



NCDHHS Presentation to Secretaries' Science Advisory Board

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August 2, 2021

Public Health Role

- **Determine whether compounds detected through environmental sampling could pose a risk to human health**
- **Provide health-based guidance on levels of exposure to such contaminants**
- **Conduct risk assessments and risk communication**

NCDHHS Can Provide:

- **Provisional Drinking Water Health Goals**
- **Fish Consumption Advisories**
- **Biomonitoring**
- **Health Education**

Provisional Drinking Water Health Goals

- **Level of contamination below which no adverse health effects would be expected over a lifetime of exposure**
- **Calculated based on the most vulnerable population**
- **Non-regulatory, non-enforceable**
- **Change as new information becomes available**

Health Goal Requirements

- **Must have sufficient health-related information**
  - **Animal studies**
  - **Epidemiologic studies (human health)**
  - **Other laboratory studies**
- **Some health-related information not in public domain**
- **Health-related information often lacking for emerging compounds**

Example – GenX

- **NCDHHS Provisional Drinking Water Health Goal of 140 ppt**
- **NCDHHS requested SSAB review**
- **SSAB confirmed RfD and provisional drinking water health goal in 2018**
- **Provided health risk information to:**
  - **Public water utilities in Southeastern NC (serve 200,000+ residents)**
  - **Private well owners near Chemours facility (protected 232 households over health goal)**

Fish Consumption Advisories

- **Must have sufficient toxicity data for chemicals (i.e. RfD or CSF)**
- **Must have sufficient fish tissue data**
  - **Collected/analyzed by external partner**
- **Advisories set based on subsistence fishers**
- **Coordinate with local health departments to communicate to community**
  - **Develop health education materials, signage, etc.**

Biomonitoring

- **Completed on limited basis in the past**
- **Requires additional staff and resources not currently available at DHHS**

Biomonitoring (cont.)

- **PFAS biomonitoring can:**
  - **Tell us what chemicals people have been exposed to and at what level they are in people's bodies**
  - **Tell us how levels compare across communities**
  - **Be used to track trends over time**
- **PFAS biomonitoring cannot:**
  - **Tell someone where or how they were exposed**
  - **Tell someone what, if any, health problems might occur, or have occurred, because of PFAS exposure**
  - **Be used to guide medical treatment decisions**

Health Education

- **Continue to provide and update education as new information becomes available**

GenX Information

What is GenX?

GenX is the trade name for a chemical that is a member of a large group of man-made chemicals known as per- and polyfluoroalkyl substances (PFAS). PFAS have been used in commercial products such as food packaging, nonstick coatings, and firefighting foam. GenX is manufactured as a replacement for another PFAS and can also be produced as a byproduct of certain manufacturing processes.

How can I be exposed to GenX?

Based on current information, most exposure to GenX occurs through drinking contaminated water. Groundwater (including well water) and surface water (including water from rivers, lakes and streams) may contain elevated levels of GenX and other PFAS.

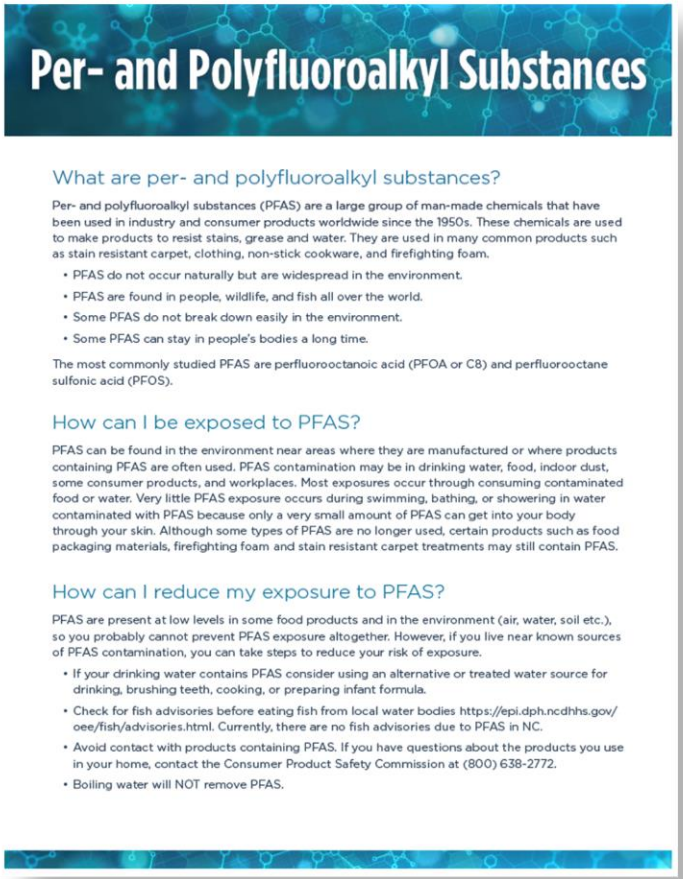
There is limited information about exposure to GenX from sources other than drinking water. People can be exposed to other types of PFAS in multiple ways, including through food, indoor dust, consumer products, and workplaces such as manufacturing facilities where PFAS are used.

