

Over 267 Toxins Found in Public Tap Water

Analysis by [Dr. Joseph Mercola](#)

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STORY AT-A-GLANCE

- › The Environmental Working Group (EWG) analyzed tests from nearly 50,000 U.S. water utilities in 50 states and tested for 500 different contaminants; 267 were detected
- › Nearly 19,000 public water systems detected lead at levels above 3.8 parts per billion, which would put a formula-fed baby at risk
- › The immediate solution to protect your drinking water is to install a water filter on your tap, but on a broader scale the solution is to stop the source of the pollution, such as industrialized agriculture
- › EWG's Tap Water Database, which allows you to enter your ZIP code to reveal what's really in your tap water, is featured

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Many people drink water straight from their tap, assuming it to be safe. Unfortunately, just because it's clear and tastes normal does not mean it's pure. Far from it, research conducted by the Environmental Working Group (EWG) revealed hundreds of contaminants coming out of the average U.S. faucet, many at levels above what may cause health risks but below the threshold of legal action.

While the Safe Drinking Water Act was put into place in 1974 to presumably keep Americans' tap water safe, not one chemical has been added to the list of regulated chemicals in drinking water since 1996. Nneka Leiba, director of EWG's Healthy Living Science Program, told USA Today:

“The list of regulated chemicals has not kept up with our use of chemicals as a country ... Legal doesn’t necessarily mean safe when it comes to drinking water ... What we are concerned about is long-term exposure, eight glasses a day, over a lifetime.”¹

Hundreds of Chemicals Are Likely in Your Tap Water

EWG analyzed data from U.S. agencies and the U.S. Environmental Protection Agency (EPA) on drinking water tests conducted from 2010 to 2015. The tests came from nearly 50,000 water utilities in 50 states and tested for 500 different contaminants. In all, 267 were detected, including:²

- 93 linked to an increased risk of cancer
- 78 associated with brain and nervous system damage
- 63 connected to developmental harm to children or fetuses
- 38 that may cause fertility problems
- 45 linked to hormonal disruption

EWG’s analysis revealed many alarming trends, like the fact that nearly 19,000 **public water systems detected lead** at levels above 3.8 parts per billion, which would put a formula-fed baby at risk of elevated blood lead levels. Other chemicals of concern include chromium-6, an industrial chemical that’s not regulated under the Safe Drinking Water Act but is found in drinking water supplies in all 50 states at levels above those that may pose a cancer risk.

The industrial solvent 1,4-dioxane was also widely detected at levels above what the EPA says could pose a cancer risk, as were nitrates, stemming from industrial agriculture, also at levels above that which might pose a cancer risk. According to EWG:³

“The vast majority of the nation’s drinking water supplies get a passing grade from federal and state regulatory agencies. However, many of the 250-plus contaminants detected through water sampling and testing are at levels that are

perfectly legal under the Safe Drinking Water Act or state regulations, but well above levels authoritative scientific studies have found to pose health risks.

What's more, the Environmental Protection Agency has not added a new contaminant to the list of regulated drinking water pollutants in more than 20 years. This inexcusable failure of the federal government's responsibility to protect public health means there are no legal limits for the more than 160 unregulated contaminants the tests detected in the nation's tap water."

Industrial Farming Fuels Algae Growth That in Turn Taints Drinking Water

There are a number of ways industrial agriculture proves disastrous to drinking water. Among the environmental assaults already being seen include increased **nitrate contamination in drinking water**, which is the result of fertilizer pollution. Park Rapids, Minnesota, spent \$3 million to dig deeper wells due to nitrate contamination.

It's estimated that 10% of private drinking wells in the area may have nitrate levels that pose dangers to pregnant women and infants.⁴ In Iowa, meanwhile, Des Moines' water utility spent \$900,000 on nitrate filtering in 2013 and \$1.5 million in 2015,⁵ and even sued three neighboring counties (Sac, Buena Vista and Calhoun counties) over the **fertilizer runoff** tainting these rivers.

