

HB22-1358 *Get Lead Out of School Drinking Water Act* ***FILTER FIRST, THEN TEST***

THE FACTS:

- Lead is a poisonous heavy metal that can cause irreversible damage to children and fetuses.
- There is no safe level of lead exposure.
- Federal law allows drinking water fixtures and plumbing to contain lead.
- Schools in Colorado and across the U.S. have often found high levels of lead when testing has been performed.
- Lead levels can change dramatically depending on when and how the water is tested.
- Certified filters effectively remove lead when installed and maintained properly.

THERE IS NO SAFE LEVEL OF LEAD

The CDC, the American Academy of Pediatrics, and the World Health Organization all agree that there is no safe level of lead exposure.¹ The American Academy of Pediatrics has set the maximum recommended level for lead in school drinking water at one part per billion (1 ppb)² only because this is the lowest level at which lead can be reliably detected by a certified lab test.

LEAD IS PRESENT IN COLORADO'S SCHOOL DRINKING WATER

Lead is a poisonous heavy metal that can affect almost every organ and system in the human body, often irreversibly. Children are particularly vulnerable. Older plumbing fixtures, fittings, pipes, and solder contain high amounts of lead, which can leach into drinking water. Troublingly, many schools and day-care facilities are housed in buildings that contain old plumbing. Even new plumbing is not completely lead free. Prior to 1986, there were no restrictions on lead content in plumbing products; amendments in 1986 and 2011 reduced but did not eliminate the amount of lead in "lead free" plumbing.

Colorado's voluntary lead testing grant program, which ended in 2020, revealed that lead is a problem in our schools. Forty out of the sixty-seven participating schools had results above the Action Level for lead of 15 parts per billion. This level is much higher than the level recommended by the American Academy of Pediatrics.

WHY WE NEED TO REMOVE LEAD FROM DRINKING WATER IN SCHOOLS

Outside of the home, children spend most of their time at school, making it especially important to address environmental hazards in school buildings. Staff spend just as many hours there and are exposed to the same lead hazards. Young children are the most susceptible to the adverse effects of lead. Even at very low levels once considered safe, lead can cause serious, irreversible damage to developing brains and nervous systems of babies and young children.³ Lead can decrease a child's cognitive capacity, cause behavior problems, and limit the ability to concentrate—all of which, in turn,

¹ Centers for Disease Control and Prevention (hereinafter CDC), "Blood Lead Levels in Children," last reviewed July 30, 2019, https://www.cdc.gov/nceh/lead/acclpp/blood_lead_levels.htm. American Academy of Pediatrics, "Lead Exposure in Children," 2016, <https://www.aap.org/en-us/advocacy-and-policy/aap-healthinitiatives/lead-exposure/Pages/Lead-Exposure-in-Children.aspx>. World Health Organization, "Lead Poisoning and Health," August 23, 2018, <https://www.who.int/en/news-room/fact-sheets/detail/leadpoisoning-and-health>.

² American Academy of Pediatrics, "With No Amount of Lead Exposure Safe for Children, American Academy of Pediatrics Calls for Stricter Regulations," June 20, 2016, <https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/With-NoAmount-of-Lead-Exposure-Safe-for-Children,-American-Academy-of-Pediatrics-Calls-For-Stricter-Regulations.aspx>.

³ Advisory Committee on Childhood Lead Poisoning Prevention, CDC, *Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention*, January 4, 2012, www.cdc.gov/nceh/lead/acclpp/final_document_030712.pdf.

affect the ability to learn in school.⁴ Children with significant lead exposure are less likely to graduate from high school and more prone to delinquency, teen pregnancy, violent crime, and incarceration.⁵

Lead exposure can cause miscarriage, stillbirths, and infertility (in both men and women).⁶

FILTER FIRST, THEN TEST

The best way for a school to protect children from lead in drinking water is to **Filter First, Then Test**. Testing programs in the state and elsewhere in the country demonstrate that lead is prevalent in drinking water in schools. We also know that lead levels can change significantly from day to day.⁷ In other words, we know that lead is present in unfiltered drinking water.

