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PFAS

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# Nearly half of nation's tap water contains PFAS, a new study finds. Americans living in urban areas are most at risk.

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Nearly half of the tap water in the United States is estimated to have at least one type of per- and polyfluoroalkyl substance, or PFAS, a new national study from the U.S. Geological Survey released Tuesday shows.

The group of chemicals, commonly used in consumer products like non-stick cookware and linings of fast food boxes, have been linked to human illnesses like cancer, low birth weight, and thyroid disease. The agency claims it's the first comprehensive study of its kind on unregulated private wells – giving average consumers information about the risks of PFAS when they grab a glass of water from their kitchen sink, said Kelly Smalling, the study's lead author and research hydrologist.

"It kind of begins to give private users information on some of the exposure risks," Smalling said.

The government agency found through the research that concentrations of PFAS were similar between "public supplies and private wells," said Smalling. The study shows that Americans living in urban areas are most at risk while those living in rural areas are less at risk.

## What are PFAs, or 'forever chemicals'?

There are more than 12,000 types of PFAS, or per- and polyfluoroalkyl substances, according to the U.S. Geological Survey. The chemicals are dubbed "forever chemicals" because of their

persistence in the environment and potential for toxicity, which has been linked to types of cancer and other harmful effects.

"Their persistence in the environment and prevalence across the country make them a unique water-quality concern," the USGS's report reads.

PFAS are also often behind any product that boasts waterproof or stain-resistant properties. Such products include clothing, rainwear, furniture, outdoor equipment, tapes, and cosmetics. They are also frequently used in food packaging to minimize the leaking of grease.

**What are PFAS?** A guide to understanding chemicals behind nonstick pans, cancer fears

## **What else does the study show?**

The study shows PFAS were more frequently found in urban areas, especially in the "Great Plains, Great Lakes, Eastern Seaboard, and Central and Southern California." PFAS were also commonly found in private wells in regions that are already known as PFA sources, Smalling said.

Compared to a 75% likelihood of PFAS being detected in water in urban areas, there is a 25% chance the chemicals will be found in water in rural areas, scientists from USGS estimate.

Compared to interim health advisories released by the EPA last year, "PFOS and PFOA were exceeded in every sample in which they were detected," a news release about the study reads.

The most frequently detected compounds were PFBS, PFHxS, and PFOA, according to the news release.

## **How was the study conducted?**

Scientists from the government agency collected the tap water samples from the kitchen sinks of volunteers nationwide "at a representative sample of 716 locations," including in areas of protected lands, "residential and rural areas with no known PFAS sources," and "urban areas and locations with reported PFAS sources such as industry or waste sites."

Smalling said the group asked for volunteers who would test the water in the kitchen sinks for the agency and sent out kits to help them complete the job. Then, "the group tested the samples for 32 individual PFAS compounds."

## What can water consumers do with this information?

Smalling said Americans could use the information from the study to:

Evaluate their personal risk of exposure.

Look at potential treatment options for their own drinking water.

Have more extensive conversations with their local health official about the chemicals in their tap water.

**Found in many U.S. water systems** EPA finds no safe level for two toxic 'forever chemicals'

## Are there efforts to regulate PFAs?

Earlier this year, the U.S. Environmental Protection Agency announced an effort to restrict and regulate PFAS in food and drinking water to improve public health. The group proposed a federal law that would require companies to disclose whether they use the chemicals in any of their products.

The proposal includes the cap of two types of PFAS, PFOA, and PFOS, at four parts per trillion. The agency plans to release a finalized regulation by the end of the year.

PFAS are "one of the most pressing environmental and public health concerns in the modern world," said Michael Regan, administrator of the EPA, at a previous news conference.

The U.S. Government Accountability Office recently outlined the challenges of removing PFAS from the nation's water sources. Those include:

"PFAS chemical structures are diverse and difficult to analyze for health risks, and machine learning requires extensive training data that may not be available."

"Researchers lack analytical standards for many PFAS, limiting the development of effective detection methods."

"The effectiveness and availability of disposal and destruction options for PFAS are uncertain because of a lack of data, monitoring, and guidance."

Experts have raised concerns that regulating PFAS at a national level could cost the country billions.

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