

Ultrashort PFAS in Drinking water and Beverages

In recent years, ultrashort-chain per- and polyfluoroalkyl substances (PFAS) have emerged as contaminants of concern in both environmental and food safety contexts. These compounds, including trifluoroacetic acid (TFA), are frequently detected in drinking water, groundwater, surface waters, and increasingly, food and beverages such as wine.

Background

Ultrashort PFAS are defined as PFAS with one to three carbon atoms. Besides TFA, notable examples include TFMS (trifluoromethane sulfonic acid), PFETs (perfluoroethane sulfonic acid), PFPrA (perfluoropropionic acid), and PFPrS (perfluoropropane sulfonic acid). These compounds have various industrial and agricultural origins; for instance, TFMS is used in lithium-ion battery electrolytes, and TFA can be formed from the degradation of at least 45 pesticide substances approved in the EU. Their concentrations in precipitation have increased significantly since the 1990s, largely due to the atmospheric degradation of refrigerants.

Occurrence in Drinking Water

Although knowledge on ultrashort PFAS in drinking water remains incomplete, studies across Germany, the Netherlands, Switzerland, and Scandinavia (notably Sweden and Denmark) indicate widespread presence. A 2023 investigation by the PFAS Competence Centre at Eurofins Food & Feed found TFA in all 32 drinking water samples collected from Sweden and Norway, with TFMS also commonly detected. PFPrA and PFPrS were only present in isolated samples.



Occurrence in Beverages

In 2024, a study from Eurofins PFAS Competence Centre Sweden showed significant levels of TFA in fruit juices. New data from a PAN 2025 study expands this concern to wine, demonstrating that TFA is present in commercially available wines across multiple regions. Concentrations vary, likely influenced by local environmental exposure, agricultural practices, and global atmospheric deposition. These findings highlight wine as an additional dietary source of TFA, adding to previous reports of TFA in beer, tea, fruit juices and other beverages, both in organic and conventional produce. Some detected levels in beverages approached or exceeded existing drinking water guideline values.

Guideline Values

Several countries have established national guideline values for TFA in drinking water:

- The Netherlands: 2200 ng/L
- Denmark: 9000 ng/L
- Germany: 60,000 ng/L



Eurofins analytical packages

Eurofins offers two different packages for ultrashort PFAS in drinking water (tap or bottled) and one package for beverages (for example fruit and vegetable juices). We also offer a variety of analytical packages for PFAS, eg the 20 PFAS regulated within the Drinking water directive.

Drinking water		Analysis package code
Ultrashort PFAS in water	TFA, TFMS, PFPrA, PFPrS, PFEtS	PLW98
Ultrashort PFAS incl TFPA in water	TFA, TFMS, PFPrA, PFPrS, PFEtS, 2,3,3,3/2,2,3,3-TFPA	PLWB9
PFAS in drinking water	PFAS20 / PFAS21 /PFAS22	PLW9B / PLWFW* / PLW7W*
PFAS screening in drinking water	PFAS50	PLW81*
Juice and drinks		
Ultrashort PFAS in juice and beverages	TFA, TFMS, PFPrA, PFPrS, PFEtS	PLWBB
PFAS21 in beverages	PFAS21	PLWBR*
PFAS50 in beverages	PFAS50	PLWCC*
Pesticide screening in beverages incl PFAS pesticides	>500 pesticides	PLWC8

*including PFAS20 (DWD 2020/2184)

For each analysis pack, 2 pcs of 100 ml bottles are required. For quality and operational reasons, please use "PFAS bottles" from Eurofins. Products can also be sent in original consumer packaging. The delivery time (TAT) is 7 calendar days for water and 14 for juices. Express options are available.

More information

Eurofins studies on TFA: www.eurofins.com/publications

- Trifluoroacetic acid (TFA) and trifluoromethane sulphonic acid (TFMS) in juice and fruit/vegetable purees (2024)
- Ultrashort PFAS in Swedish and Norwegian Drinking Water (2023)

PAN/Global 2000 report: <https://www.pan-europe.info/press-releases/2025/04/study-reveals-alarming-surge-forever-chemical-tfa-european-wine>

All about PFAS: www.eurofins.se/about-pfas
Contact: SE_PFAS_inquiry@FTN.eurofins.com

Eurofins Food & Feed Testing's pesticide laboratory in Sweden has by Eurofins been appointed as Competence Center for PFAS testing for food in Europe. Eurofins in Lidköping (SE) started analyzing PFAS already at the beginning of the 2000s. After a break, the analysis was set up again in 2015 and since 2016 a large leading PFAS lab has been established.