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EU-Wide Drinking Water Testing Finds Forever Chemical TFA in 94 % of Samples

Only a Rapid Ban on PFAS Pesticides and F-Gases Can Save Our Water

Alarmed by the high levels of contamination with the forever chemical TFA (trifluoroacetic acid) in European water bodies, the Pesticide Action Network (PAN Europe) analysed 55 drinking water samples (tap water and mineral water) from 11 EU countries. TFA mainly enters water as a degradation product of PFAS pesticides and F-gases. The results are summarised in the report TFA: The Forever Chemical in the Water We Drink.

Key analysis results

- TFA was detected in 34 out of 36 European tap water samples from 11 EU countries. The values found ranged from "below the detection limit" (< 20 ng/L) to 4,100 ng/L. The peak values are comparable to the peaks found in European rivers and lakes. Only 6% of the tap water samples were TFA-free. The average of 740 ng/L in drinking water is lower than what we found in rivers and lakes in our last report, where we found 1,220 ng/L.
- To examine whether TFA also penetrates deep water reservoirs from which mineral waters are sourced, 17 mineral and 2 spring water samples were included in the study program: 12 of the 19 samples were contaminated with TFA, in concentrations between "below the detection limit" and 3,200 ng/L, with an average load of 278 ng/L.
- Tests for 24 other PFAS chemicals revealed that TFA accounted for more than 98 % of the total PFAS load across all samples tested.

Salomé Roynel, Policy Officer at PAN Europe, comments on the results as follows: "Our studies show that the TFA contamination has reached our drinking water. PFAS pesticides should be banned today to ensure that we can continue drinking our water safely in the near future!"

Risks to health hardly investigated

TFA is a highly persistent degradation product of PFAS pesticides and F-gases. Despite its widespread presence in waters across the globe, there are few studies on the environmental and health risks. Risk assessments vary significantly due to differences in the way regulators deal with the scarce scientific knowledge.

According to the 2016 EFSA assessment, 50 micrograms (μ g) of TFA per kilogram (kg) of body weight per day are tolerable. According to the assessment of the German Federal Environment Agency from 2020 it is 12.5 μ g/kg/day. The Dutch National Institute for Public Health and the Environment (RIVM) in 2023 derives a tolerable daily dose of only 0.32 μ g/kg/day, based on the current state of knowledge, and assuming that TFA has a comparable toxicological profile to other, better-studied PFAS. This assumption is supported by Bayer's recent study on the reproductive toxicity of TFA in rabbits, which found severe foetal malformations. The German Chemical Agency recently proposed to classify TFA as toxic to reproduction.

Based on this innovative risk assessment approach, the Dutch authority proposed a drinking water guideline of 2,200 ng/L. This limit was set so that with average consumption of drinking water, the tolerable daily intake of TFA would be maximally utilised to 20%. This value, based on a fairly conservative risk assessment - was exceeded by only 2 of the 55 water samples tested. However, the toxicity data are limited and incomplete, so underestimation of the risk by the Dutch authority cannot be excluded.

Helmut Burtscher-Schaden from GLOBAL 2000 - Friends of the Earth Austria states: "The good news for now is that, in almost all samples, the TFA levels we found appear to be still within what is considered safe limits according to current knowledge. However, TFA inputs are increasing daily, and the safety buffer is

already very small. Moreover, we are already unduly burdened by other PFAS. Measures to prevent further TFA contamination must therefore be taken immediately."

Lack of legal limits

Although TFA contamination is widespread, there is currently no legal limit in the EU for TFA in surface water, groundwater, or drinking water.

Only in 2026, a standard limit value for "total PFAS" of 500 ng/L in drinking water is due to come into force. By definition, this value includes TFA since it is a PFAS. However, when this value was proposed by the Commission, it was not considered that existing TFA loads would exceed this limit. Half of the tap water samples analysed exceed the limit value of 500 ng/L for "total PFAS" if TFA is included in this parameter.

Sara Johansson, Senior Policy Officer for Water Pollution Prevention at EEB, says: "From a legal perspective, TFA has so far been and remains an 'invisible' chemical. The lack of quality standards for groundwater or surface water and the absence of a TFA limit for drinking water have resulted in widespread chemical contamination to pass under the radar. With the update of water pollution standards regulated under the Water Framework Directive, this could change: The European Institutions now have the opportunity to set the course for water protection - they owe this to their citizens. People have a right to healthy water."

In the meantime, the NGOs call for urgent measures, such as:

- An immediate ban on PFAS pesticides.
- An immediate ban on F-gases.
- Swift implementation of the general PFAS restriction according to REACH.
- Establishment of a safe drinking water limit for TFA at the EU level.
- Setting quality standards for TFA for waters regulated under the Water Framework Directive.
- Wherever it is necessary to purify water due to chemical contamination, the Polluter Pays principle shall be applied.
- Support farmers in replacing the use of PFAS pesticides with other, ideally chemical-free, forms of crop protection.

Read more:

• Report: TFA: The Forever Chemical in the Water We Drink

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Pesticide Action Network (PAN Europe) is a network of NGOs working to reduce the use of hazardous pesticides and have them replaced with ecologically sound alternatives. We work to eliminate dependency on chemical pesticides and to support safe sustainable pest control methods. Our network brings together over 45 consumer, public health and environmental organisations and women's groups from across Europe.



