Lead is an Invisible Threat

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Lead is an invisible threat
What is lead?

Why is it a concern?
Where can lead be found?
**Paint**

<table>
<thead>
<tr>
<th>Percent of older homes with lead-based paint</th>
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<tbody>
<tr>
<td>Homes built before 1940</td>
<td>87%</td>
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<tr>
<td>Homes built between 1940 - 1959</td>
<td>69%</td>
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<tr>
<td>Homes built between 1960 - 1977</td>
<td>24%</td>
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</table>
Dust
Household Items & Imported Goods
Jobs & Hobbies
Drinking Water
How does lead get into drinking water? https://youtu.be/6usRvbG0lWo
Galvanized Iron Pipe as a Source of Lead in Drinking Water

Galvanized iron pipe is another type of service line or indoor plumbing material that can be a source of lead.

- Lead in the coating
- Tuberculation inside the pipe can trap particulate lead and release it later
Purpose of the Lead and Copper Rule

Reduce water corrosivity to prevent corrosion of plumbing and distribution system components;

Minimize lead and copper in drinking water;

Establish action levels (AL), which when exceeded, require supplies to take actions to reduce corrosion and exposure.
How the Lead and Copper Rule works

**Identify** high-risk locations for sampling
- Based on lead-containing service line and plumbing materials

**Sample** for lead and copper at taps used for consumption
- Community water supplies
- Non-transient, Non-community water supplies

**Sample** for water quality parameters
- Supplies that treat their water for corrosion control

**Calculate** the 90th percentile of the lead and copper results

**Compare** with Action Levels to determine if additional actions are necessary
How the Lead and Copper Rule works

Long-term regulatory efforts to reduce exposure to lead in drinking water state-wide

Increased focus on lead in sampling protocols

Complete service line inventories are due 1/1/2025

Educational notifications to residents/owners within 30 days if found to be served by a lead service line

Replacement of all LSL/GPCL lines by 2041

Creation of a state-wide Drinking Water Advisory Council

Lead Action Level lowers to 12 parts per billion in 2025
There are several efforts at the Federal and State Level to improve the Lead and Copper Rule

Michigan Lead and Copper Rule revisions in 2018

Federal Lead and Copper Rule Revisions (LCRR) – effective 12/16/2021

- Michigan will need to adopt any portion of the LCRR where we are not as stringent as the LCRR
- First compliance deadline is 10/16/2024

Federal Lead and Copper Rule Improvements (LCRI)

Michigan Executive Directive 2021-9
Action Level Exceedance (ALE)

90\textsuperscript{th} PERCENTILE EXCEEDS THE ACTION LEVEL
What is an Action Level Exceedance (ALE)

A statistical calculation is done with all results to find the “90th percentile” value

The 90th is compared to the Action Levels (ALs) to determine if treatment technique actions are needed

- If the values are below the ALs, it indicates that 90% of distribution system sites are in compliance with the LCR
- If the values are above the ALs, it indicates that more than 10% of all samples are over the ALs

❖ ALs are not based on health standards, they determine if treatment changes are needed

90th Percentile Calculations
- >15 ug/L (0.015 mg/L) Lead
- >1300 ug/L (1.3 mg/L) Copper

Action Level Exceedance
Action Levels (AL)

Maximum Contaminant Level Goal (MCLG)

**Action Level**
- Corrosion based standard
- 90\(^{th}\) percentile of all results
  - Lead Action Level = 15 parts per billion (ppb)
  - Copper Action Level = 1.3 parts per million (ppm)

**Maximum Contaminant Level Goal**
- Health based standard
- Individual results
  - Lead Action Level = 0 parts per billion (ppb)
  - Copper Action Level = 1.3 parts per million (ppm)
# 90<sup>th</sup> Percentile Calculation

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- **90<sup>th</sup> Percentile is 13ppb**
- **Below the action level**

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<td>15</td>
<td>17</td>
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- **90<sup>th</sup> Percentile is 17ppb**
- **Above the action level**

- **Additional actions required by the Safe Drinking Water Act**
Maximum Contaminant Level Goals and Potential Health Effects

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Lead 90th percentile is 13 ppb

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Locations above the MCLG

Lead 90th percentile is 17 ppb
Public Notification

90th percentile below Action Level
- Consumer Notice of Lead and Copper Results
- Consumer Confidence Report

90th percentile above Action Level
- Consumer Notice of Lead and Copper Results
- Consumer Confidence Report
- Action Level Exceedance
  - Public Advisory
  - Public Education
  - Increased health effects information in CCR
EGLE Action Level Exceedance
Regulatory Response

Public Advisory

Requirement to notify water customers of a lead Action Level exceedance within three business days

◦ Inform the residents of the Action Level exceedance
◦ Provide steps to reduce exposure to lead in drinking water
◦ Opportunity to provide information about filter distribution or other public events
Lead Education and Coordination Goals

Don’t just educate people when there’s a problem!

