



RESEARCH ON PERFLUORINATED COMPOUNDS (PFCS or PFAS)

Issue:

PFCs are fully fluorinated long chain organic compounds and part of a family of anthropogenic chemicals used for decades to make products resistant to heat, oil stains, grease and water. Perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) are the most prevalent PFCs in the U.S. Regarded by the EPA as an “emerging contaminant,” the chemicals were phased out of production in the U.S in the early 2000s. Perfluorochemical concentrations in blood serum have fallen since 1999.

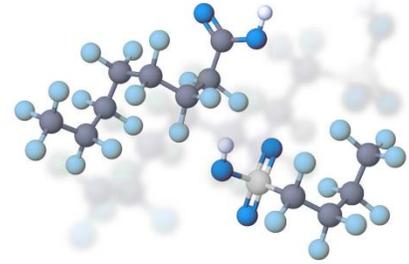


Figure 1. PFCS / PFAS molecules

Regulations for PFOS and PFOA:

Tolerable daily intake (TDI)

PFOS = 0.02 µg/kg body weight

PFOA = 0.16 µg/kg body weight

EPA Health Advisory Levels for drinking water

January 2009

PFOS = 200 ng/L (ppt) and PFOA = 400 ng/L (ppt)

November 2016

Combined PFOS + PFOA ≤ 70 ng/L (ppt)

PFCs from Biosolids:

- PFC exposure from land application of biosolids is minimal.
- Other than biosolids contaminated from industrial sources, all PFCs in biosolids result from human excretion.
- While Class B biosolids are not likely a concern, land application in areas with groundwater is jeopardized.
- **Currently there is a moratorium on land application in Pima County, AZ.**
- **A ban could happen anywhere in the US.**

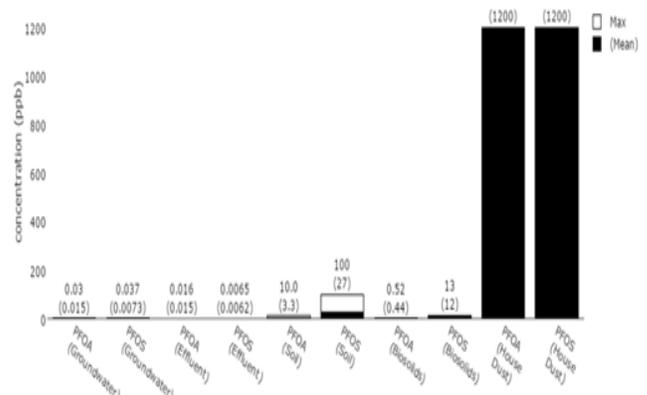


Figure 2. Kern County Case: PFOA and PFOS in effluent, soil, and biosolids measured at Green Acres Farm, 2015, compared with PFOA and PFOS concentrations in household dust (far right).

WEST CENTER EXPERTISE / 2020 STUDY

The University of Arizona has technical expertise and instruments to conduct in-depth PFAS research.

UA WEST is currently conducting a study to document that Class B biosolids are not a significant source of PFAS.

Features of the 2020 study:

- Surface and subsurface soil samples collected from land applied with Class B biosolids since 1985.
- Groundwater samples collected from wells close to land application sites.
- Current Class B biosolids samples collected from Tres Rios WWTP in Pima County, AZ.
- All samples analyzed for PFAS.

