EEB submission to Public Consultation on the Harmonised Classification of TFA

Brussels, 17.07.2025

ECHA launched a public consultation on the harmonised classification[1] of Trifluoroacetic acid (TFA) on May 26, 2025. The proposal will be further discussed at the Risk Assessment Committee (RAC) in 2026. The European Environmental Bureau (EEB) submits this comment to the consultation to support the proposed new and modified hazard classes, which are

- Repr. 1B
- Acute Tox. 3
- PMT
- vPvM

The EEB supports this proposal and trusts that RAC will perform a scientifically sound and evidence-based assessment, which EEB believes will confirm the well-founded proposed classification of TFA.

Relevance of the TFA classification

TFA is one substance from the very large group of PFAS (OECD 2021[2]), yet it is one of the most abundantly found ones in the environment (water bodies, wine, food, etc) due to being a degradation product of fluorinated gases, pesticides and other sources.[3] Some scientists and civil society organisations, including EEB, observe this trend with great concern. The widespread pollution of the environment by TFA is irreversible and leads to lifelong exposure of wildlife and humans, including future generations through nutrition and drinking water.

Given the presumed vPvM properties of TFA, further risk management measures are however urgently needed to prevent further, irreversible and long-lasting environmental pollution. As an organisation, the EEB therefore calls on the European institutions to apply the precautionary principle and protect European drinking water sources by minimising all TFA emissions without delay. The PFAS restriction, if implemented ambitiously, can reduce a significant portion of TFA precursor emissions. Pesticides are among the few applications exempt from the uPFAS restriction proposal, even though they are a significant source of TFA. We therefore need complementary measures to minimise TFA emissions from all sources.[4]

Confirming the hazards of TFA through this harmonised classification process is an important step for initiating and accelerating risk management processes in various secondary legislation.

The substance is registered under REACH in the tonnage band 100 - 1.000 tonnes per year. Sources of TFA such as fluorinated gases (e,g[5]why TFA is widely detected in the environment and biota. Specifically, the confirmation of several human health effects, including very severe ones such as reprotoxicity (Category 1B) through a classification, shows that PFAS, including this very abundantly

[1] ECHA (2025) CLH Dossier TFA.

[2] OECD (2021) Reconciling Terminology of the Universe of Per- and Polyfl uoroalkyl Substances: Recommendations and Practical Guidance.

[3] Arp, et al. (2024) The Global Threat from the Irreversible Accumulation of Trifluoroacetic Acid (TFA). Environ.Sci.Technol.2024, 58, 19925−19935. https://doi.org/10.1021/acs.est.4c06189

[4] GLOBAL 2000, et al. (2024) TFA - The forever chemical in the water we drink

[5] ECHA. Brief Profile TFA. https://echa.europa.eu/brief-profile/-/briefprofile/100.000.846

found substance TFA, are not 'just' persistent as sometimes depicted but come with more problematic properties that justify immediate regulatory action.

Application of new hazard classes

Following the introduction of new hazard classes in the CLP regulation for persistent and mobile substances, we welcome them being applied in classification proposals. PMT chemicals are of high concern due to their toxic properties, combined with their persistence and mobility in the environment, as they have irreversible, long-lasting effects and contaminate drinking water resources now and for future generations across Europe. Also, the combination of high persistence and high mobility can lead to widespread and irreversible contamination of the environment across the globe and pose a threat to future generations via the contamination of drinking waters.
When the new hazard classes were introduced, NGOs including EEB supported the position to apply cut-off values based on the original UBA proposal. This was grounded in their report[6], which was motivated by sound evidence and underpinned by monitoring data and further aligned with the value selected for the Groundwater Watch list[7]. The finally implemented cut-off values of log Koc 2 and 3 reduced the number of chemicals identified as PMT/vPvM drastically. We see this aspect important to emphasize, since some studies cited in the TFA CLH dossier find Koc values >2, such as an OECD TG 106 study by anonymous authors (one reliable log Koc value being 2.49).[8]
Either way, the log Koc value of TFA is according to the proposed key study of Richey et al. (1997) based on 20 reliable log Koc values between -2.02 and 0.19.[9] TFA apparently has a very low adsorption potential, according to the very low log Koc values, which indicates high mobility of the substance in the environment. The conclusion that TFA is mobile in water is supported by the detection of TFA in tap water, bottled drinking water and groundwater. The presence of the substance in drinking water in Europe can be explained by how difficult it is to remove TFA from the aquatic environment and from drinking water. Evidently current conventional water treatment techniques cannot easily remove the substance. Based on the information available, TFA meets in our view the criterium of vM and M.

