NANOAFFIX

Accurate Affordable Analysis

Quarter 3 2022

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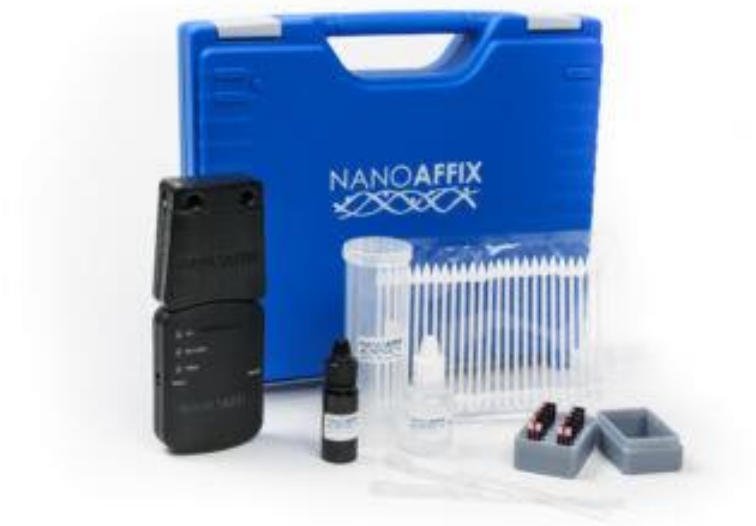


Headlines:

Lead & Copper Rule Revisions

Recently, revisions were made to the Lead and Copper Rule. The EPA said the revisions will go into effect to support near term development of actions to reduce lead in drinking water with a compliance date of 2024.

There are a few revisions that will be important to NanoAffix. The revisions will prioritize replacing lead service lines in underserved and minority communities.

Schools and childcare facilities will be required to test for lead. 20 percent of schools will have to test every year. Finally, water systems will be required to create a database to make public the locations of lead service lines.

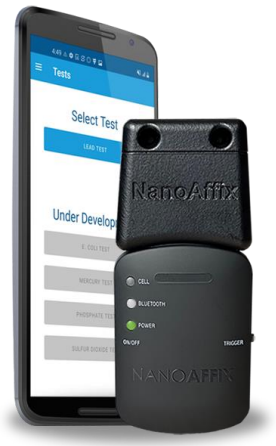
Environmental Protection Agency. “Stronger Protections from Lead in Drinking Water: Next Steps for the Lead and Copper Rule”. 2021.

First Devices Sold!

NanoAffix is happy to announce that we have received our first orders for our new handheld portable meters for detecting lead in water!

You will receive on-site, real-time results within minutes of starting the test. Our meter can detect lead concentrations between 1 and 30 parts per billion (ppb).

If you would like to purchase a meter, please email us at sales@nanoaffix.com or call 414-758-9292.



Letter from the Founder

Hello All,

I hope everyone has been enjoying their summer. This year has flown by as quarter 3 is already upon us. We at NanoAffix are very excited to share that we have sold our first portable, real-time meters to test for lead in drinking water. As we continue to work on our lead tester, in the background, we are in the beginning stages of developing a prototype for real-time detection of sulfur dioxide in air.

I continue to be extremely happy with the progress our team has made to make our product even better, more accurate, and user-friendly. We are ready to go full steam ahead as we enter quarter 3.

Sincerely,

Dr. Junhong Chen
CEO & Founder

Mission

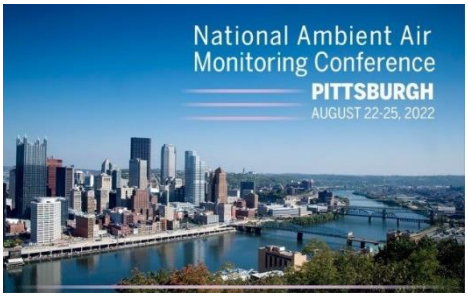
Our mission at NanoAffix Science is to invent the future of detecting contaminants in water, helping to ensure that everyone has access to cleaner and safer drinking water for the future.

In the short term we are launching a portable meter to detect lead and other contaminants in your drinking water.

Our long-term vision is to integrate this new platform technology within existing water infrastructure and equipment for continuous monitoring of a variety of contaminants found in water.

