



Response Summary:
Questions and Answers from the
May 3, 2011 Public Meeting
Libby Asbestos Superfund Site
August 2011

Draft Toxicity Values

1. Question: Is Libby Amphibole asbestos (LA) more toxic than chrysotile and if so, how much more toxic (as far as current data indicate)?

Response: It's not possible to say whether or not LA is more toxic than chrysotile since there are no toxicity values solely for chrysotile. The current Integrated Risk Information System (IRIS) value for chrysotile is based on a mixture of forms of asbestos.

2. Question: What is the purpose of trying to measure the naturally occurring LA in valley soils? Will or could EPA use that data to reduce the degree of required cleanup?

Response: It is important for EPA to understand what is naturally present when establishing cleanup goals. .

3. Question: What is the timeline for completing the IRIS review process?

Response: The IRIS process provides for federal agency review, public comment, and scientific peer review. The entire IRIS review process typically takes at least two years. EPA will keep the community informed of the status of the review. More information about EPA's IRIS review process including an IRIS process diagram can be found by visiting: www.epa.gov/iris/process.htm.

4. Question asked by multiple people: Should we wet our lawns before mowing even after we have had a cleanup of 70 percent of our lawn?

Response: Yes. EPA has greatly reduced exposures to LA in the Libby Valley. EPA still recommends reducing exposure to dust, regardless of the extent of prior response actions. Residents can reduce dust by following the guidance in EPA's Best Management Practices fact sheets. These fact sheets are available at the EPA Information Center in Libby and on EPA's Libby asbestos web site at: epa.gov/region8/superfund/libby/docs/ci.html#tabs-2.

5. Question: Similar to the risk estimates for exterior properties, are there significant differences in risk estimates for indoors between homes prior to indoor cleanups and after the response actions were completed? That is, are residents at less risk from exposure to LA in homes where indoor cleanups were completed than before the work took place?

Response: A reduction of LA fibers decreases exposure and risk. EPA requires air concentrations in living spaces to be non-detect for asbestos immediately after cleanup.

6. Question: What other agencies and individuals are going to be involved in the interagency review?

Response: Any federal agency had an opportunity to comment on this draft toxicity assessment. During the interagency review, the draft was shared with a number of federal agencies. The extent to which they commented may depend on their level of expertise and their level of interest on the issue. Individuals will have an opportunity to comment during the public comment period.

7. Question: Who serves on the Science Advisory Board (SAB) and how are they selected/appointed to the SAB?

Response: There is a public process for selecting members of the SAB. The selection process is managed by the EPA Office of the Administrator. An SAB panel was assembled to look at asbestos issues a number of years ago. The Office of Administrator will first see if they are still available. The agency has issued a Federal Register notice to invite public nominations for this board. Those nominees who have the expertise to participate will be identified. A conflict of interest determination is then made. Following the review, the panelists are selected. SAB panelists will be announced in a Federal Register notice. For more information about the SAB, visit www.epa.gov/sab.

8. Question: How long until final risk assessment is completed?

Response: EPA Region 8 is drafting a cumulative human health risk assessment for the Libby Asbestos Superfund site while the draft toxicity values go through the IRIS process. The cumulative risk assessment will be completed about six months after the completion of the IRIS process and the toxicity values are finalized.

9. Question asked by multiple people: What was the source of the 1990 ambient air data set? Who collected it?

Response: The sources of these data are:

- Harry Eschenbach Deposition Exhibit 182.126, Nelson, Ryan & Albert vs. W.R.Grace. Airborne fiber concentrations in downtown Libby. W.R. Grace Company. 62 Whitmore Ave., Cambridge, MA. (page 21)
- MRI (1982) "Collection, Analysis and Characterization of Vermiculite Samples for Fiber Content and Asbestos Contamination." Final Report. Washington, DC. U.S.EPA Contract No. 68-01-5915. (page 28)

10. Question: How were cancer risk and non-cancer hazard values determined for 1990 (before EPA arrived in Libby)?

Response: In EPA's May 2011 presentation, the risk estimates for 1990 LA in ambient air were based on the draft cancer and non-cancer toxicity values and the ambient air concentration data in the following sources:

- Harry Eschenbach Deposition Exhibit 182.126, Nelson, Ryan & Albert vs. W.R.Grace. Airborne fiber concentrations in downtown Libby. W.R. Grace Company. 62 Whitmore Ave., Cambridge, MA. (page 21)

- MRI (1982) “Collection, Analysis and Characterization of Vermiculite Samples for Fiber Content and Asbestos Contamination.” Final Report. Washington, DC. U.S.EPA Contract No. 68-01-5915. (page 28)

11. Question: Please explain non-cancer hazard levels again.

Response: Non-cancer hazard evaluations are based on a value referred to as the *Reference Concentration or RfC*. A lifetime exposure at or below the RfC is not likely to cause harm.

