

**Mission:**

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



**Rick Scott**  
Governor

**Celeste Philip, MD, MPH**  
Surgeon General and Secretary

**Vision:** To be the **Healthiest State** in the Nation

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## -FREQUENTLY ASKED QUESTIONS-

### Household Water Sources

[Drinking Water](#)

[Reuse Water](#)

[Irrigation Water](#)

[Monitoring Well Water](#)

#### What is drinking water?

Drinking (or potable) water is water safe to drink or use for food preparation. Potable water is available either from a municipal utility company or from a private well on your property.

- If you pay a bill for water, you are served by a public utility that must meet the testing schedule and requirements under the U.S. Safe Drinking Water Act (<https://www.epa.gov/sdwa>). The water well that serves the utility that provides your potable water is often several miles away from your home.
- For private wells, water testing and upkeep of the water well is the responsibility of the owner. The Department of Health does have a program that can help a private owner determine whether their potable water is at risk. (<http://www.floridahealth.gov/environmental-health/private-well-testing/index.html>).

#### What is reuse water?

Reuse (or reclaimed) water is not considered drinking water and should not be used for drinking or food preparation. Water reuse involves taking domestic wastewater, giving it a high degree of treatment, and using the resulting high-quality reclaimed water for a new, beneficial purpose (like irrigation). The water reuse program is regulated by the Florida Department of Environmental Protection (<https://floridadep.gov/water/domestic-wastewater/content/water-reuse-program>).

#### What is irrigation water?

Irrigation water is not considered drinking water and should not be used for drinking or food preparation. Irrigation wells are installed by a well contractor to be a certain distance from a septic system (if it exists) and are constructed to protect the water below. There are no water quality testing requirements. Most irrigation wells in this area are over 100 feet deep and thus are somewhat protected from surface pollution.

#### What is monitoring well water?

Water from monitoring wells is not considered potable water and should not be used for drinking or food preparation. Monitoring wells are used to sample for water quality.

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## Per- and polyfluoroalkyl substances (PFAS)

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## General Facts

### What are Per- and polyfluoroalkyl substances (PFAS)?

PFAS are man-made chemicals that do not occur naturally in the environment. They may be used in surface protection of non-stick cookware, stain resistant carpets and fabrics, waterproof mattress and clothes, and to make some food packaging resistant to grease absorption (such as microwave popcorn bags). PFAS are also used in some firefighting materials. Other industrial uses include photo imaging, metal plating, printers and copy machines.

The term PFAS encompass a wide universe of substances with very different physical and chemical properties.

### What are the most common Per- and polyfluoroalkyl substances (PFAS)?

The most common and well-studied PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS).

### Why are PFAS a concern?

PFAS are widespread and global. Once released, they are very persistent in the environment and the human body. They can be found in air, soil, and water (ground and surface water). PFAS also can be found in blood, urine, breast milk and umbilical cord blood of humans.

The elimination of PFAS from the environment is slow.

### What are the main sources of PFAS exposure?

Ingestion is the main source of exposure. You can be exposed to PFAS by:

- drinking contaminated water
- eating fish caught from waters contaminated with PFAS
- eating food packed in PFAS-containing material (e.g., popcorn bags)
- hand-to-mouth transfer from surfaces treated with PFAS, such as carpets. This is thought to be most significant for infants and toddlers.

### What are other sources of PFAS exposure?

Inhalation and dermal (skin) exposure are minor exposure pathways. PFAS tend to stay in water once they have dissolved. The uptake of PFAS through dermal contact is slow and not considered significant.

### How can PFAS potentially affect health?

Effects on health from exposure to low environmental levels of PFOS and PFOA are not well known. Studies in humans and animals are inconclusive but suggest that certain PFAS may cause health effects. Some studies have suggested an increased risk of certain cancers, such as prostate, kidney, or testicular cancer. However, non-cancer effects appear more common and include increased cholesterol levels, and impacts on human hormones and immune system, as well as fetal and infant developmental effects.

Correlations between exposure to PFAS and health effects have been inconsistent. More research is needed to understand health effects in humans.

## FAQ - Per- and polyfluoroalkyl substances (PFAS)

### Are health effects caused by PFAS in animals the same as in humans?

Humans and animals often react differently to chemicals, including PFAS and not all the effects observed in animal tests may occur in humans.

### How long do PFAS remain in the body?

The duration of PFAS remaining in the body depends on the physical and chemical properties of the individual PFAS compound. On average, PFAS can remain in the body between 2 and 9 years.

### Do PFAS cause cancer?

The U.S. Environmental Protection Agency (EPA) has determined there is some evidence that PFOA and PFOS can cause cancer. The International Agency for Research on Cancer (IARC) has classified PFOA as possibly cancer causing, although, there is currently no consistent scientific evidence that PFOS and PFOA cause cancer in humans.