There are plenty of studies that support the properties of TFA being persistent and even very persistent based on the inability to identify a DT50 value in several environmental compartments as no degradation of TFA was observed.
TFA is expected to undergo no or extremely limited degradation in the environment, what can be explained based on the stability of the PFAS typical C-F bond. Further referring to the assessments of other PFAS substances such as PFHpA, PFHxA, PFOA, PFNA, PFDA and C11-C14 PFCAs, for which their persistence/very persistence properties have already been confirmed. Monitoring data of TFA, especially in remote areas such as the Arctic[10], locations that are far away from point sources, support the conclusion on TFA's persistent and mobile properties of the substance.

Environmental and human toxicity

[6] UBA texte 127/2019; Protecting the sources of our drinking water: The criteria for identifying persistent,mobile and toxic (PMT) substances and very persistent and very mobile (vPvM) substances under EU Regulation REACH (EC) No 1907/20. Michael Neumann, Ivo Schliebner. ISSN 1862-4804
[7] EEB and HEAL Comments on the draft PMT/vPvM criteria for CLP (2021) https://www.env-health.org/wp-content/uploads/2021/10/EEB-and-HEAL-Comments-on-the-draft-PMT.pdf
[8] CLH Dossier TFA; p. 89 f
[9] CLH Dossier TFA; p. 87 f.
[10] Hartz, et al. (2023) Levels and distribution profiles of Per- and Polyfluoroalkyl Substances (PFAS) in a high Arctic Svalbard ice core. Science of The Total Environment. Volume 871, 1 May 2023, 161830

TFA researchers found that already back then, 20 years ago, TFA and other short-chain PFAAs were discussed, but their hazard-related concerns were considered to be significantly lower than those posed by longer chain PFAAs.[11] For a long time and until the present, industry has continued creating and spreading the myth of harmless short-chain PFAS like TFA[12][13] while recent data like the cited rabbit malformation study suggest that it has severe human toxic properties. The referenced rabbit study on reprotoxicity was in fact only delivered by industry a few years ago on ECHA's request, years after the registration of TFA, since the registration dossier lacked this information. This deepens our concern about industry playing down the hazards before the necessary tests were performed and submitted. Most recently, studies financed by industry try it again, to play down and contradict the hazards based on a lower-tier cell assay study[14], while there are convincing results of high-tier in vivo tests with animals.
We strongly oppose the doubts expressed by certain actors to disqualify the dossier and its conclusions that TFA is reprotoxic, with relevance also for human health. We support and trust in the regulatory practice to assume that, in the benefit of the doubt, studies such as the rabbit developmental toxicity study are considered relevant for humans unless their irrelevance for humans has been proven. The proposed classification of Repro 1B is in our view well justified by the DS assessment and we therefore support it. We further emphasize in this regard the high level of scrutiny that the dossier has undergone before publication.

An angle that remains understudied in our view is additional ecotoxicological effects of TFA. Most studies assessing ecotoxicological effects are 20 or more years old. Almost no studies have been conducted with a longer timeframe than ten days, even though TFA is highly persistent with possible long-term, chronic effects that should be tested in an experimental long-term set-up. Despite indications of plant accumulation[15], incorporation into animal cells[16], and potential hints of endocrine disruption[17], these effects remain inadequately studied. Additionally, the impact of pH changes induced by TFA's strong acidity on the environment and its influence on toxic effects remains underexplored. We therefore strongly recommend following up in the future with more research on these additional endpoints that were not included in the dossier.

To conclude, EEB is warmly welcoming the proposed classification and will with great interest follow and contribute to the process in the RAC committee.

[11] Arp, et al. (2024)
[12] Neale, Rachel, et al. "Environmental effects of stratospheric ozone depletion, UV radiation, and interactions with climate change: UNEP Environmental Effects Assessment Panel, Update 2020." Photochemical & Photobiological Sciences 20.1 (2021): 1-67.
[13] Burtscher-Schaden, et al. (2024) TFA in Water - PFAS Legacy Under the Radar; p. 12
[14] Sodani, et al. (2025) Toxicological mode-of-action and developmental toxicity of different carbon chain length PFAS. Toxicology Letters 405 (2025) 59–66.
[15] Cahill, Thomas M., et al. "Accumulation of trifluoroacetate in seasonal wetlands in California." Environmental science & technology 35.5 (2001): 820-825. Benesch, J.A., Gustin, M.S., Cramer, G.R., and Cahill, T.M. (2002). Investigation of effects of trifuoroacetate on vernal pool ecosystems. Environ. Toxicol. Chem. 21 (3), 640–647. Doi: 10.1897/1551-5028(2002)0212.0.Co;2.
[16] Standley & Bott (1998) "Trifluoroacetate, an atmospheric breakdown product of hydrofluorocarbon refrigerants: Biomolecular fate in aquatic organisms." Environmental science & technology 32.4: 469-475.
[17] In the PFAS restriction dossier a study by Covance Laboratories (2020) was mentioned that found differences in male and female rats leading to the assumption that endocrine effects were observed. However, as the study was conducted by industry, no public data is available.