The U.S. Department of Agriculture (USDA) estimates that removing nitrate from U.S. drinking water costs nearly \$5 billion a year,⁶ which the industrial agriculture industry has been largely shielded from. Phosphorus and nitrogen run-off from **industrial farming** not only taint drinking water directly but also contribute to the algae growth that depletes oxygen in the marine environment, leading to disastrous dead zones.

In drinking water, increased algae levels require the increased use of disinfectants by water utilities, which in turn increase the formation of toxic disinfection byproducts like trihalomethanes (THMs). THMs are Cancer Group B carcinogens, meaning they've been shown to cause cancer in laboratory animals.

Changes in Farming Strategies Necessary to Reduce Agriculture-Driven Water Pollution

The immediate solution to protect your drinking water is to install a water filter on your tap, but on a broader scale the solution is to stop the source of the pollution. Even small changes, like the use of cover crops, can help to prevent soil erosion while absorbing excess fertilizer.

Iowa has a voluntary program in place – the Iowa Nutrient Reduction Strategy – to help control fertilizer runoff, but it's still in its beginning stages even though it started four years ago. Many have questioned whether voluntary programs go far enough.

Iowa has long faced problems with elevated levels of nitrates in drinking water and has been identified as a top contributor to pollution (nitrates and phosphorus) causing the [dead zone in the Gulf of Mexico](#). Fertilizer runoff has also been blamed for [toxic algae](#) taking over Florida coastlines. A report released by the Iowa Environmental Council (IEC) has attempted to summarize the related health risks of such nitrates in drinking water.⁷

Researchers reviewed over 100 studies on the health effects of nitrates in drinking water and found multiple studies linked them to birth defects, bladder cancer and thyroid cancer.

While many of the health problems were found with nitrate levels higher than the drinking water standard of 10 mg/L, some studies suggested nitrate levels lower than the drinking water standard may still pose health risks. About 15% of private wells in Iowa may have nitrate levels that exceed federal standards.⁸

From Cookware Chemicals to Pharmaceuticals – What Else Is in Your Drinking Water?

With every sip of water you take, you could be ingesting a mix of chemicals that boggles the mind, including even prescription and over-the-counter medications. Pharmaceutical

drugs make their way into waterways when they're flushed down the drain (or down the toilet after being excreted).

Most water treatment plants can't filter out medications properly. Researchers evaluating the water from Puget Sound in Washington state found 81 different drugs and chemicals which were not removed by wastewater treatment.⁹

Depending on the method used, anywhere from less than 20% to more than 90% of the drugs in the water fail to be removed during treatment.¹⁰ And that's just the beginning. According to a Harvard study, 16.5 million Americans have detectable levels of at least one kind of polyfluoroalkyl or perfluoroalkyl chemical (PFAS) in their drinking water.

PFAS are used to create nonstick, stain-resistant and water-repellant surfaces such as in nonstick cookware. About 6 million Americans are drinking water that contains PFAS at or above the EPA safety level.¹¹

More than 18 million Americans also receive **drinking water** from water treatment facilities that have violated federal drinking water rules for lead.¹² And, in 9 out of 10 cases, the EPA has taken no enforcement action against the violators. Disturbingly, many water treatment facilities are actually using incorrect testing methods to avoid detecting high levels of lead, which means the number of Americans drinking lead-contaminated water is likely even higher than that.

An estimated 16 million also have perchlorate — a chemical used in explosives and rocket fuel — in their drinking water.¹³ Further, the National Resources Defense Council (NRDC) put out a report that showed widespread atrazine contamination in drinking water, posing a "dangerous problem" that was not communicated to the people most at risk.¹⁴

Atrazine is the most commonly detected pesticide in U.S. waters, and it's known to cause reproductive harm to mammals, fish and birds, so I recommend filtering your tap water — both for drinking and bathing — with a filter certified to remove it.

Just how severe water contamination may be remains an open question, as the Safe Drinking Water Act regulates only 91 contaminants. Meanwhile, more than 80,000 chemicals are used in the U.S.¹⁵ There's really no telling how many of these chemicals, and in what amounts or to what consequences, end up in our drinking water.

EWG's Tap Water Database – What Contaminants Are in Your Water?

