

Comment on Proposed Restriction of PFAS

--A citizen of the earth.

I, a citizen of a global village, am concerned about PFAS and strongly support the EU's efforts to reduce pops. But I have some doubts about the proposed PFAS curbs in the five EU countries.

(1) Questions about the definition of PFAS.

The bill uses Per- and polyfluoroalkyl substances and PFAS. As for how many substances PFAS includes, you say about 10000 at one time and more than 10000 at another. Please tell us exactly how many kinds there are and what are their CAS numbers? As an environmentalist, for the sake of the planet and for the sake of future generations, knowing the CAS number is better for my fight against entrepreneurs.

(2) Questions about PFAS risks.

The risks to the environment and human health associated with the use of PFAS are described in the report annexed to the Act. What is the specific risk of PFAS to the environment? What are the risks to human health? What is the extent of these risks? Is the risk the same for each of these substances? If not, what is the risk for each substance? Have these risks been systematically studied and are there sufficient evidence to support them? J.K. Anderson et al. described PFAS grouping to assess human health risks^[1]. Was this article studied at the time of the bill? Has each of the PFAS substances prohibited under this bill been studied? Please provide relevant data support for research! In addition, there are related "(complex (articles))" specific meaning of composite products, or products including composite products or products and their composite products? Please give a clear definition!

(3) Questions about fluorine-containing gases.

The German and Norwegian environment agencies have submitted reports that demonstrate the low biological and human toxicity of trifluoroacetic acid^[2]. You can refer to their suggestions. I found an article recently, The study by Madronich et al. found no obvious degradation pathway for TFA, which may only accumulate in some water bodies, but will not have a negative effect before 2100^[3]. This means that TFA is risk-free. This contradicts the bill's statement that TFA contributes to the overall exposure and risk of PFAAs. Is there sufficient evidence in the bill to show the risks of TFA? If not, then fluorinated gases should be excluded from PFAS.

In addition, perfluoropropane (C₃F₈) can be used as an ultrasound contrast agent to enhance the backscattering of ultrasound signals. can be used as a blood cell tracer, can reflect the blood perfusion of organs and does not interfere with hemodynamics; it can be use as an eyeball filler, effectively seal retinal hole, promote retinal reattachment, and is used in that field of retinal detachment surgery. In addition, as far as I know, perfluoropropane (C₃F₈) is used in the semiconductor industry, and the mixture of perfluoropropane and oxygen is used as a plasma etching material, which

will selectively interact with the metal substrate of silicon wafers and is an indispensable gas in the electronics industry^[4-6].

With the development of science and technology, the demand for intelligence is higher and higher. If there is no fluorine-containing special gas, the semiconductor industry will be hard hit. The medical profession fluorine special gas has brought us the health. To sum up, the restriction of fluoride gas hinders the pursuit of human beings for a better, intelligent and healthy life.

References:

- 1、 J.K. Anderson and etc., Grouping of PFAS for human health risk assessment: Findings from an independent panel of experts, *Regulatory Toxicology and Pharmacology* 134(2022) 105226
- 2、 German Environment Agency, Reducing chemical input into water bodies - trifluoroacetate (TFA) as a persistent and mobile substance from many sources, 2021
3. S Madronich and et al., Changes in tropical air quality related to the protection of stratospheric zone in a changing climate, *Photochemical&Photobiological Sciences*, Publish online 13 June 2023
- 4、 Obert A J, Kern A L, Gutberlet M, et al. Volume-Controlled 19F MR Ventilation Imaging of Fluorinated Gas[J]. *Journal of Magnetic Resonance Imaging*, 2023, 57(4): 1114-1128.
- 5、 am M K, Podesto E. Octafluoropropane Gas Bubble Within Macular Hole After Attempted Repair[J]. *JAMA ophthalmology*, 2022, 140(4): e215807-e215807.
- 6 、 Tsai W T, Chen H P, Hsien W Y. A review of uses, environmental hazards and recovery/recycle technologies of perfluorocarbons (PFCs) emissions from the semiconductor manufacturing processes[J]. *Journal of Loss Prevention in the Process Industries*, 2002, 15(2): 65-75.