CITY OF MILWAUKEE
HEALTH DEPARTMENT

**Understanding Lead Standards: Moving Towards Zero**

There is no safe level of lead exposure, especially for children. Lead is a toxic metal that can cause lasting health effects, even at very low levels. Because of this, government agencies are continually lowering lead limits in dust, water, and blood to reduce risk and protect public health. Standards are periodically reviewed as science and technology advances. The Environmental Protection Agency (EPA) and the Centers for Disease Control and Prevention (CDC) are responsible for setting and enforcing lead standards in the United States. Milwaukee, like all cities, must follow local, state, and federal guidelines to ensure public health protections.

**Dust Wipe Standards**

Dust from deteriorating lead-based paint is a major source of lead exposure in older buildings. The EPA sets limits to determine whether dust-lead hazards are present, when the EPA recommends abatement work, and when the abatement work can be considered complete. Because the Wisconsin Department of Health Services (DHS) is authorized by the EPA to administer lead programs in our state, MHD follows the lead hazard standards established by DHS.

| Surface Type | Dust Lead Hazard Standard (DLHS) | Dust Lead Clearance Level (DLCL) |
|---|---|---|
| **Floors** | 10 µg/ft² | 10 µg/ft² |
| **Window Sills** | 100 µg/ft² | 100 µg/ft² |

**Note:** The EPA finalized lower hazard standards in a 2024 final rule. Expect changes to the above terminology and levels to be fully implemented by January 11, 2027. As an EPA authorized program, the Wisconsin Department of Health Services must demonstrate standards at least as protective as EPA's no later than two years after the final rule's effective date.

**Lead in Water Standards**

The EPA regulates lead in drinking water through the Lead and Copper Rule (LCR). Under the LCR, public water utilities are required to monitor drinking water at customer taps and must take action if more than 10% of sampled taps exceed 15 ppb. This action level is separate from MHD's recommendation that schools and childcare facilities take action whenever lead is detected in water. Taps and fixtures should be remediated until the lowest possible lead concentration is achieved, with prioritization given to higher lead concentration and those serving infants, children under six, and pregnant individuals.

**Blood Lead Levels**

CDC currently uses a blood lead reference value (BLRV) of 3.5 micrograms per deciliter (µg/dL) to identify children with blood lead levels that are higher than most children's levels This benchmark helps guide follow-up actions from CDC, Wisconsin Department of Health Services, Milwaukee Health Department, and other health care and community organizations working to eliminate childhood lead poisoning. It is not considered a health or toxicity threshold, as no blood lead level is considered safe.

| Blood Lead Level (µg/dL) | What It Means |
|---|---|
| Below 3.5 µg/dL | Continued prevention and routine blood lead testing recommended. |
| At or above 3.5 µg/dL | Public health action recommended. May include follow-up testing and environmental investigation. |

**Why Aren't All Lead Hazard Standards Set at Zero?**

While zero lead exposure is the ultimate goal, completely eliminating lead hazards remains a significant challenge. Lead is a naturally occurring element that persists in paint, dust, soil, and water due to its historical and industrial use. In cities like Milwaukee, where 88% of residential housing was built before the lead paint ban, harsh winters and historical disinvestment increase exposure to deteriorated paint hazards.

Though the CDC and EPA agree that no level of lead is safe, they set policies that balance public health ideal of zero exposure with what is currently achievable with available technology. Examples include:

- **Lead in dust.** The EPA is moving toward recognizing any detectable level of lead in dust as a hazard (Dust Lead Reporting Level, or DLRL), acknowledging that no amount is safe. However, regulatory action levels (Dust Lead Action Level, or DLAL) will remain separate based on laboratory detection limits and practical mitigation capabilities.
- **Lead in water**. The EPA has set its Maximum Contaminant Level Goal (MCLG) at zero, reflecting the health-based standard that no lead level is safe. However, public water systems are required respond to exceedances in the LCR Action Level (AL) in compliance sampling, which is a practical measure of corrosion control effectiveness.
- **Lead in blood**. The CDC periodically lowers the Blood Lead Reference Value (BLRV), which is based on the 97.5th percentile of blood lead levels in young children from national survey data. While this threshold helps identify children with higher exposure, the CDC also considers the laboratory detection limits and the ability of public health programs to respond before adjusting the reference value.

Each reduction in lead standards represents a public health milestone, signaling progress toward eliminating childhood lead poisoning. However, achieving total elimination requires sustained, coordinated efforts across multiple sectors, continued advancements in laboratory science, and substantial investment. Major advancements in lead poisoning prevention, such as the lead paint ban in 1978 and the phaseout of leaded gasoline in the 1990s, demonstrate that meaningful change is possible. Further action is still needed to protect future generations.