Per- and Polyfluoroalkyl Substances (PFAS)

An Emerging Contaminant in Drinking Water
Overview

• What are PFAS?
• PFAS uses
• Brief history of PFAS sampling in drinking water
• What is State of Connecticut (CT) doing?
• What is CT Department of Public Health (DPH) Drinking Water Section doing?
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What are PFAS?

PFAS = per- and polyfluoroalkyl substances
- Manufactured compounds, not found naturally
- There are thousands of different PFAS

- Environmentally persistent and stable
  - Does not degrade readily in the environment or in the human body

- Phase out of larger chain PFAS, such as PFOA and PFOS, began in 2000s
  - PFOA = Perfluorooctanoic Acid (C₈HF₁₅O₂)
  - PFOS = Perfluorooctane Sulfonate (C₈HF₁₇O₃S)
PFAS Uses – Not all inclusive

- Oil, water, and dirt repellant coatings
- Non-stick cooking surface coatings
- Coated paper for food packaging
- Personal care products, cosmetics
- Paints and adhesives
- Fluoro-elastomers (gaskets, O-rings, hoses)
- Mist suppressant in metal plating baths, esp. chromium
- Aqueous Film Forming Foam (AFFF)
PFAS Drinking Water History

2010-2015

• EPA – Third Unregulated Contaminant Monitoring Rule (UCMR 3)
  • Required all public water systems (PWS) that serve over 10,000 consumers to test for six PFAS, including PFOA and PFOS between 2013 and 2015
  • None of the large PWS in Connecticut that tested for PFAS had detections above the reporting limit.
  • These PWS serve over 2,400,000 daily consumers
Connecticut Towns Served by Public Water Systems that have Tested for PFAS

2,435,776
Number of daily consumers served by systems that tested for and did not detect PFAS above the reporting limit
What is State of CT doing?

- Created an interagency team with Department of Energy and Environmental Protection (DEEP)
- Drafted a strategy to minimize human exposure to PFAS through drinking water
- Trained an interagency team in collecting drinking water samples for analysis for PFAS
- Developed public outreach communication materials and websites
- Collaborating with agency counterparts in the Northeast and Nationally
What is the CT DPH Drinking Water Section doing?

- Currently using an analysis tool developed by EPA Region 1 to identify PWS that serve less than 10,000 consumers that may be vulnerable to sources of PFAS in the environment
  - Pilot-testing analysis results by conducting water sampling in conjunction with the State Public Health Laboratory staff in two areas of the state
- The DWS will directly contact public water systems that have been identified as being in vulnerable areas
  - Recommending that PWSs with vulnerable sources monitor for the six PFAS that were required under UCMR3
  - Utilizing experience gained during pilot test to ensure effective technical assistance is provided to vulnerable PWSs
- Providing input to the Connecticut State Water Plan on addressing the challenge of emerging contaminants in drinking water.
Learn More about PFAS

• DPH Drinking Water Section – Per and Polyfluoroalkyl Substances
• DPH Fact Sheet: Perfluoroalkyl Substances (PFAS) in Drinking Water Health Concerns
• DPH Private Well Drinking Water Action Level determination
• CT Department of Energy and Environmental Protection: Emerging contaminants & PFAS
• EPA Information:
  - Background on PFAS
  - Fact sheet
  - Health Advisory for PFOA and PFOS
Contact Information

• Questions about drinking water from Public Supplies and treatment options: DPH Drinking Water Section: 860-509-7333

• Questions on drinking water from Private Wells and treatment options: DPH Private Well Program: 860-509-7296

• Questions about PFAS Health Effects: DPH Environmental & Occupational Health Assessment Program: 860-509-7740

• Questions on PFAS Sources: DEEP Remediation Division: 860-424-3705