



USS Lead Dust Sampling - Frequently Asked Questions

**East Chicago, Indiana
USS Lead Superfund Site**

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For more information

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Why are you taking interior dust samples?

EPA is conducting dust sampling inside the homes of properties that received soil excavation in zones 2 and 3 to determine if contaminated soil from yards has been tracked into homes at levels that may be a health concern.

When is dust sampling conducted?

Interior dust sampling is offered to all residents who have their yards remediated and, if permitted by the homeowner, it will take place once all of the contaminated soil has been removed.

How do you collect the dust samples?

EPA uses a small vacuum device called a High-Efficiency Particulate Air (HEPA) vacuum to collect the dust samples. A specialized filter is attached to the hose of the vacuum to ensure that we collect very small dust particles, which we call fine fraction dust.

Where do you collect the dust samples from?

Where we collect dust samples inside the home varies by property based on how residents use and enter their home. Anywhere from one to five samples can be taken at a home. In general, samples are taken near the most used entryway, a child's bedroom, and the most used room. EPA also takes dust samples in basements of homes, if requested by the resident. Samples can be collected from flooring including tile, wood, carpeting, or concrete.

What happens to the samples after you collect them?

EPA sends the dust samples off to a certified laboratory. The laboratory then separates out the smaller particles of dust that are the greatest concern for exposure to residents. The lab analyzes the samples for lead and arsenic.

What screening levels are used to determine if a home cleaning is necessary?

Health-based screening levels have been established by experts at EPA and the Agency for Toxic Substances and Disease Registry

(ATSDR) to determine if an interior cleaning is needed at a property. The screening levels for initial dust sampling are based on the concentration of lead and arsenic in the smaller particles of dust. The smaller particles are the focus because these particles are the greatest exposure concern. The lead level was established using the EPA Integrated Exposure Uptake Biokinetic (IEUBK) Model, which takes into account the various ways that people are exposed to lead. The pre-cleaning screening levels are 316 parts per million (ppm) lead and 26 ppm arsenic in the fine fraction of dust.

Do you take samples after you clean a home?

After the cleaning, EPA collects additional dust samples to verify that the cleaning was effective in removing lead and arsenic. To be consistent, the samples are taken from the same locations that the pre-cleaning samples were taken from.

After you clean a home, what screening levels do you use?

Once we clean your home, we expect that the total amount of lead and arsenic will be significantly reduced. In order to measure that reduction, we calculate the amount of lead and arsenic per square foot in the dust from the post-cleaning samples. This is called the “surface loading.” The post-cleaning screening levels are 25 micrograms per square foot ($\mu\text{g}/\text{ft}^2$) for lead and 36 $\mu\text{g}/\text{ft}^2$ for arsenic in the fine fraction of dust.

What happens if the post-cleaning samples exceed screening levels?

EPA conducts a limited lead-based paint screening during the initial dust sampling appointment. If post-cleaning screening levels are exceeded and no evidence of lead-based paint is found, EPA will offer to re-clean the property as the lead in dust likely came from contaminated soil tracked into the home. If lead-based paint was detected in a home, it is possible that the lead in paint is an ongoing source of lead in dust. If post-cleaning screening levels are exceeded and evidence of lead-based paint has been found, EPA will not be able to offer to re-clean the property as the source of lead is more likely from lead-based paint. In those situations, there are resources to assist the homeowner to address that source of lead exposure (see information below).

What’s the difference between concentration and loading?

Lead Concentration: The lead concentration, sometimes called a mass concentration, is usually expressed as milligrams/kilogram (mg/kg) or parts per million lead by weight (ppm).

Lead Dust Loading: The lead concentration, multiplied by the amount of dust on a surface, gives a lead loading value and is commonly expressed as micrograms of lead per surface area ($\mu\text{g}/\text{ft}^2$).

Where can residents go for more resources on lead in homes?

EPA’s website has extensive information about how you can protect your family from lead:

<https://www.epa.gov/lead/protect-your-family-exposures-lead>

Indiana State Department of Health’s Lead & Healthy Homes Program: <http://www.in.gov/isdh/26550.htm>
or Jim King at 317-233-1294

The City of East Chicago Department of Redevelopment has a residential repair program that could be utilized, in part, to address lead-based paint issues in the home. For more information on the city’s program, visit their website at: <http://www.eastchicago.com/page10/page41/page129/index.html>