Use interagency coordination to

◦ Provide a consistent message
◦ Promote transparency
◦ Reach as many customers as possible
◦ Reach vulnerable subpopulations
◦ Rule-required & health-based information
ALE Multiagency Coordination

Acronyms:
EGLE – Michigan Department of Environment, Great Lakes, and Energy
Water System – a community or non-community, non-transient system
MDHHS – Michigan Department of Health and Human Services
LHD – Local Health Department
ALE Multiagency Awareness

Acronyms:
MSHDA – Michigan State Housing Development Authority
MDARD – Michigan Department of Agriculture & Rural Development
EGLE CWPA – Office of the Clean Water Public Advocate (Kris Donaldson)
EGLE EJPA – Office of the Environmental Justice Public Advocate (Regina Strong)

Use EGLE and MDHHS developed materials to communicate to their program participants.
Other ALE Requirements for Water Systems

Public Education
- Comprehensive document about lead sources and how to reduce risks
- Required language per Safe Drinking Water Act

Increased lead and copper sampling (frequency and locations)

Water quality parameter monitoring

Source water assessment

Corrosion control treatment steps

Increased service line replacement
Continued Health Risks with Lead Service Lines

Regardless of an ALE:

Anyone with a LSL or GPCL should continue proactive measures to reduce lead until all lead service lines are replaced.

After the Public Advisory and Public Education:

Education should not stop. It should transition to longer-term public health activities; community engagement.
MDHHS Public Health Response
Public Water Supply Lead Action Level Exceedance

Presented by:

Michigan Department of Health & Human Services
Water Supply submits water samples to laboratory

EGLE receives results and analyzes data

EGLE notifies public water supply

EGLE notifies MDHHS

Public water supply notifies residents

MDHHS notifies local health department
<table>
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<th>State Level Response</th>
<th>Local Level Response</th>
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<tr>
<td>Michigan Department of Environment, Great Lakes, and Energy (EGLE)</td>
<td>Michigan Department of Health and Human Services (MDHHS)</td>
</tr>
<tr>
<td>• Regulatory authority for water supplies</td>
<td>• No regulatory authority</td>
</tr>
<tr>
<td>• Collaborates with others at state and local level</td>
<td>• Duty to protect the health of Michigan residents</td>
</tr>
<tr>
<td></td>
<td>• Provide public health assistance</td>
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<td></td>
<td>• Provide outreach and education</td>
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MDHHS Lead-ALE Response

Immediate Health Recommendations
Public Health Assistance
Outreach and Education
Drinking Water Assessment
# Ways to Protect Yourself from Lead

<table>
<thead>
<tr>
<th>Flushing</th>
<th>Run cold water before using it.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do not use hot water</strong></td>
<td>Do not cook with or drink water from the hot water tap.</td>
</tr>
<tr>
<td><strong>Clean Aerator</strong></td>
<td>Cleaning the faucet aerator will remove any small pieces of lead that may be trapped in the mesh screen (aerator).</td>
</tr>
<tr>
<td><strong>Check Plumbing</strong></td>
<td>Learn if your home plumbing contains lead by completing an at-home lead plumbing checklist that can help you know if you’re at risk. Work with a licensed plumber to complete a full inspection.</td>
</tr>
<tr>
<td><strong>Use a filter</strong></td>
<td>Look for filters that are tested and certified to NSF/ANSI Standard 53 for lead reduction.</td>
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Filter Recommendations

When a public water supply exceeds the action level for lead

- All households should use a filter certified to reduce lead in water. Continue to use a certified filter until MDHHS says it’s no longer needed.

Need-based Free Filter Service

- Children and fetuses are most at risk of harm to their health from lead. Households with a child younger than age 18 or a pregnant person, can receive a lead reducing filter.
Need-based Free Filter Service

Requirement One: Must meet both
- Household receives water from water supply with a lead action level exceedance
- Residents in the household have NOT received a water filter from water supply, local health department, or the Michigan Department of Health and Human Services

Requirement Two: Must meet at least one
- A child under 18 lives at the address
- A child under age 18 spends a few hours a day and several days a week at the address for at least 3 months of the year. Note: For-profit day care centers are not eligible.
- A pregnant person lives at the address

Requirement Three: Must meet at least one
- A person receiving WIC benefits or Medicaid insurance lives at this address
- The person can’t afford a filter and replacement cartridges (filters cost about $35 and replacement cartridges cost about $15)
When to Use Filtered Water

- Drinking.
- Cooking.
- Rinsing foods.
- Making baby formula.
- Brushing teeth.
When to Use Tap Water

- Showering or bathing (avoid swallowing water).
- Washing hands.
- Washing dishes.
- Laundry.
- Cleaning.
Outreach and Education

**Awareness**
MDHHS goal is to make sure information about lead is in the community and all residents have awareness of and access to it.

**Recommendations**
MDHHS will ensure that residents are informed about the department’s health recommendations.

**Accessibility**
MDHHS will be present within the community to address concerns and answer residents’ questions. Staff will be able to educate residents on filter use, and tell them how they can protect their health from lead in their drinking water and lead in the home.
MDHHS Support to Local Health Departments

Education and Outreach
- Lead Action Level Exceedance in Drinking Water Education and Outreach Planning Guide

Residential Filter Distribution
- Lead Action Level Exceedance Residential Filter Distribution Planning Guide
- MDHHS in-person support – Filter Distribution Day 1

Sanitarian Training

Child Blood Lead Data Surveillance Reports
More Information

Michigan.gov/MiLeadSafe
Contacts

Michigan Department of Health and Human Services
Drinking Water Hotline: 844-934-1315

Michigan Department of Environment, Great Lakes, and Energy
Environmental Assistance Center: 800-662-9278