Upcoming Events

We will be attending the National Ambient Air Monitoring Conference (NAAMC) in Pittsburgh, Pennsylvania August 22-25, 2022. This event is sponsored by the Environmental Protection Agency (EPA). Dr. Yale Wang, a NanoAffix Research Scientist, will be representing us there. Yale will be giving a talk introducing everyone to new NanoAffix sulfur dioxide detector and testing method at 5:10PM on August 24th.



Conclusion of BREW 2.0

Recently, NanoAffix successfully completed three weeks of virtual workshops and trainings through The Water Council's BREW 2.0 Post Accelerator program. As part of being selected to be in the 2022 cohort, NanoAffix became members of The Water Council. We look forward to continued networking through The Water Council and various events they hold.

THE WATER COUNCIL | BREW 2.0 2022 Cohort Member

Lead in Your Water Across the Country

The town of Trenton, Missouri noticed that lead levels had spiked, with levels above 15 parts per billion in a quarter of homes that had been tested after monochloramine was added to their water as a disinfectant. This disinfectant is an alternative to chlorine and stays active as a disinfectant in the water for longer than chlorine, but it can cause pipes with lead to corrode significantly. The solution for this problem, aside from not using a compound that causes corrosion, is to remove lead piping. This is challenging because the locations of many lead pipelines are not known.

City utilities have seen lead levels spike when switching to monochloramine which exasperates the problem. Lead levels can spike a year or two after this addition, so testing too early or late might not reveal this problem.

St. Louis still has tens of thousands of lead service lines remaining. Even the process of removal of lead pipelines can result in a temporary burst of lead because of material becoming dislodged in the process. Although efforts are being made to address the issue by requiring utilities to take inventory of their service lines,

it seems clear that lead contamination will continue to be a problem for some time because of all the factors involved.

NPR. (2022, July). 'Time Bomb' lead pipes will be removed. But first water utilities have to find them.

Health Effects of SO_2

The existing standard for sulfur dioxide (SO_2), established in 2010, is 75 parts per billion based on the 3-year average of the 99th percentile of the yearly distribution of 1-hour daily maximum concentrations.

Sulfur dioxide is especially prevalent in a few different industries. Coal and oil refineries, car manufacturing companies, paper mills, and electric power plants are some industries where SO_2 can be an issue.

Exposure to SO_2 can potentially lead to some significant health issues.

Some short-term effects include burning feelings in the nose, lungs, and throat, and difficulty breathing.

Dementia, fertility problems, reduced cognitive ability, and heart and lung disease are some significant long-term effects of continued exposure to SO_2.

Environmental Protection Agency. (2022, March). Sulfur Dioxide Basics.

A Journey Begins with a Single Step

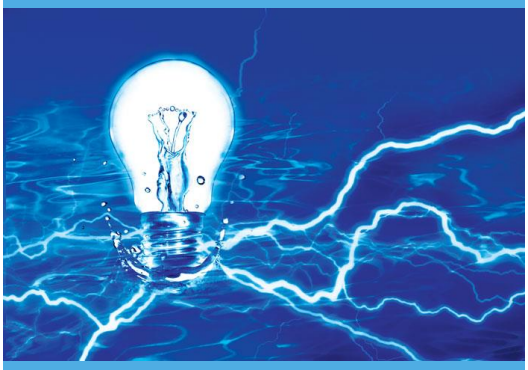
Ensuring clean, non-lead contaminated water is a goal everyone would agree is important. Reaching this goal is challenging, however. NanoAffix Science's sensor technology is intended to fulfill the need to detect this problem which is still present despite efforts and regulations to address it. There are multiple contributing factors to the continued existence of lead contamination. The first problem is awareness, where people may assume lead contamination must have been addressed by their utility company. This connects to the secondary problem, which is even though efforts have and are being made to replace lead piping, locating pipes with lead requires significant cost and effort, and can even contribute to the problem by dislodging material in the process.

Lead contamination can also increase suddenly when materials corrode.
Additionally, even when there are clear regulations in place, it can still take time for the regulations to be followed. Even if lead levels are below the regulated limits, it doesn't mean the small amount of lead isn't still harmful to your health.

Science Funnies

The other day I opened my water bill and electricity bill at the same time.

I was shocked!!!



Q: How do astronomers organize a party?

A: They planet

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We're on the Web!

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