If you want to know what's lurking in your water, you can get the results of your local drinking water analysis from your water utility. It's your right to view the annual water quality report from your area, which should highlight contaminants of concern (although there could be others that are legally "safe" but still pose a long-term health risk). You can also use EWG's Tap Water Database, which allows you to enter your ZIP code to reveal what's really in your tap water.

You'll find out not only whether contaminants have been detected above health guidelines but also other detected contaminants, the primary pollution sources and what to do to filter the contaminants out. It takes only a moment, but the results are truly eye-opening. Please don't assume your tap water is pure. In all likelihood, it's far from it.

A blue rounded rectangular button with a thin orange border, containing the text "EWG's Tap Water Database" in white, bold, sans-serif font.

EWG's Tap Water Database

Filtering Your Water Is an Investment in Your Health

As long as your water tastes and looks pure, it's easy to go on assuming it is such. But finding out what's really in your water, and taking steps to remedy it, is one of the most important health moves you can make.

Take it from Laura Sarcone, director of customer service and marketing at the Des Moines Water Works. She witnessed the plant's nitrate-removal facility run for 177 days straight – when it was built to only run for a few days a year, signaling just how much nitrate pollution was in the area's water. She told Civil Eats:¹⁶

“I think nationally we, the industry, feel water is an undervalued resource ... People are willing to pay hundreds for cellphone minutes and unlimited data, or for their cable TV ... but rarely do they tend to put the same value on clean drinking water.”

Unfortunately, it's best to assume your water is less than pure and use a high-quality water filtration system (unless you can verify the purity of your water). If you have well water, it would be prudent to have your water tested for nitrates and other contaminants. If you have public water, you can get local drinking water quality reports from the EPA.

To be certain you're getting the purest water you can, filter the water both at the point of entry and at the point of use. This means filtering all the water that comes into the house, and then filtering again at the kitchen sink and shower.

Unfiltered water can also expose you to dangerous chlorine vapors and chloroform gas. The U.S. Food and Drug Administration (FDA) and other U.S. government agencies report that most homes in the U.S. have measurable levels of chloroform gas, courtesy of chlorinated tap water. Unless you have a [whole house water filter](#), chlorine will vaporize from every toilet bowl in your home and every time you wash your clothes, dishes or take a shower or bath.

Chloroform gas, chlorine vapors and the associated DBPs may increase your risk of asthma, airway inflammation and respiratory allergies. Chloroform gas alone can cause dizziness, nausea and general fatigue.

If you get your water from a municipal water supply and don't have a whole house filter, it really is important to open up windows on opposing sides of your home so you get cross ventilation. Keep the windows open for five to 10 minutes a day to remove these gases. Ideally, use a whole house filtration system.

One of the best I've found so far is the Pure & Clear Whole House Water Filtration System, which uses a three-stage filtration process – a micron sediment prefilter, a KDF water filter and a high-grade carbon water filter – to filter out chlorine, disinfection byproducts (DBPs) and other contaminants. EWG also has a handy [water filter guide](#) that lets you search by filter type, technology and/or contaminant to help you decide on the best type of filter for your home.¹⁷

Sources and References

- ¹ USA Today July 26, 2017
- ^{2, 3} EWG, State of American Drinking Water (Archived)
- ⁴ Star Tribune October 2, 2016 (Archived)
- ^{5, 16} Civil Eats July 26, 2017
- ⁶ Nitrogen: the double-edged sword by Christine Jones, PhD (PDF)
- ⁷ Iowa Environmental Council September 29, 2016
- ⁸ The Des Moines Register September 30, 2016
- ⁹ The Seattle Times, February 23, 2016
- ¹⁰ Livetradingnews.com May 22, 2016 (Archived)
- ¹¹ Environmental Science and Technology Letters August 9, 2016
- ¹² CNN August 9, 2016
- ¹³ Washington Post August 9, 2016
- ¹⁴ NRDC August 24, 2009
- ¹⁵ U.S. EPA, Science Matters Articles related to Safer Chemicals Research
- ¹⁷ EWG's Water Filter Guide