



# Get the Lead Out

*Back to School Toolkit*





# Get the Lead Out

## Back to School Toolkit

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Our children need safe drinking water—especially at school where they go to learn and play each day. Unfortunately, lead is contaminating drinking water at schools and pre-schools across the country.

The problem stems from pipes, plumbing, faucets and fixtures that contain lead. The common-sense solution is to “get the lead out” of schools’ water delivery systems.

This “Back to School” toolkit is designed to help parents, teachers and school officials get the facts on lead in drinking water and make the case for strong local action to ensure safe drinking water at school:

- Learn the facts about lead in schools’ drinking water with our **factsheet**.
- Raise awareness in your community by sharing a short **video** on social media, and submitting a **letter to the editor** to your local paper.
- Show support for taking action by circulating a **petition**.
- Find answers to more detailed questions with our Links to **additional resources**.

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# Factsheet on lead in schools' drinking water

## The problem

In the wake of the tragedy in Flint, Michigan, we now know the toxic threat of lead in drinking water extends to thousands of communities across the country. In fact, lead is even contaminating drinking water in schools and pre-schools—flowing from fountains and faucets where our kids drink water every day.

### Lead is highly toxic, especially for children

A potent neurotoxin, lead affects how our children learn, grow, and behave. According to EPA, "In children, low levels of [lead] exposure have been linked to damage to the central and peripheral nervous system, learning disabilities, shorter stature, impaired hearing, and impaired formation and function of blood cells."<sup>1</sup>

### There is no safe level of lead.

"EPA has set the maximum contaminant level goal for lead in drinking water at **zero** because lead is a toxic metal that can be harmful to human

health even at low exposure levels." In fact, medical researchers estimate that **more than 24 million children in America today risk losing IQ points** due to low levels of lead.<sup>2</sup> ADHD, anxiety and depression are also linked to exposure of even very low levels of lead.<sup>3</sup>

### Lead is contaminating drinking water at schools.

As more schools test their water for lead, they are finding widespread contamination. In Massachusetts, for example, [roughly half of 67,000 taps tested at schools had lead in their water](#) (as of September 2017). Schools' water is laced with lead in all kinds of communities—including rural towns, major cities, and affluent suburbs.

In all likelihood, the confirmed cases of lead in schools' water are just the tip of the iceberg. Any school built before 2014 is likely to have significant lead in its pipes, plumbing, and/or fixtures. *And where there is lead, there is risk of contamination.*



Lead in drinking water sources. Source: W.K. Kellogg Foundation, *Managing Lead In Drinking Water At Schools And Early Childhood Education Facilities* (February 2016), reproduced from Edwards, 2009.

- 1 U.S. Environmental Protection Agency, "[Basic Information about Lead in Drinking Water](#)," EPA.gov, updated December 2016.
- 2 American Academy of Pediatrics, [Prevention of Childhood Lead Toxicity](#), July 2016, page 4.
- 3 [The Role of Lead Exposure on Attention-Deficit/Hyperactivity Disorder in Children: A Systematic Review](#).

## Solutions

**Install filters now:** Installing filters certified to remove lead is an easy, low-cost step schools can take to begin protecting children immediately. Filters should be installed and maintained on all faucets and fountains used for cooking or drinking in schools.

**Get the lead out:** Replacing pipes, plumbing, fountains and/or fixtures that contain lead is the most effective, permanent solution to prevent contamination of the water our children drink at school (or elsewhere).

**Remove lead service lines:** If the pipe connecting your school (or home or child care center) to the water main in the street is made of lead, that *lead service line* is likely to be the largest single source of water contamination. Have it replaced as soon as possible.

**Doctor's orders — 1 part per billion (ppb):** The [American Academy of Pediatrics](#) recommends that schools keep lead concentrations in water no greater than 1 ppb. Taps used for drinking or cooking that test above 1 ppb of lead should be shut off until remediated.



Wikimedia user Sulfur (CC BY-SA 3.0)

*Water fountains, filters and bubblers that remove lead are reasonably priced and available today.*

**Ace the test:** Regularly test all outlets used for drinking or cooking, using proper sampling methods that are more likely to detect lead contamination.

