Frequently Asked Questions (FAQs) About Blood Lead Levels and Soil Action Levels in Butte, Montana

Silver Bow Creek/Butte Area Superfund Site, Butte Priority Soils Operable Unit

EPA

What Is a Blood Lead Level?

The amount of lead in blood is referred to as the **blood lead level**. It is measured in micrograms of lead per deciliter of blood (µg/dL) and provides a direct measure of total lead exposures across all exposure media (such as soil, dust, food, drinking water, or paint).

What Blood Lead Levels Have Been Set?

The U.S. Environmental Protection Agency's (EPA's) lead cleanup policy sets a **target blood lead level** (BLL) of 10 µg/dL. In 2021, the Centers for Disease Control and Prevention (CDC) lowered their **blood lead reference value** (BLRV) from 5 µg/dL to 3.5 µg/dL.

CDC

Why Is EPA's Target BLL Different from CDC's BLRV?

The target BLL and the BLRV are ***not* directly comparable**, nor are they intended to be. They were developed using different methods and **serve different purposes**.

- EPA's **target BLL** value is used in a model to **identify sites** that warrant **further investigation or action** and to **develop cleanup levels** that will reduce risks to children's health from site-related lead exposure. EPA used the target BLL along with site-specific information—such as soil lead bioavailability and exposure assumptions—to **develop the residential soil action levels** for lead used at the **Butte Priority Soils Operable Unit** (BPSOU). A soil action level is the soil concentration that would trigger the need for soil removal

- CDC's **BLRV** represents the 97.5th percentile of blood lead levels for children in the U.S. aged 1 to 5 years. This **screening value is used by doctors to identify children who have higher levels of lead** in their blood than most children. It is **not a health-based level** nor is it a regulatory standard. A blood lead level at or above the BLRV does not mean a child is lead poisoned. The BLRV **should not be misinterpreted as a level of concern**.

Why Hasn't EPA Adopted CDC's BLRV For the BPSOU?

CDC's BLRV is **not a health-based value for setting a soil action level.** Instead, it is used to screen children for higher blood lead levels. Since 2013, **EPA has used the CDC's previous BLRV of 5 µg/dL** to evaluate blood lead data for children in Butte. **Home visits are made for any child with blood lead levels of 5 µg/dL** or higher.

EPA is now considering if the Medical Monitoring Program should adopt the latest BLRV of 3.5 µg/dL as the blood lead level for **prioritizing home visits**.

What Does the Residential Lead Soil Action Level Represent?

The soil action level is the soil concentration at which there is **no more than a 5-percent probability** that an individual child resident—at a specific location for a given exposure scenario—**will exceed the target BLL** of 10 µg/dL for lead.

Will EPA Review Its Existing Soil Lead Cleanup Policy?

EPA **plans to update its national soil lead cleanup policy** to ensure that soil lead cleanup decisions protect the most vulnerable populations. New recommendations will be set for screening sites to **reduce lead exposure.** EPA's reevaluation will include a careful review of the primary toxicological literature on lead effects in sensitive subpopulations to **determine whether EPA's target BLL should be lower**.

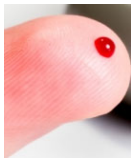
Will the Lead Policy Update Change the BPSOU Soil Action Levels for Lead?

If EPA's updated lead policy sets a target BLL that is lower than 10 µg/dL, the soil action levels for lead (established in the BPSOU Record of Decision) will be **reevaluated in the next five-year review.** The five-year review **evaluates if there have been changes** in exposure receptors or pathways, site conditions, exposure parameters, and/or toxicity values **that would affect the risk conclusions**. It also considers information such as administrative controls, engineering designs, and medical monitoring data, to **determine whether the cleanup remains protective**. **The next BPSOU five-year review will be in 2024**.

How Would Changes to the Soil Action Level Be Addressed?

If changes to the soil action level are needed, EPA and the Settling Defendants would likely need to re-enter negotiations to discuss how to incorporate change into existing legal agreements. The need to conduct **medical monitoring in Butte is a requirement** under the Unilateral Administrative Order and is not dependent upon the soil action levels.

Why Is the Finger-Stick Method Used to Collect Blood Lead Samples?



The finger-stick collection method is a **less-invasive** way than blood draws to gather information on BLLs in children. This means that **more children are likely to get tested**. Finger-stick results are known to bias blood lead concentrations high; but because the data are used as an initial screening tool to identify children and homes for further evaluation, this is not an issue. Most blood lead data for children in Butte has been collected using the finger-stick method, so **actual blood lead levels in the community are likely to be lower than has been reported**.

How Are Blood Lead Data Used?

If a child has a blood lead level above 5 µg/dL, an **investigation is done to determine the cause**. This may include a discussion with the homeowner, an inspection for lead-based paint, and environmental sampling. An elevated blood lead level can often be linked to cosmetics, toys, or other sources. **Safe and effective hazard control options are discussed with the owner and appropriate actions are taken**.

What Do the Blood Lead Data Show?

Data from the Medical Monitoring Program provide **the best measure of cleanup success** at the BPSOU for human health. The percentage of Butte children with blood lead levels above 5 µg/dL has **dropped dramatically (from 33% in 2003 to 5% in 2017)** providing evidence that the Residential Metals Abatement Program has been successful in reducing community exposures to lead.

These FAQs were crafted by EPA Region 8 staff in response to community questions. They do not constitute any EPA policy or guidance.

EPA's website for the Silver Bow Creek/Butte Superfund Site is an excellent source for additional documents.

www.epa.gov/superfund/silver-bow-butte

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