

Lead Household Action Level: EPA needs to immediately make public its estimate for a health-based “household action level” consistent with recommendations of its advisory council and workgroup.

Summary:

- An infant’s developing brain is extremely vulnerable to lead. Since many rely on formula made up from drinking water, if that water contains lead, the child may be irreversibly harmed.
- Parents and local health departments need to know when lead in drinking water reaches a level likely to produce an “[elevated blood lead level](#)” in a formula-fed infant, so they can take action to protect the infant.
- The Environmental Protection Agency’s (EPA) National Drinking Water Advisory Council ([NDWAC](#)) recommended that the agency revise its regulations to: 1) establish a “household action level” based on exposure to a formula-fed infant; and 2) require utilities that operate public water systems to immediately notify the health department when sample results exceed the level.
- The agency still has not released a household action level a year after committing to do so. EPA should immediately release its estimate for peer review and public comment.

Rationale:

EPA’s current action level of 15 parts per billion (ppb) for lead in drinking water was established in 1991. *It is not based on health risk.* Rather, it indicates when EPA says levels are elevated and the utilities that run public water system must act to reduce those levels. Specifically, when at least 10% of worst-case samples exceed that level, utilities are required to undertake corrosion control and, potentially, lead service line replacement. If a utility finds fewer than one in ten samples with less than 15 ppb, it would be in compliance with the requirement – even if some samples are many times higher than the action level.

Unfortunately, the lead action level has been misunderstood to be a level of health concern rather than a level where utilities must act. With science firmly demonstrating that there is no safe level of lead, any exposure is a health concern, especially for young children where even low levels can lead to learning and behavioral problems and reduced IQ. The objective is to reduce levels as much as possible.

Just as EPA defines a level to trigger specific actions for utilities, the Centers for Disease Control and Prevention (CDC) defines 5 micrograms of lead per deciliter of blood ($\mu\text{g}/\text{dL}$) as an “elevated blood lead” where health concerns are sufficient that public health officials should take action. It is not a “safe” level. Rather, it is set at a level that an estimated 2.5% of children aged 1 to 5 years of age (approximately 500,000 children) have blood lead levels that exceed the value and warrant intervention. As we make progress lowering children’s exposure to lead, CDC will adjust the elevated blood lead level downward to consistently identify the value that 2.5% of children exceed.

In sum, neither the EPA nor the CDC value helps families understand if their water is safe enough for those most at risk: infants that consume the drinking water used to make up their infant formula. The EPA lead action level is too easily misunderstood. And they don’t know how much lead in drinking water would likely result in their infant exceeding the CDC elevated blood lead number. Public health professionals whose goal is to advise parents and utilities face the same challenge.

The NDWAC recognized this challenge and recommended that EPA revise its regulations to: 1) establish a “household action level” that translates the CDC value into a drinking water level likely to harm a

formula-fed infant; and 2) require utilities that operate public water systems to immediately notify the health department when test results exceed the household action level.

NDWAC did not make specific recommendations on what actions local health officials and parents should take when a utility notified them that a sample exceeded a household action level. It deferred to the expertise and judgment of local public health officials. Such actions could include: outreach to residents and healthcare professionals; work with utility to determine if there was a wider problem; and calls for more water testing or more aggressive blood lead testing of children.

A year has passed since EPA committed to developing such a household action level. It needs to immediately make public a draft level and seek external peer review and public comment so experts can evaluate it and stakeholders can consider its implications. The agency must allow time for this vetting to occur before the value is integrated into a proposed revision to its Lead and Copper Rule (at 40 CFR Part 141 Subpart I). After considering public comments, it needs to issue a revised estimate so the parents and public health officials can make informed decisions on what steps they should take to protect children from lead.

NDWAC and workgroup recommendations:

In a [December 15, 2015 letter](#) to Administrator McCarthy, the EPA National Drinking Water Advisory Council (NDWAC) stated that “the NDWAC supports the Working Group’s report with the following enhancements: Establishing a health-based, household action level that triggers a report to the consumer and to the applicable health agency for follow up.”

In August 2015, EPA’s [Lead and Copper Rule Workgroup \(LCRWG\) report](#) stated:

The LCRWG recommends that EPA establish in a revised rule a “household action level” and require the PWS [Public Water Supply] to notify the local health department and state drinking water authority of sample results over that level. The requirement would be triggered by any sample results that the PWS receives from a user or from its own monitoring. However, the PWS would not be required to make the notification until it has investigated the sample in a timely manner to eliminate sampling or assay errors.

We recommend that EPA set the household action level based on the amount it would take for an infant to have a blood lead level greater than five micrograms per deciliter ($\mu\text{g}/\text{dL}$) based on consumption by an average, healthy infant of infant formula made with water. When a child’s blood lead level exceeds five $\mu\text{g}/\text{dL}$, the Centers for Disease Control and Prevention (CDC) recommends that laboratories and health care providers notify local and state health departments and that action be taken to identify and prevent further exposure.

EPA commitments:

- [Feb. 5-6, 2015 workgroup meeting](#), EPA informally committed to the workgroup to develop a level based on the criteria described above.
- [June 24-25, 2015 workgroup meeting](#), EPA’s representative stated that it was “working on establishing the HAL, but that it will take some time because the HAL must undergo a peer review and quality assurance. It may or may not be available for the full NDWAC meeting in late 2015.”
- [Nov. 6-7, 2015 NDWAC meeting](#), EPA did not release an estimate number based on the meeting summary.
- As of March 9, 2016, EPA does not appear to have released the number.