Some increases in kidney, prostate and testicular cancers have been seen in individuals exposed to higher PFAS levels, mostly in occupational exposures. Most of these exposures were in people who worked in, or lived near, PFAS manufacturing facilities.

### How certain are the studies that showed health risks?

Correlations between exposure to PFAS and health effects have been inconsistent. More research is needed to fully understand any health effects in humans. Animals (mostly rats and mice) exposed to much higher levels than most people showed several health problems, such as liver damage, developmental and reproductive effects, and changes in hormone levels. Some human studies have found increases in prostate, kidney, and testicular cancers in workers exposed to PFAS and people living near facilities producing PFAS. However, other studies did not report a link between cancer and PFAS. These studies should be interpreted carefully, since the effects were not consistent across studies, there were contradictory findings among studies, and exposure levels were much higher than seen in the general population.

## PFAS Regulation and Advisories

### What is the current Health Advisory Level (HAL) for PFAS in drinking water?

The U.S. Environmental Protection Agency (EPA) has developed a lifetime drinking water HAL for PFOA+PFOS of 0.07 micrograms per liter ( $\mu\text{g/L}$ ) [ $0.07 \mu\text{g/L} = 70\text{ppt}$ ]. This is the equivalent of a shot glass (1.5 oz) in approximately 150 million gallons of water. Drinking water at or below this standard for a lifetime is not expected to cause any harm to your health.

### If the drinking water is above the HAL, what should I do?

If the drinking water contains PFOA+PFOS above the EPA health advisory level, alternative water sources for drinking, food preparation, cooking, brushing teeth and other activities may be preferable. Because the HAL is based upon long term exposure, a short-term increase above the HAL should not increase risk.

### If the drinking water is above the HAL, should my pets drink it?

Pets should be given drinking water. As with humans, if the drinking water contains PFOA+PFOS above the EPA HAL, alternative water sources for drinking, food preparation, brushing teeth and other activities may be preferable. Because the HAL is based upon long term exposure, a short-term increase above the HAL should not increase risk.

### Should I use irrigation water with PFAS for watering the lawn?

Irrigation of a lawn with non-edible plants and grass poses little risk. PFOA and PFOS are not absorbed effectively through the skin, nor is inhalation of vapors from water with PFOA and PFOS likely to cause

## FAQ - Per- and polyfluoroalkyl substances (PFAS)

health problems. Remember that irrigation water is not potable water. For this chemical, drinking is a main route of exposure.

### Is it safe to use reuse water for irrigation of my home produce?

Reuse water should never be used for home-grown produce due to the concern for human microbial pathogens. Reuse water should not be used for drinking.

### Is it ok to swim in my pool if it is contaminated with PFAS?

Skin contact and inhalation of PFAS is a minor concern due to the low dermal adsorption and inhalation potential. You should not drink swimming pool water. It is possible to drain and replace the pool with municipal utility water. However, if you take reasonable precautions to avoid drinking the pool water, the risk from swimming should be very low.

## Biomonitoring and Blood Testing

### Is there a test to determine whether a person has been exposed to PFAS?

PFAS can be measured in blood, serum, and urine. It is not a routine test used in doctor's offices to guide any diagnosis or treatment.

### When is blood testing of PFAS useful and what can the results tell me?

Blood tests for PFAS can be useful when they are part of a scientific investigation or a health study. One such study is the National Health and Nutrition Examination Survey (NHANES). Blood tests can also be helpful when researching health effects from PFAS among persons who have been exposed to very high concentrations of the chemical, such as workers in industries where PFAS was used. It is possible to compare the PFAS results from individuals who have their blood tested with national averages established through these types of studies.

### What can the results from blood testing for PFAS NOT tell me?

Most people in the US will have measurable amounts of PFAS in their blood. It is not clear how this impacts our health. Currently there is not an established PFAS screening blood level at which a health effect is known to occur nor is there a level that predicts future health problems.

The blood test will not:

- provide information to pinpoint whether PFAS caused a health problem nor will it provide information for treatment
- predict or rule-out the development of future health problems related to a PFAS exposure
- identify how or where the PFAS exposure occurred.

### What is currently known about PFAS blood levels in U.S. population?

It has been reported in the National Report on Human Exposure to Environmental Chemicals Report that serum levels of PFAS appear to be higher in the U.S. than in some other countries.

For the average American the normal level of PFOA and PFOS is 2.1 and 6.3 micrograms per liter of blood, respectively. These levels have been shown to be higher if a person's drinking water source is contaminated with PFAS or if a person is exposed at a workplace that produces the PFAS product.

More information can be found at

[https://www.atsdr.cdc.gov/pfc/docs/pfas\\_clinician\\_fact\\_sheet\\_508.pdf](https://www.atsdr.cdc.gov/pfc/docs/pfas_clinician_fact_sheet_508.pdf).