

# What are PFAS?

- <https://www.epa.gov/pfas/basic-information-pfas>
- perfluoroalkyl and polyfluoroalkyl substances (collectively called PFAS and pronounced as “pee-fas”) are a family of man-made chemical compounds not found in nature.
- PFAS is a large group of manufactured compounds that have been widely used to make consumer products that are resistant to stains, grease and water, such as treated home textiles, food-contact paper, water repelling clothing, and non-stick cookware (EPA, 2016). Due to the heat resistance properties of these compounds, they have also been used in the manufacture of Aqueous Film Forming Foam (AFFF). PFAS- based AFFF is used to extinguish flammable liquid fires, such as fires involving gas tankers and oil refineries (EPA 2013a; DoD SERDP 2012) and thus had been extensively used at the former Willow Grove Naval Air Station Joint Reserve Base (“NASJRB” or the “Base”) and the existing Horsham Air Guard Station (HAGS), both located in Horsham Township.
- Over 4,700 PFAS compounds occur in the world today and are used in many everyday products to make them more impervious to stains, grease and water.
- PFAS have been widely used to make consumer products which are resistant to stains, grease, and water such as treated home textiles, food-contact paper, water repelling clothing, and non-stick cookware (EPA, 2016). Due to the heat resistance properties of these compounds, they have also been used in the manufacture of Aqueous Film Forming Foam (AFFF).
- PFAS are emerging contaminants, not designated as hazardous substances.
- Enforceable drinking water standards do not currently exist for PFAS
- We think of this as a local issue, but PFCs are an international problem. EPA has been studying PFCs since 1999, but Europe has studied them much longer.
- U.S. Department of Defense has identified 644 potential sites, and to date, PFCs have been found in 63 public water supplies.
- 98% of people tested have some level of PFCs in their blood. Tests on polar bears have shown levels of PFCs.

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- The contaminants to be monitored under the third cycle of the Unregulated Contaminant Monitoring Rule (UCMR3) included six chemicals which are part of a larger group of manufactured compounds known as perfluorinated compounds (PFCs). PFAS are emerging contaminants, not designated as hazardous substances.
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# Sources of PFCs

- PFCs in Horsham's water are believed to come from fire-fighting foam used in flight operations at the NASJRB.
- Experts estimate that only 5% of PFCs produced were used in fire-fighting foam. Other sources include:
  - Microwave popcorn (Orville Redenbacher recently stopped using PFCs)
  - Fast food wrappers
  - Scotchgard (until 2002)
  - Non-stick cooking surfaces (Teflon)
  - Dental floss
  - Water-repellent clothing
- The majority of PFCs were phased out of production by the end of 2015.

# PFC Regulations

- Prior to May of 2016, the EPA had Provisional (short-term) Health Advisory Levels for PFOA and PFOS:
  - 400 parts per trillion (ppt) for PFOA
  - 200 parts per trillion (ppt) for PFOS
- In an effort to be proactive, HWSA and Horsham Council adopted a 100 ppt limit for PFOA on April 8, 2016. This level was based on information from EPA Region 2 when large amounts of PFCs were found in the water supply of Hoosick Falls, NY.
- In May 2016, EPA issued a Lifetime Health Advisory Limit (LHAL) of 70 parts per trillion for the combined concentration of PFOA and PFOS.

# Other Regulatory Levels

- Other countries have been regulating PFCs for a number of years. For example:
  - Sweden - 90 ppt (all PFCs)
  - Denmark - 100 ppt (all PFCs)
  - Germany – 300 ppt (PFOS and PFOA)
  - United Kingdom - 300 ppt (PFOS and PFOA)
  - The Netherlands - 530 ppt (PFOS only)
  - Canada – 600 ppt (PFOS) 200 ppt (PFOA)
- Some states have established or are in the process of establishing regulations
  - Vermont - 20 ppt of PFOA
  - New Jersey – 14 ppt for PFOA, 13 ppt for PFNA, 13 ppt for PFOS
  - Minnesota - 300 ppt for combined PFOA and PFOS