Belgian input is being approved by the **Belgian REACH Committee (BCR)**
 - ▶ BCR already organized 2 stakeholder meetings on the PFAS topic
 - ▶ Main message we give the Industry: send you info to the Public Consultation

Chemours

- ▶ Spinoff of former company DuPont
- ▶ Producer of fluoropolymers and fluorinated gasses
 - ▶ Fluoropolymer production site in Dordrecht (NL)
 - ▶ Production of coatings and other advanced materials in Mechelen (BE)
- ▶ In 2017: pollution of Gen(X) (specific PFAS) was uncovered in Dordrecht
 - ▶ Since then: Chemours have invested in safer production and water purification at Dordrecht site
 - ▶ However concerns remain on certain waste streams and end-of-life of their products



GenX Chemical Structure