**Communicate:** Plans and actual steps taken to prevent lead contamination, along with all test results, should be made easily accessible (including online) to parents, teachers, and the public. Outlets should clearly indicate when filters are due to be replaced.

## Understanding test results and limitations

While it is good news that more and more school districts are testing their water, it is highly likely that lead contamination extends beyond confirmed test results. Here is what you need to know about testing:

**Lead corrosion is highly variable.** As a result, tests sometimes fail to detect lead—or the full extent of lead—in water, especially when sampling is done improperly.

**Share *all* your work with the class.** Sometimes officials or the media only report lead levels in water that exceed 15 parts per billion (ppb). But there is no safe level of lead for children. Ask to

see all test results detecting any level of lead in the water.

**Cheating on the test?** Contamination tends to be higher the longer water sits in contact with lead-bearing pipes or fixtures. So samples taken after flushing of the system, or even regular water use, are unlikely to detect the full extent of lead contamination at school.

**Act now to protect children's health.** We already know that wherever there is lead in a water delivery system, there is a risk of contamination. *Schools should not wait for test results before taking action to protect our children's health.*

### Contact:

John Rumpler, Environment America Clean Water Program Director  
[jrumpler@environmentamerica.org](mailto:jrumpler@environmentamerica.org), (617) 747-4306

# Advocacy tools

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Parents and community members concerned about lead in school drinking water should contact the leadership at your school district. Two places to contact would be the school board and the principal's office. Questions to ask:

- Do you know what year the pipes and plumbing fixtures were installed. (If they were installed prior to 2014 they likely have some lead components)?
- Have you had the drinking water at the school tested for lead recently? If so, where can I access the results?
- Do you have filters certified to remove lead installed on the school drinking water fountains?
- Even low levels of lead can irreversibly harm children's health. What policies do you have in place to ensure that water at school is not contaminated by lead?

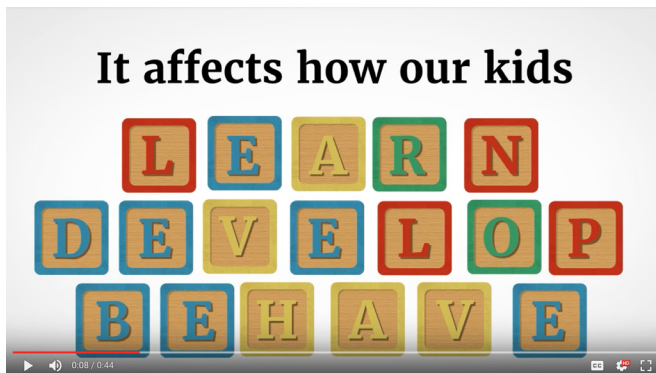
We also recommend that you share our fact sheet with the local Parent Teacher Association (PTA) and/or other active parent groups and ask them to help you advocate for lead-free drinking water at schools.

## Social media tools

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### Video

To help spread awareness, here is a [short video](https://bit.ly/2n4R4LM) about lead in schools' drinking water that you can share and like on Facebook and other social media: <https://bit.ly/2n4R4LM>



### Twitter

And if you are on **Twitter**, here are some sample tweets to help raise visibility online:



As @[yourtown] goes #backtoschool, we know kids run better unleaded. Help #GetTheLeadOut of water at our schools.



Contaminated water @[yourtown] schools? Time for @[LOCAL DECISIONMAKER] to #GettheLeadOut. [INSERT LINK TO YOUR LOCAL PETITION]



There's no safe level of lead. As our children head #backtoschool, get the facts on safe drinking water from @EnvAm @uspirg <https://environmentamerica.org/feature/ame/get-lead-out>



As our kids head #backtoschool, here's a quick homework assignment for parents: watch this video about lead in schools' drinking water. <https://bit.ly/2n4R4LM>

## Sample letters to the editor

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(TIPS: if possible, write your letter in response to a recent article. Adhere to word limits (if any), provide requested contact information, and call the paper make the case for your letter being printed.)