Filtration effectively removes lead when the filter is certified by NSF International or the American National Standards Institute and is properly installed and maintained. There is no benefit to waiting for a school to first test its drinking water for lead. Schools should immediately install filters at school kitchen faucets and install hydration stations, which are bottle filling water fountains (1 station per 100 students/staff). Testing would then be conducted at these drinking water outlets to ensure that the filters are working properly. This approach is smarter and more efficient than embarking on a lengthy testing process that will only prove what we already know to be true and continue to expose kids to lead in the meantime.

ECONOMIC IMPACT

Colorado has an historic opportunity to fund clean water for all of our schools and childcare centers through federal ARPA funds. Ongoing costs for maintenance of the filtration systems are minimal, and research shows that the Filter First approach is cost effective because it is about 2/3rds cheaper than sporadic sampling and fixture replacement. In terms of costs, we assume that filtered water stations will cost about \$1,600 each, three replacement filters per year will cost \$192 total, and sampling at \$77.19 will occur once a year. Smaller facilities and places like school kitchens will rely on faucet filters, which cost \$20 and about \$36 per year for filter replacements. Additionally, plumbers will benefit from the increased work of installing filtration stations at schools and childcare facilities and performing any required remedial work.

SUPPORTING ORGANIZATIONS

Colorado People's Alliance (COPA), Natural Resources Defense Council (NRDC), Plumbers Local Union 3, Conservation Colorado, 9to5 Colorado, Clayton Early Learning, Colorado Latino Leadership, Advocacy & Research Organization (CLLARO), BlueGreen Alliance, Colorado Education Association (CEA), Movimiento Poder, Healthy Child Care Colorado, Colorado Children's Campaign, Young Aspiring Americans for Social and Political Activism (YAASPA), Americas for Conservation + the Arts, Colorado Jobs with Justice, Colorado Immigrant Rights Coalition (CIRC), Rose Community Foundation, CoPIRG, Citizens Committee for Health & Safety, Colorado Jobs with Justice, Colorado Latino Leadership and Colorado Statewide Parent Coalition, Sierra Club, Green Latinos, & Denver Public Schools Students for Climate Action.

⁴ *Ibid.*

⁵ *Ibid.* See also J. P. Wright et al., "Association of Prenatal and Childhood Blood Lead Concentrations with Criminal Arrests in Early Adulthood," *PLoS Med.* 5, no. 5 (May 27, 2008): e101, www.ncbi.nlm.nih.gov/pmc/articles/PMC2689664/. S. D. Lane et al., "Environmental Injustice: Childhood Lead Poisoning, Teen Pregnancy, and Tobacco," *J Adolesc Health* 42, no. 1 (January 2008): 43-9. R. Nevin, "How Lead Exposure Relates to Temporal Changes in IQ, Violent Crime, and Unwed Pregnancy," *Environ Res.* 83, no. 1 (May 2000): 1-22. R. Levin, "Reducing Lead in Drinking Water," EPA, December 1986, <https://nepis.epa.gov/Exe/ZyPDF.cgi/2000911C.PDF?Dockey=2000911C.PDF>.

⁶ CDC, "Lead: Information for Workers—Health Problems Caused by Lead," last updated September 2013, www.cdc.gov/niosh/topics/lead/health.html.

⁷ G. R. Boyd et al., "Lead Release From New End-Use Plumbing Components in Seattle Public Schools," *American Water Works Association Journal* 100, no. 3 (March 2008): 105-114. Y. Lambrinidou, S. Triantafyllidou, and M. Edwards, "Failing Our Children: Lead in U.S. School Drinking Water," *New Solutions* 20, no. 1 (February 2010): 25-47, <https://journals.sagepub.com/doi/10.2190/NS.022010eov>.