



**To: United States Environmental Protection Agency**

**From: Public Employees for Environmental Responsibility**

**Date: February 2, 2024**

**RE: EPA-HQ-OW-2022-0801 Lead and Copper Rule Improvements**

Thank you for the opportunity to comment publicly on the U.S. Environmental Protection Agency's ("EPA") proposed Lead and Copper Rule Improvements ("LCRI") document EPA-HQ-OW-2022-0801. Public Employees for Environmental Responsibility ("PEER") writes to offer changes to the proposed LCRI for consideration.

The proposed LCRI aims to achieve complete lead pipe replacement in ten years, locate legacy lead pipes to replace them, improve tap sampling informed by best practices, lower the lead action level from 15 µg/L to 10 µg/L, and strengthen certain protections to reduce lead exposure. PEER supports many of the EPA's proposed improvements, which mark a step in the right direction for lead regulation.

However, PEER has several concerns about the proposed LCRI. First, there is no safe level of lead exposure; therefore, the EPA should lower the action level from 10 µg/L to as close to 0 µg/L as possible. Second, the EPA should specifically name safe alternatives to lead pipes and discourage unsafe, regrettable alternatives, such as pipes made with Chlorinated Polyvinyl Chloride ("CPVC") and Polyvinyl Chloride ("PVC"). Third, the EPA should discourage partial pipe replacement on public property and require full lead pipe replacement to avoid unwanted asymmetric public health impacts on communities of color.

### **The Lead Action Level Should be Reduced from 10 µg/L to 0 µg/L**

#### **I. There Is No Safe Level of Lead Exposure**

Lead is a metabolic poison that, when ingested, attacks organs and many different body systems, including the blood-forming, nervous, urinary, and reproductive systems.<sup>1</sup> Lead is toxic to adults, but fetuses, infants, and children are at greatest risk of lead poisoning.<sup>2</sup> Even at blood lead concentrations as low as 3.5 µg/L, lead can impact intelligence in children and increase behavioral and learning difficulties.<sup>3</sup> Therefore, at 10 µg/L, the proposed allowable concentration in the LCRI, there would likely be adverse health impacts on children and other sensitive groups.

#### **II. Long-term Exposure to Lead Harms Human Health**

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Further, studies show that cumulative lead exposure over time can cause adverse health impacts for everyone, while high, limited exposure to lead can be lethal.<sup>4</sup> Despite EPA admitting that there is no safe level of lead, it only reduced the action level to 10 µg/L, which could still cause adverse health impacts over a longer period of time.<sup>5</sup> To remedy this issue and completely reduce the risk of lead contamination in drinking water, EPA must reduce the action level from 10 µg/L to as close to 0 µg/L as possible.

## **EPA Must List Copper Pipes as a Safe Alternative to Lead**

### **I. CPVC and PVC are Unsafe, Regrettable Alternatives that the EPA Should Specifically Advise Against**

When used in pipes, CPVC and PVC can leach harmful chemicals into drinking water, which cause health hazards, including cancer, endocrine system disruption, reproductive impairment, and developmental problems in children.<sup>6</sup> A 2018 systematic review and meta-analysis found increased odds of developing asthma and allergies in adults and children exposed to PVC indoors.<sup>7</sup>

Moreover, CPVC and PVC are not acceptable alternatives to lead since they cause adverse health problems that the LCRI aims to avoid. For example, EPA has classified vinyl chloride, a toxic gas used to make PVC, as a known human carcinogen through inhalation and oral route.<sup>8</sup> Exposure to vinyl chloride is linked to an increased risk of liver, brain, and lung cancers, as well as lymphoma and leukemia.<sup>9</sup> Further, PVC pipes may even contain lead due to the use of lead compounds as stabilizers during manufacturing.<sup>10</sup> Thus, replacing lead pipes with CPVC or PVC piping would only replace one toxic type of pipe with another and is not a feasible long-term solution for public health. EPA should advise against using CPVC and PVC pipes to replace lead pipes in the LCRI.

### **II. Copper is a Safe Alternative to Lead that EPA should Specifically Advocate For**

Copper is an essential nutrient for humans contained in many foods.<sup>11</sup> High-level exposure to copper through ingestion causes, at worst, minor gastrointestinal distress, unlike high-level exposure to lead and PVC, which can be lethal.<sup>12</sup> Although ingesting high levels of copper every day over time can cause more serious health problems, such as kidney or liver damage<sup>13</sup>, EPA already regulates copper in the Lead and Copper Rule, which significantly minimizes the risk of serious health impacts by optimizing corrosion control.<sup>14</sup>

### **III. The Benefits of Copper Outweigh the Relatively Insignificant Costs Compared to Lead and PVC**

Copper is a safe, lead-free, impermeable, long-lasting, durable, and sustainable alternative to lead and PVC.<sup>15</sup> Although the upfront capital cost of installing PVC as a pipe alternative is low compared to copper, the long-term economic and public health costs of PVC pipes are high.<sup>16</sup> Moreover, because copper pipes are more durable and reliable than PVC pipes, they do not require frequent maintenance, making the life-cycle cost of copper pipes lower than that of PVC pipes.<sup>17</sup> Thus, EPA should advocate using copper pipes to replace lead pipes.

## **Complete Lead Pipe Replacement Is Required Under Executive Order 12898**

### **I. Lead Pipes Disproportionately Harm Minority Communities, an Environmental Justice Issue EPA Should Focus On**

Residential segregation and redlining have contributed to childhood lead exposure in minority communities.<sup>18</sup> Particularly, there is an increased prevalence of lead poisoning in Black communities, specifically for Black children whose average blood lead levels were 5.6 µg/L – twice that of White children.<sup>19</sup> One of the more famous examples of disproportionate lead exposure for low-income communities was in Flint, Michigan, where people were exposed to lead at 13,200 parts per billion – EPA’s federally acceptable level at the time was 15 parts per billion.<sup>20</sup>

Lead exposure has disproportionate developmental impacts on children of color. For example, one study found that non-Hispanic Black children were more likely to be exposed to lead in early childhood, which correlated with lower reading test scores.<sup>21</sup> Another study from the *Proceedings of the National Academy of Sciences* found that overall, non-Hispanic Black children were eighty percent more likely to experience economic disadvantage compared to White children.<sup>22</sup> The study also found that Black children lived in areas of greater residential segregation.<sup>23</sup> Further, reading scores declined with higher levels of blood lead levels, and blood lead levels and residential segregation interacted to impact reading scores negatively among Black children.<sup>24</sup>

### **II. The Current Proposed Rule only Partially Replaces Lead Pipes in Opposition to the Goals of Executive Order (“EO”) 12898**

The last major issue with the proposed LCRI is that lead pipes would only need to be replaced if they are located on public property. This would, in turn, lead to only partial lead pipe replacement, which is insufficient to quell the risk of lead contaminating the water supply. As required by EO 12898, EPA has the responsibility to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”<sup>25</sup> Thus, partial lead pipe replacement should be reserved only for dire situations. As part of EPA’s strategy to implement environmental justice, total lead pipe replacement must be required by the LCRI.

## **Conclusion**

PEER asks that EPA strongly consider these outstanding issues with the LCRI. EPA should prioritize eliminating lead exposure entirely, specifically for communities of color, by requiring complete lead pipe replacement. EPA should specifically list copper as the only safe alternative to lead and actively discourage the use of PVC, which causes many of the same health issues as lead. Ultimately, there is no safe level of lead in drinking water, and EPA should seriously consider this fact when implementing the Safe Drinking Water Act through the LCRI.

Thank you for the opportunity to comment.