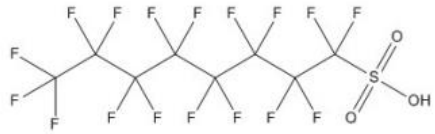
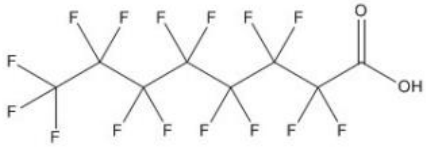
Learning about perfluorinated compounds (PFCs/PFAS)

What are PFCs?

Perfluorinated compounds (PFCs) are a family of human-made substances that do not occur naturally in the environment. They have been used for decades as an ingredient to make products that resist heat, oil, stains, grease and water. They also are used in various products including firefighting foams, coating additives, and surface protection products for carpets and clothing. These compounds can also be found in certain types of food packaging, dental floss and cosmetic products. The main way people come into contact with Perfluorinated compounds is through food and personal care products. In fact, human contact with perfluorinated compounds is widespread; nearly all people have measureable levels in their blood.



Perfluorooctane sulfonic acid (PFOS)



Perfluorooctanoic acid (PFOA)

What are the sources of exposure?

- Air, indoor dust, food, drinking water and various consumer products.
- Studies have also indicated that crops grown on contaminated soils can accumulate perfluorinated compounds, suggesting that this may also be a source of human exposure.
- The greatest source of exposure to PFOA and PFOS for children is hand-to-mouth activities from treated carpets.

In 2006, the EPA and eight major manufacturers announced a voluntary phase-out for one compound (PFOA), with a 95 percent use reduction by 2010 and elimination of all uses by 2015. In 2012, companies that manufacture perfluorinated compounds voluntarily began phasing them out of production.

Why are we talking about perfluorinated compounds?

When perfluorinated compounds are released into the environment, they can enter rivers and underground aquifers that may be used as drinking water sources. In 2013 and 2014, the U.S. Environmental Protection Agency required large public water systems across the country to collect samples as part of the Unregulated Contaminant Monitoring Rule (UMCR). This is a routine program that gathers data to determine locations and amounts of unregulated substances in drinking water sources. EPA monitors many substances to find out if they should be regulated under the Safe Drinking Water Act. Through this national monitoring program, perfluorinated compounds (PFCs) were found in 94 U.S. water supply sources. On May 19, 2016 the EPA issued a new health advisory for perfluorinated compounds.

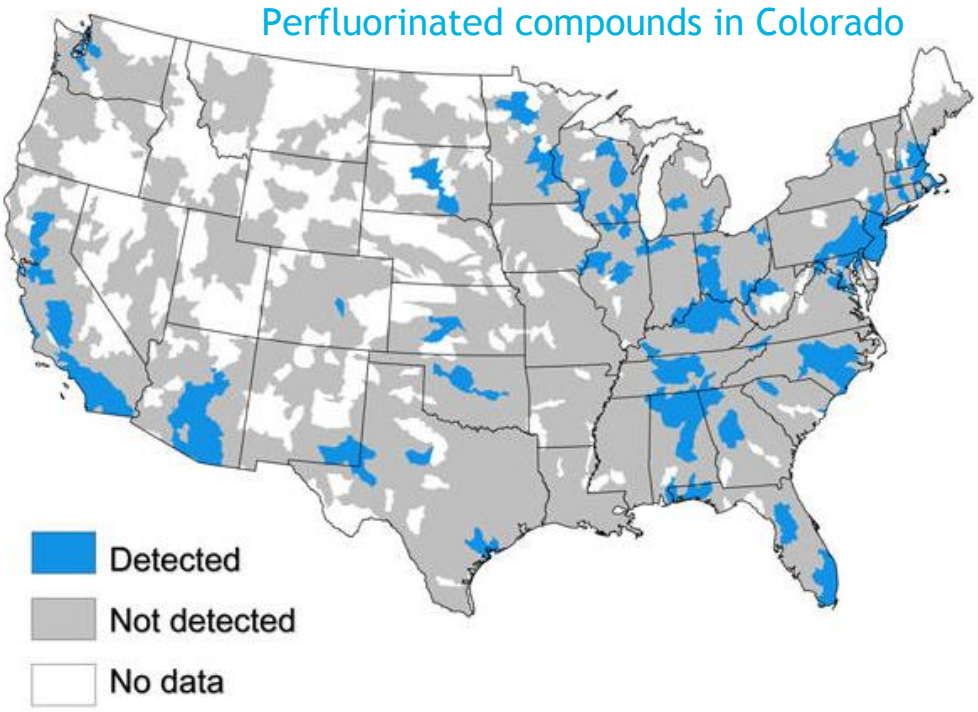
Were PFCs found in other places in Colorado?

Through the national monitoring program, perfluorinated compounds were found only in the Security, Widefield and Fountain areas of El Paso County, Colorado. However, these compounds may be present in other water supplies.

Unregulated substances

The EPA has not established drinking water regulations for PFOA and PFOS. EPA is evaluating PFOA and PFOS as drinking water contaminants in accordance with the process required by the Safe Drinking Water Act.

Perfluorinated compounds in Colorado



To regulate a contaminant under the Safe Drinking Water Act, EPA must determine that the substance(s): (1) may have adverse health effects; (2) occurs frequently (or there is a substantial likelihood that it occurs frequently) at levels of public health concern; and (3) there is a meaningful opportunity for health risk reduction for people served by public water systems.

Contacts

- Sugar Loaf Fire Protection District
  - www.slfpd.org/water
  - pio@slfpd.org
- **Environmental Protection Agency (EPA)** 303-312-6077 Lisa McClain-Vanderpool
- **Colorado Department of Public Health and Environment** 303-692-2606 cdphe_toxcall@state.co.us

Web resources

- **Colorado Department of Public Health and Environment:** www.colorado.gov/cdphe/pfcs
- **Environmental Protection Agency (EPA):** www.epa.gov/chemical-research/perfluorinated-chemical-pfc-research
  www.epa.gov/wqs-tech
- **Agency for Toxic Substances & Disease Registry:** www.atsdr.cdc.gov/pfas/index.html
- **Center for Disease Control:** www.atsdr.cdc.gov/pfc/index.html
  www.cdc.gov/biomonitoring/PFCs_FactSheet.html