### #1. If your school/district has already tested for lead:

To the Editor:

Thank you for your recent piece on the “back to school” season (INSERT TITLE AND DATE OF RELEVANT NEWS STORY). Here’s one challenge that parents and children should never have to worry about when headed back to school: lead in drinking water.

Lead is a potent neurotoxin that impairs how children learn, grow, and behave. Yet from tests done last year, we now know that there is lead in our schools’ drinking water here in [COMMUNITY]. Moreover, because tests often fail to detect lead in water, the threat to our children’s health is likely more pervasive than the results show.

To protect our children’s health, here is a “back to school” homework assignment for [COMMUNITY]: let’s work together to get the lead out. We can start by immediately installing filters certified to remove lead on faucets and fountains in our schools. We’ll also need to replace the lead pipes, solder, and fixtures that cause the contamination in the first place. Meanwhile, let’s shut off taps where lead in water exceeds one part per billion, as recommended by the American Academy of Pediatrics. Our children deserve safe drinking water at school. Let’s get to work.

Sincerely,

[NAME]

[OTHER REQUIRED INFO]

### #2. If your school/district has not tested for lead:

To the Editor:

Thank you for your recent piece on the “back to school” season (INSERT TITLE AND DATE OF RELEVANT NEWS STORY). Here’s one challenge that parents and children should never have to worry about when headed back to school: lead in drinking water.

Lead is a potent neurotoxin that impairs how children learn, grow, and behave. In the wake of the tragedy in Flint, Michigan, more schools across the country are testing their water. And all too often, they are finding lead flowing from faucets and fountains where children drink.

Like most communities, [COMMUNITY’s] schools have plumbing and fixtures made with lead. So even without any testing, there is every reason to believe that lead is contaminating water at our schools as well.

So here is a “back to school” homework assignment for [COMMUNITY]: let’s work together to get the lead out. We can start by immediately installing filters certified to remove lead on faucets and fountains in our schools. We’ll also need to replace the lead pipes, solder, and fixtures that cause the contamination in the first place. Meanwhile, let’s shut off taps where lead in water exceeds one part per billion, as recommended by the American Academy of Pediatrics. Our children deserve safe drinking water at school. Let’s get to work.

Sincerely,

[NAME]

[OTHER REQUIRED INFO]







# Links to additional resources

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## Overview:

Our national [Get the Lead Out](#) report (2017)

## Likelihood of lead contamination at your school:

- Until 2014, national standards allowed plumbing, faucets, and fixtures to have a weighted average of 8 percent of surface area in contact with water made of lead. So unless your school has brand new plumbing and fixtures, it is highly likely that its water is in contact with significant amounts of lead before it is used for drinking or cooking.
- [As more schools test, they are finding lead in their water.](#)

## Lead in water is harmful, even at low levels:

- American Academy of Pediatrics, [Policy Statement on Prevention of Childhood Lead Toxicity](#) (June 2016) (urging officials to ensure that lead concentrations in schools' drinking water is no greater than 1 part per billion)
- U.S. Environmental Protection Agency (EPA), [Basic Information About Lead in Drinking Water](#), including [Is There a Safe Level of Lead in Drinking Water?](#) ("EPA has set the maximum contaminant level goal for lead in drinking water at zero because lead is a toxic metal that can be harmful to human health even at low exposure levels.")
- [EPA Never Said 15 ppb is Safe](#) (quoting EPA official who helped set the 15 ppb standard).

## Examples of schools and communities taking action:

- **Illinois:** the state public health agency is now requiring schools to remediate any lead detected in water.
- School districts in **Austin, TX** and **Berkeley, CA** have [adopted](#) a lead standard of no more than 1 part per billion in drinking water.
- **Washington, DC:** has adopted a 5 ppb standard for schools' water, and also requires filters to be installed at every faucet and fountain—in District schools, parks, and child care centers.



