**Per- and Polyfluoroalkyl Substances (PFAS): How ATSDR develops and applies the science**

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History and Mandate

1980: CERCLA (Superfund Act) allowed federal authorities to address dangers of abandoned or uncontrolled hazardous waste dumps

1985: CERCLA led to the creation of ATSDR

ATSDR’s top priority: Protect people from harmful exposures

- Identifies human health effects of hazardous substances
- Works directly with communities
- Responds to environmental health emergencies
- Conducts exposure assessments, public health assessments and studies
- Provides guidance to health departments and practitioners
Core Strategies:

- Monitoring and investigating hazardous exposures
- Partnering with communities
- Providing clinical education and outreach
- Using geographic and geospatial expertise
- Developing science-based tools and resources
Current ATSDR PFAS Activities

28 active projects: 9 research studies and site-based activities nationwide

LONG-TERM OBJECTIVES

1. Understand the where, how, and to what degree exposure is occurring in affected communities
2. Examine the relationship between PFAS exposure and health effects
3. Identify and implement strategies to prevent and/or reduce exposure
ATSDR PFAS Exposure Assessments and Studies

- Assess PFAS exposure in communities near current or former military installations
- Compare PFAS levels in blood and urine from each community to levels in the general population
- Identify and assess environmental factors that affect exposure
- Expands science on the relationship between PFAS exposure and health outcomes
- Helps people better understand their risk for health effects

Multi-Site Health Study

- Expands science on the relationship between PFAS exposure and health outcomes
- Evaluates study procedures and methods to improve the design of multi-site health study
Toxicological Profile for Perfluoroalkyls

- By Congressional mandate, the Agency for Toxic Substances and Disease Registry (ATSDR) produces toxicological profiles for chemical substances found at National Priorities List (NPL) sites.

- Each peer-reviewed Tox Profile reflects a comprehensive and extensive evaluation, summary, and interpretation of available toxicological and epidemiological information on a substance.

Minimal Risk Levels (MRLs)

- When sufficient data exist, ATSDR will derive MRLs
  - MRLs for PFOA, PFOS, PFNA, and PFHxS are published in ATSDR’s Toxicological Profile.
- An MRL is an estimate of the amount of a chemical a person can eat, drink, or breathe each day without a detectable risk to health.
- MRLs are developed for health effects other than cancer.
- MRLs can be converted into drinking water concentrations for adults and children called Environmental Media Evaluation Guides (EMEGs).
- **MRLs and EMEGs are NOT intended to define clean-up or action levels.**
- These values are screening tools used to help public health professionals decide where to look more closely.
  - ATSDR sets each MRL well below a value that is likely to cause a health effect.
  - If an exposure is above an MRL, ATSDR conducts further evaluation to determine if the exposure might harm human health.

Additional ATSDR PFAS Activities

- Collaboration with EPA on non-drinking water sources of exposure
- Impact of PFAS exposure on viral susceptibility and illness
- PFAS clinical guidance and NASEM engagement
- Conduct analysis using previously collected data to look for associations between PFAS exposure and cancer
NCEH/ATSDR PFAS Research Framework

In 2019, NCEH/ATSDR developed a comprehensive research framework to capture the broad range of PFAS-related research activities conducted or supported internally and by other federal agencies.
For more information, contact NCEH/ATSDR
1-800-CDC-INFO (232-4636)
Follow us on Twitter @CDCEnvironment

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry.

https://www.atsdr.cdc.gov/pfas