

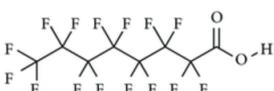
# PFOS and PFOA

- ✓ **PFOS and PFOA are manmade fully fluorinated compounds, with the chemical name of Perfluorooctane Sulphonate (PFOS) and Perfluorooctanoic acid (PFOA).**
- ✓ **PFOS is a sulphonic acid and PFOA is a carboxylic acid where all the Hydrogen atoms on the carbon chain have been substituted with Fluorine.**
- ✓ **PFOS and PFOA are the best known compounds in a group of compounds collectively known as Perfluoroalkyl and Polyfluoroalkyl Substances or PFAS.**
- ✓ **A perfluorinated compound is an organofluorine compound with all hydrogens replaced by fluorine on a carbon chain—but the molecule also contains at least one different atom or functional group. A polyfluorinated compound does not have all hydrogen compounds replaced by fluorine, but must contain a perfluoroalkyl group.**

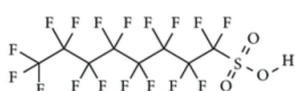
## What are per- and poly-fluoroalkyl substances?

Per- and poly-fluoroalkyl substances, also known as “PFAS”, are a group of man-made chemicals (previously known as PFCs) that have been used in a range of common household products and specialty applications, including in the manufacture of non-stick cookware, fabric, furniture and carpet stain protection applications; food packaging; some industrial processes, and in some types of fire-fighting foam.

Perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA) and perfluorohexane sulfonate (PFHxS) belong to this group of chemicals. These chemicals are very stable and do not break down in the environment. They can persist for a long time both in the environment and in humans.



PFOA



PFOS

PFOS are now prohibited under a Directive (2006/122/EC) that came into force in June 2008 and has been largely prohibited in the EU since 2002, although PFOA is still in production.

The general public is only exposed to trace levels of PFOS or PFOA as contaminants in food and water. Exposure to higher levels PFOA may occur in the workplace where they are produced or used.

## Health Implications

PFOA/PFOS are the subject of ongoing research as to their potential health impacts, due to concerns raised about their persistence in the body and in the environment. They can get into the environment during the production process or as a result of the use of PFOA/PFOS-containing products by companies or individuals.

They have been detected at trace levels in human blood, and high concentrations have been linked to organ damage in rats and mice. There has been no evidence documented of harmful effects in humans (based on studies of employees involved in the manufacturing process), although this area has not yet been widely studied and is still under review.

ALS Environmental are proud to be able to offer ISO 17025 accredited results for PFOA and PFOS, along with other Perfluorinated Compounds and emerging contaminants of concern, at trace level on Drinking Water via our Centre of Excellence in Prague.

PFOA	0.01 ug/l
PFOS	0.05 ug/l

## References:

- ✓ <https://www.gov.uk/government/publications/pfos-and-pfoa-properties-incident-management-and-toxicology>
- ✓ [http://webarchive.nationalarchives.gov.uk/20100303153657tf\\_/http://www.hpa.org.uk/HPA/Topics/ChemicalsAndPoisons/CompendiumOfChemicalHazards/1219302574442/](http://webarchive.nationalarchives.gov.uk/20100303153657tf_/http://www.hpa.org.uk/HPA/Topics/ChemicalsAndPoisons/CompendiumOfChemicalHazards/1219302574442/)