Flickr user Jeff B (CC BY-NC-ND 2.0)

## Proper testing and limitations:

- Virginia Tech [Instructions to Flint Residents for Proper Water Sampling](#) (no water use for at least 6 hours beforehand, three separate samples from each tap at timed intervals)
- [EPA-Certified Labs to Send Water Samples](#)
- [Avoid Flushing Before Taking Samples](#) (Without flushing, New York City schools found *nine times* as many outlets with high levels of lead so far.)
- [Even a Few Tests Do Not Assure Water is Safe](#) (quoting Dr. Marc Edwards, Virginia Tech)
- Sometimes test results are expressed in terms of ug/dL, which stands for micrograms per deciliter; [1 ug/dL equals 10 ppb](#) (parts per billion).

## Finding filters certified to remove lead:

- National Sanitation Foundation <http://www.nsf.org/>
- Water Quality Association - <https://www.wqa.org/>
- CSA - <http://www.csagroup.org/industries/plumbing/drinking-water-requirements/>

# Pediatricians Call For More Testing And Tighter Rules On Lead Exposure

June 20, 2016 NPR



When lead was taken out of products like paint and gasoline, levels of the metal in the blood of U.S. children dropped. But the American Academy of Pediatrics says the problem is not over.

"Most existing lead standards fail to protect children," members of the AAP's environmental health council report in a statement [published](#) Monday in the journal *Pediatrics*. Standards for the amount of lead that can be present in paint, water, dust and

soil are not based on health standards, the pediatricians say, but instead on what's been feasible to attain. Such standards, they write, create "an illusion of safety."

"We've taken lead out of the paint and out of the gasoline, but the history is still present," says [Dr. Jennifer Lowry](#), a co-author of the academy's report and a medical toxicologist with Children's Mercy, a hospital in Kansas City, Mo.

Older homes with paint and plumbing from earlier time, or homes that stand on what was once an industrial site, can have contaminated dust, water and soil. When children ingest those materials, the metal can get into their bloodstream.

Human bodies have no use for lead, but it can be mistaken for calcium or iron, settling in bones and disrupting important biological processes. And children's bodies absorb more lead than adult bodies do.

"Lead is a neurotoxin," Lowry says. "It gets into the brain and it can cause damage."

It's unethical, of course, to purposefully poison kids with varying amounts of lead and then see what happens with their blood lead level and how that corresponds to developmental problems. So it's hard to say what the effect of exposure to low levels of lead is for an individual child. But on a population level, low-level lead exposure has been shown to affect IQ, attention and behavior. By some [estimates](#), preventing children from coming into contact with lead would prevent the loss of more than 20 million IQ points.

According to the Centers for Disease Control and Prevention, if a child's blood [has more](#) than 5 micrograms of lead per deciliter of blood, it's a red flag for health care providers. It means that child is in the 2.5 percent of children in the country with the highest levels of lead in the blood.

"But at that point, when we find out that they have an elevated lead level, the harm has already been done," Lowry says. "We cannot have our children be canaries in the coal mine, where they get exposed first and then we have to try to fix it. If we want to actually do the right thing, we should prevent it from happening in the first place."

The academy recommends that pediatricians and primary care providers proactively test children for high blood lead levels, especially if they are between 1 and 2 years old and live in areas with homes built before 1960. It's also calling for updated national limits for lead in house dust, water and soil, and for federal funding for initiatives like removing lead paint and dust from public housing and replacing the lead service lines that bring water into many homes.

"We should know where the old houses are that were built before 1960, where the soil is next to the highways, where we have these lead problems and actually fix it before we send our kids out to live in those environments," says Lowry.

An estimated 37 million homes in the United States still contain lead-based paint. An additional 6 million homes receive their drinking water through lead pipes.

# Lead Levels Below EPA Limits Can Still Impact Your Health

Jessica Pupovac August 13, 2016 NPR



The residents of Flint, Mich., received some welcome news this week: Researchers released the results of a new round of water tests, showing lead levels in that city's water system falling just below the Environmental Protection Agency action level.

Too many water samples above that level is a red flag for utilities, a sign that they may have a broader lead problem.

Virginia Tech researcher Marc Edwards, who leads the team documenting Flint's water problems, called the new results the "beginning of the end," a turning point in the city's saga with corrosive water.

But it came with a caveat: "Certainly, Flint residents should continue using the bottled water and filters," he warned.

