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Science  
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## 6 million Americans have unsafe levels of toxic chemicals in their drinking water

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Researchers have analysed levels of industrial chemicals in over 36,000 water samples from all over the US, and have found that 6 million people are being exposed to unsafe levels in their drinking water.

For most people in the affected areas, the researchers say it's probably too soon to swear off tap water altogether, but they do advise that people in the worst-affected town, Hoosick Falls, NY, [switch to bottled water for the time being](#).

The chemicals in question are called PFASs, or [Polyfluoroalkyl and perfluoroalkyl substances](#), and they're a class of chemical used in the manufacture of things like paints, food packaging, leather, and fire-fighting foam, because they can repel both oil and water.

While pretty much all Americans are exposed to trace amounts of PFASs in their daily lives, higher amounts [have been linked](#) to a whole host of health problems, including kidney cancer, elevated cholesterol, obesity, and hormone disruption.

PFASs have been used over the past 60 years in industrial and commercial products, and studies have found that they can linger in the body [for years](#), and almost never break down in the environment.

"[C]oncerned residents should talk to their local department of health to ask for more information about PFASs in their drinking water," one of the researchers, Xindi Hu from the Department of Environmental Health at Harvard, [told Michelle Kuepper at ResearchGate](#).

"The drinking water in Hoosick Falls, NY, was found to have very high concentrations of PFASs, and residents were advised to stop drinking tap water until the public water supplies were able to reduce PFASs to acceptable levels."

So what the eff is going on here?

Hu and his team analysed more than 36,000 water samples collected by the US Environmental Protection Agency (EPA) between 2013 and 2015.

They found that 66 public water supplies that cover 6 million Americans had at least one water sample that measured at or above the EPA recommended safety limit of 70 parts per trillion for PFASs.

"Newark, Delaware, and Warminster, Pennsylvania, showed particularly high concentration levels," [Susan Scutti from CNN reports](#).

The study found that drinking water from 13 states [accounted for 75 percent of the detections](#), including, in order of frequency of detection: California, New Jersey, North Carolina, Alabama, Florida, Pennsylvania, Ohio, New York, Georgia, Minnesota, Arizona, Massachusetts, and Illinois.

It's not yet clear how the PFASs are making it into these states' water supplies in such high concentrations, but suggest that because manufacturers and industrial sites that have the potential to emit PFASs through air, runoff, or solid waste aren't regulated, there's little incentive to treat their waste before it's released.

"Most current wastewater treatment processes do not effectively remove PFASs," [Hu told Reuters](#).

So if you're in one of the affected areas, should you be concerned? Well, yes and no. The researchers are certainly not encouraging everyone to panic, but say we shouldn't be complacent either, because there simply hasn't been enough time to understand the long-term health effects of these toxins.

"I do think that Americans should be concerned about these chemicals," environmental health expert Susan M. Pinney from the University of Cincinnati, who was not involved in the research, [told CNN](#).

"We know this chemical gets stored in the blood serum, the liver, and some other organs."

Considering PFASs represented an "important" part of US chemical manufacturer DuPont's US\$34.7 billion in sales in 2014, [according to \*The New York Times\*](#), it's not going to be easy to get these things banned.

But, [as a recent study](#) on declining dog (and potentially human) fertility suggests, we've barely even begun to understand what environmental chemicals are doing to us.

Best case scenario once we've had enough time to figure it out? We've been concerned about nothing. Worst case scenario? This kind of pollution really is messing with our health.

The report has been published in [Environmental Science & Technology Letters](#).