



August 31, 2017

Perfluoroalkyl Substances — Imikpuk Lake in Utqiagvik, Alaska

Introduction

Recently, chemicals called perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) were found in Imikpuk Lake near the Naval Arctic Research Laboratory (NARL) in Utqiagvik, Alaska. Ingestion of these chemicals — such as drinking and cooking with contaminated water — may cause health problems. Below you will find information you need to know about PFOS and PFOA.

Summary

- PFOS and PFOA are chemicals that may harm your health.
- Levels of PFOS and PFOA in Imikpuk Lake are higher than the health advisory (0.07 micrograms per liter).
- If you use water from Imikpuk Lake as a temporary water source, such as during subsistence hunting or fishing activities, you should use another water source for your drinking water.

About PFOS and PFOA

What are PFOS and PFOA?

PFOS and PFOA are perfluoroalkyl substances (PFAS) — human-made chemicals that have been used for both residential and industrial purposes. PFAS have been found in some products that resist fire, stains, grease, and water such as:

- Furniture
- Carpeting
- Clothing
- Firefighting foams
- Food Packaging

In Imikpuk Lake, the source(s) of PFAS may be certain firefighting foams that contained PFAS.

How could I come into contact with PFAS?

Because PFAS were used worldwide, stay in the environment for a long time, and travel long distances in water and air, there are small amounts in many water and some food sources. Most people have come into contact with low levels of PFAS. PFAS are also found in the blood or tissue of wildlife, like fish and marine mammals such as seals and sea lions.

Usually, people come into contact with PFAS by eating or drinking them in food and water. Additionally:

- Women who are exposed to PFAS pass it to their unborn babies during pregnancy — and to their infants through breastfeeding.
- Children may come into contact with small amounts of PFAS in the home by touching products (such as carpet) with PFAS and then putting their hands in their mouths.

How can PFAS affect my health?

Some, but not all, scientific literature suggests that certain PFAS may affect a variety of systems in the body. Additional research is needed to better understand possible human health effects from exposure to PFAS in water and food.

Scientists are not yet certain about the possible health effects resulting from human exposure to PFAS levels typically found in our food and water. Some, but not all studies in humans have suggested that certain PFAS may affect the developing fetus and child. Potential health effects from exposure to PFAS may include:

- Affect the development of unborn babies and breastfeeding infants — including possible changes in growth, learning, and behavior
- Decrease fertility and interfere with the body's natural hormones
- Increase cholesterol
- Affect the immune system
- Increase the risk of cancer

More research is needed to confirm or rule out possible links between health effects of potential concern and exposure to PFAS. At this time, we cannot tell if drinking water from Imikpuk Lake could be causing any current health problems — or if it will cause problems in the future.

How can I tell if I have come into contact with PFAS?

PFAS can be measured in the blood, however, there are some limitations on blood tests to consider. Individuals who feel they may have been exposed to high levels of PFOA or PFOS and would like to have their blood levels measured should keep in mind that this is not a routine test that health care providers offer. The test results will not provide clear answers for existing or possible health effects. Individuals who feel the need to be tested should consult with their health care provider, local and state health department or other health professionals on how to

move forward. The body's natural elimination processes are the only way to remove PFAS from the body.

What is the health advisory for PFOS and PFOA?

The U.S. Environmental Protection Agency (EPA) has set a lifetime health advisory level for PFOS and PFOA — individually or combined— of no more than 0.07 micrograms per liter of water ($\mu\text{g/L}$ or ppb-parts per billion). This amount is the same as 70 nanograms of PFOS or PFOA (or the 2 combined) per liter of water (ng/L or ppt-parts per trillion). The health advisory is designed to protect people from contact with PFOS and PFOA in drinking water — particularly unborn babies and infants (the populations most likely to be affected by exposure to PFOS and PFOA).

Safety Information for Imikpuk Lake Water Use

Can I drink water from the lake?

Because levels of PFOS or PFOA (or the 2 combined) are above the health advisory level (0.07 micrograms per liter) in Imikpuk Lake, do **not** drink the water from the lake.

Is it safe to cook with water from the lake?

Because levels of PFOS or PFOA (or the 2 combined) are above the health advisory, do **not** use water from the lake to cook — even if you heat or boil it first. Boiling water does not remove PFOS and PFOA.

Can I breastfeed my child if I have been drinking water from the lake?

Breastfeeding is linked with numerous health benefits for both infants and mothers. At this time, it is recommended that nursing mothers continue to breastfeed. The science on the health effects of PFAS for mothers and babies is evolving. However, given the scientific understanding at this time, the benefits of breastfeeding outweigh any known risk. To better weigh the risks and benefits of breastfeeding, please talk to your doctor.

Is the fish from Imikpuk Lake safe to eat?

Though it appears that people do not fish in Imikpuk Lake, people may still have questions about potential contamination of fish. The Section of Epidemiology (SOE) does not currently know the extent of PFAS contamination in fish in the lake. If additional information becomes available, SOE will work with Navy officials and other agencies to develop and disseminate guidance and recommendations for fish consumption. If you do fish from the lake and have questions, please contact SOE at 907-269-8000.

Is there a safe alternative source of drinking water?

Barrow Utilities and Electric Cooperative, Inc. (BUECI) sampled water from Isatkoak Reservoir and the post-treatment water in August, 2017. PFAS were not detected in post-treatment water samples. As such, water provided by BUECI is currently not a source of PFAS exposure.

Next Steps

What is being done to address the PFAS contamination of Imikpuk Lake?

The Navy is currently developing a plan of action. The Navy will conduct a survey of the community's current use of Imikpuk Lake and will install warning signs near the lake recommending the community not consume the lake water. The Navy will also complete an investigation to determine and assess the extent of contamination, evaluate the potential for risk, and develop appropriate response actions following federal and state environmental regulations and guidance. The Navy will provide additional information to the community as it becomes available. In the meantime, we recommend you use an alternate source of drinking water for subsistence hunting and fishing activities.

What is the Alaska Section of Epidemiology doing to address concerns about PFAS in drinking water?

The Section of Epidemiology is taking steps to protect Utqiagvik residents, including:

- Working with the Navy, the Alaska Department of Environmental Conservation (ADEC), and the Agency for Toxic Substances and Disease Registry (ATSDR) to understand how PFAS from Imikpuk Lake may affect people living in the community, and
- Finding more information about PFAS and updating our recommendations as data become available.

Where can I get more information?

- To learn more about potential health effects of PFAS, contact the Alaska Section of Epidemiology at **907-269-8000**.
- If you have specific questions for the Navy, please call **(360) 396-1030** or send an email to PAO_feedback@navy.mil
- If you have health concerns about PFAS, please talk with your health care provider.

You can also find additional information in the following resources:

- ATSDR's PFAS web page:
<https://www.atsdr.cdc.gov/pfc/index.html>
- PFOS and PFOA Drinking Water Health Advisories (EPA)
https://www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories_pfoa_pfos_updated_5.31.16.pdf
- Alaska Environmental Public Health Program
<http://dhss.alaska.gov/dph/Epi/eph/Pages/default.aspx>
- Naval Facilities Engineering Command (NAVFAC) Northwest
<https://navfac.navy.mil/PFASBARROW>