That's, in part, because the EPA action level – 15 parts per billion of lead in the water – is not a threshold for public health, so a reading below that number doesn't mean the water is safe.

Public officials and school administrators often reference that level to assuage fears about lead in the water.

But Jeff Cohen, who was on the EPA team that decided on that number, said linking it to a threshold for public health is a "misunderstanding."

"The goal of the rule is zero lead in drinking water," he said.

The EPA's action level isn't based on medical research. No amount of lead is known to be safe.

"It was never designed to identify a safe level of lead in drinking water," Cohen told NPR.

He said the number was simply what water utilities told the EPA they could manage with treatment back in the late 1980s, when the EPA's Lead and Copper Rule was drafted.

"It was based on the little data available at that time, from water utilities in the U.S. that had installed different levels of corrosion control treatment," he said.

When there is lead in the water, most of it comes from underground service lines that carry water to more than 6 million homes, according to water utility estimates. Smaller amounts of lead can also be found in home plumbing systems such as in solder and fittings.



Wherever lead exists, particles can sporadically make their way into the water. Pieces of lead might fall into water when something jostles the pipes, like a heavy truck coming down the road. Lead also seeps slowly into water when water sits stagnant in pipes for more than a few hours.

Utilities use anti-corrosive chemicals to slow the process down, but they can't stop it entirely.

In recent decades, as a result of more government regulations, blood lead levels across the U.S. have declined drastically. At the same time, [evidence](#) that relatively small amounts of lead in the blood can cause significant damage has mounted.

Researchers now know, blood lead levels in children as low as five micrograms per deciliter — the Centers for Disease Control's "level of concern" — can lead to IQ deficits and increases in behavior problems like ADHD and conduct disorder.

In adults, low-level exposure of 10 micrograms per deciliter can cause high blood pressure and kidney problems.

"We've become accustomed to these conditions," said Bruce Lanphear, a professor at Simon Fraser University and long-time researcher of low-level lead exposure. "They are familiar, so we accept them, and we don't see that part of the problem is lead, because it's insidious."

He said there is scientific consensus around the harmful effects of low-level lead exposure, but lead regulations are "based more on feasibility as opposed to the best science."

Lanphear was the principal author on a recent American Academy of Pediatrics position paper. In it, the Academy [called on](#) federal regulators to tighten all lead regulations, claiming that they create an "illusion of safety."

Joel Beauvias, the deputy assistant administrator for the EPA's Office of Water, said the agency has "consistently said that no level of lead is safe." But, he explained, the agency has to set limits that can be reasonably achieved.

"The way Congress set up the Safe Drinking Water Act was to require us to look at a level, a goal, that would be health protective and then to set standards that are as close as feasible to that goal," he told NPR.

The EPA is working on revisions to the rule. But an agency spokesperson was unable to say whether the action level will be a part of those revisions, or when the agency will go public with its proposed changes.

VPIRG'S CAMPAIGN TO  
**STOP**  **P** **SINGLE-USE  
PLASTICS**

## News Release

**For Immediate Release:** 2/28/2019

**For More Information:** Samantha Hurt, VPIRG, (540) 905-3779, [shurt@vpirg.org](mailto:shurt@vpirg.org)  
Paul Burns, VPIRG (802) 793-1985, [paul@vpirg.org](mailto:paul@vpirg.org)

### *VPIRG: This Mardi Gras season, beware the toxic beads*

**Montpelier, VT** — The Vermont Public Interest Research Group issued a warning today for all those who may be interested in celebrating Mardi Gras with necklaces of cheap plastic beads. The group's advice? Don't do it. Or at a minimum, take precautions to minimize toxic threats.

Citing past research by the Ecology Center and VerdiGras,<sup>i</sup> VPIRG noted that the colorful plastic beads commonly worn during Mardi Gras celebrations may contain dangerous toxins such as lead, brominated flame retardants, arsenic, phthalate plasticizers, halogens, cadmium, chromium, mercury and chlorine. These toxins can represent particularly severe threats to children.