How can GenX affect my health?

The health effects of contact with any hazardous substance depend on how much, for how long and the way in which you are exposed. The effects also depend on personal factors such as family history, overall health, and lifestyle.

There is limited information about the health effects of GenX. Laboratory studies of animals show effects on the liver at GenX exposure levels lower than levels where other effects are seen, indicating that the liver may be sensitive to GenX. Other negative effects seen in animal studies at higher levels include effects on the kidney and immune system, and developmental effects as well as liver, pancreatic, and testicular cancer. Animal toxicity studies are a helpful starting point for understanding the potential health effects of GenX, but the relevance to human health cannot be fully understood without more human research studies.

Scientists are actively studying the health effects of GenX and other compounds to learn more. NCDHHS continues to work with various federal and state partners to review all new health and toxicity information about these compounds and shares new information with communities, as it becomes available.



Per- and Polyfluoroalkyl Substances

What are per- and polyfluoroalkyl substances?

Per- and polyfluoroalkyl substances (PFAS) are a large group of man-made chemicals that have been used in industry and consumer products worldwide since the 1950s. These chemicals are used to make products to resist stains, grease and water. They are used in many common products such as stain resistant carpet, clothing, non-stick cookware, and firefighting foam.

- PFAS do not occur naturally but are widespread in the environment.
- PFAS are found in people, wildlife, and fish all over the world.
- Some PFAS do not break down easily in the environment.
- Some PFAS can stay in people's bodies a long time.

The most commonly studied PFAS are perfluorooctanoic acid (PFOA or C8) and perfluorooctane sulfonic acid (PFOS).

How can I be exposed to PFAS?

PFAS can be found in the environment near areas where they are manufactured or where products containing PFAS are often used. PFAS contamination may be in drinking water, food, indoor dust, some consumer products, and workplaces. Most exposures occur through consuming contaminated food or water. Very little PFAS exposure occurs during swimming, bathing, or showering in water contaminated with PFAS because only a very small amount of PFAS can get into your body through your skin. Although some types of PFAS are no longer used, certain products such as food packaging materials, firefighting foam and stain resistant carpet treatments may still contain PFAS.

How can I reduce my exposure to PFAS?

PFAS are present at low levels in some food products and in the environment (air, water, soil etc.), so you probably cannot prevent PFAS exposure altogether. However, if you live near known sources of PFAS contamination, you can take steps to reduce your risk of exposure.

- If your drinking water contains PFAS consider using an alternative or treated water source for drinking, brushing teeth, cooking, or preparing infant formula.
- Check for fish advisories before eating fish from local water bodies https://epi.dph.ncdhhs.gov/oee/fish/advisories.html. Currently, there are no fish advisories due to PFAS in NC.
- Avoid contact with products containing PFAS. If you have questions about the products you use in your home, contact the Consumer Product Safety Commission at (800) 638-2772.
- Boiling water will NOT remove PFAS.

Questions?

NC DEPARTMENT OF
HEALTH AND
HUMAN SERVICES
Division of Public Health

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