In this week before "Fat Tuesday" on March 5<sup>th</sup>, VPIRG is highlighting the potential risks associated with the beads as part of its Campaign to Stop Single-Use Plastic Pollution. The bead necklaces are a prime example of the growing problem of plastic pollution.

"We're urging people to think carefully before buying and wearing throwaway plastic necklaces that could be loaded with toxic chemicals," said Paul Burns, executive director of VPIRG. "The potential health threat probably isn't worth it for anyone, but children are at greatest risk because they're more likely to ingest the toxins and suffer significant harm."

The exploitation of those making the necklaces is also raising concerns. It is often young Chinese workers who melt down the plastic to create the beads in the first place. According to the documentary, "Mardi Gras: Made in China,"<sup>ii</sup> it is common for teenage girls and women to be forced to compete with one another to create necklaces as quickly as possible. One of the workers in the documentary suggests that price of one inexpensive necklace might be the equivalent of three months of pay for her.

"Once you know how these beaded necklaces are made, and considering the accompanying threat to the environment and the violation of human rights that they represent, it's hard to look at them the same way again," said Samantha Hurt, an environmental associate with VPIRG.

The lead content of the beads is recognized as a health threat, even by officials in Louisiana, the epicenter for Mardi Gras celebrations in this country. A fact sheet from the Louisiana Department of Health warns that “Some beads and throws may contain lead and there may be lead in the soil along the parade routes.”<sup>iii</sup> Incredibly, the lead content of the beads is high enough that it has resulted in elevated lead levels in the soil along the traditional parade routes (where bead necklaces are often tossed to revelers).

Other key points and findings from the Ecology Center and VerdiGras report include:

- More than half of the beaded necklaces and other similar products tested (56 of 87) had levels of lead above 100 ppm. For comparison purposes, both Vermont and the federal government have laws in place to limit lead in children's products and some other products to 100 ppm. The American Academy of Pediatrics recommends a limit of 40 ppm.
- Lead exposure in children increases their risks for damage to the brain and nervous system, slowed growth and development, learning and behavioral problems (reduced IQ, ADHD, criminal behavior), and hearing and speech problems.
- More than half (51 of 87) had levels of bromine above 400 ppm, suggesting the presence of brominated flame retardants (BFRs). Electron microscope images of the beads show fragments of material that appear to be used as filler in the production of the beads. Many of these fragments have halogenated flame retardants in them, including decaBDE (decabromodiphenyl ether) and tetrabromobisphenol A (TBBPA). Vermont has passed several laws to regulate toxic flame retardants, but they may not offer complete protection against these beads, which may themselves be made of discarded electronic waste.<sup>iv</sup>
- Brominated flame retardants are associated with immunotoxicity, reproductive toxicity, endocrine disruption, effects on fetal and child development, thyroid and neurological function and cancer.
- The interior of Mardi Gras beads, which often get shattered during celebrations, contained concentrations of hazardous chemicals that were as high as the exterior coating of the beads.

VPIRG urges consumers to avoid purchasing or wearing cheap, plastic Mardi Gras beads. It is impossible to tell just by looking which necklaces pose the greatest toxic threat.

If you do have bead necklaces, do not allow children to put them in their mouths under any circumstances. If children handle the beads, be sure to wash their hands (and yours) before eating. Never burn the beads and do not store them in direct sunlight. Recycle them if possible.

“Our message is pretty simple,” said Burns. “If you choose to celebrate Mardi Gras, be safe and have fun. But if you care about your health, our environment and human rights, it might be best to skip the beads this year.”

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<sup>i</sup> <https://www.ecocenter.org/article/hs-news/holiday-and-mardi-gras-beads-found-contain-lead-and-hazardous-flame-retardants>

<sup>ii</sup> Selected scenes: <https://vimeo.com/87231218>

<sup>iii</sup> <http://ldh.la.gov/assets/oph/Center-PHCH/Center-H/genetic/LEAD/NewsandUpdates/MardigrassBookmarkLeadPoisoning.pdf>

<sup>iv</sup> <https://www.vpirg.org/issues/toxics-and-environmental-health/resources/chemicals-of-concern/flame-retardants/>