EPA has released a draft non-cancer RfC value for LA. The data used to estimate the LA RfC came from both exposure and health effects collected at a vermiculite processing plant in Marysville, Ohio. Non-cancer illnesses from exposure to LA include pleural abnormalities called localized pleural thickening and asbestosis (an illness of progressive scarring of lung tissue). Using localized pleural thickening as the threshold response for the estimate of the toxicity of LA is a health protective approach. The draft RfC for LA is 0.00001 fibers per cubic centimeter (or 1×10^{-5} f/cc). This value is currently undergoing scientific review.

The comparison of the RfC to a lifetime exposure to LA is called the hazard index. EPA’s target hazard index is 1. The lifetime exposure that is equal to or less than the RfC (a hazard index of 1) is a level of exposure at which it is unlikely that even the most sensitive populations will experience adverse health effects such as localized pleural thickening. If the hazard index exceeds 1, there is an increased potential, or possibility, for adverse health outcomes. However, a hazard index greater than 1 does not convey the certainty of adverse health effects.

12. Question: Has activity-based sampling (ABS) been conducted in Troy?

Response: The Montana Department of Environmental Quality (MDEQ) is the lead agency for response actions in Troy. MDEQ plans to perform ABS sampling during the 2011 construction season. This will be the first ABS sampling event conducted in Troy.

13. Question: With asbestosis being a recognized occupational disease for several decades, why does EPA not have an IRIS RfC for general asbestos?

Response: Although health effects other than cancer have been associated with exposure to asbestos for a number of years, the kind and quality of data needed for a non-cancer toxicity value were not available until very recently. Those data (the Marysville vermiculite processing worker data) have been used to derive the draft non-cancer RfC for Libby Amphibole. Additional data would be needed to establish an RfC for other forms of asbestos.

14. Question: What is the cancer risk from LA or other forms of asbestos in other areas of the country? New York City? Los Angeles? Texas?

Response: There are some published data for ambient air concentrations of asbestos in various locations in the United States. However, the type of asbestos is often different from LA. Therefore, the toxicity may be different. In addition, we do not have exposure data for a variety of activities in the other cities. So, it is not possible, at this time, to compare the cumulative risk estimates for Libby residents to residents in other cities exposed to other types of asbestos.

15. Question: Can you describe the location where contaminated soil is deposited and any sampling that is done to test the ambient air around that facility? There is a rumor that contaminated soil is kept for some time in an open air field prior to being “capped” in some way.

Response: The soil removed from residences is transported to a location in Rainey Creek canyon near the mine site known as the amphitheater. There are no air monitors in this temporary staging area. The soils are temporarily held there until they can be transported up to the former mine site on Vermiculite Mountain and disposed on the site. There is currently an on-going air monitoring program at the perimeter of the mine site that monitors potential off-site migration of contaminated dust.

16. Question: The mining resulted in asbestos contamination in a large geographic area of Lincoln County. Many areas are not public parks, private residents, etc. In Libby/Troy and surrounding areas, what percent of total land area is being cleaned/sampled? Is there unknown risk for activities such as hunting or hiking in these uncleaned and unsampled areas?

Response: The environmental investigations are based on what is known about past and present land use and activities. As part of the cumulative risk assessment, we are evaluating risks from activities such as hunting and hiking.

17. Question: The activity-based sampling (ABS) EPA has been doing doesn't really duplicate the activities it is supposed to be sampling. For example the soccer scenario didn't display a realistic game; the sampling only involved kicking a ball back and forth.

Response: ABS cannot duplicate precisely every activity encountered by residents and workers in Libby and Troy. ABS results help us estimate general types of exposures. The information also helps us provide reasonable maximum estimates of those types of exposures. In addition to the environmental sampling data collected, the risk assessment will include estimates of duration and frequency of exposures. We develop reasonable maximum estimates for exposure duration and frequency to provide a conservative, yet realistic, estimate of exposure for a variety of types of activities.

18. Question: Is a risk assessment a response action?

Response: Yes. The risk assessment is itself a response action as defined in CERCLA.

19. Question: A commenter indicated that the response action has been completed at his property but there was no risk assessment on his property and they therefore don't know if it's safe or not to come back onto their property.

Response: EPA performs risk assessments on residential areas, not individual residential properties. We remove LA contamination from properties whether it's in the attic or the soils to reduce levels of exposure and therefore risk. EPA provides property owners with data collected on their property. The cumulative risk assessment will be conducted based on data collected throughout Libby to determine if further remedial actions are required.

Cleanup Activities

1. Question asked by multiple people: What is the likelihood that properties that were remediated prior to 2007 (when visible vermiculite started being removed) will require additional investigation and/or removal activities? Will EPA return to finish up the cleanup in yards to 2011 standards? If not, what will keep yards from getting re-contaminated or cross-contaminated?

Response: EPA has said that it may be necessary to go back to some properties. Once the cumulative risk assessment is completed, EPA, in partnership with the community, will identify the remedy or remedies for the Libby Superfund Site. EPA will then evaluate what, if any, additional work may be needed. If you have specific questions about your property in Libby, please contact the EPA Information Center in Libby at 406-293-6194, or in Troy contact 406-295-9238. Should you come across vermiculite or if you are unsure, please contact Environmental Resource Specialist (ERS) at 406-291-5335 at no cost to you.

To minimize the possibility of recontamination, EPA recommends that you follow the best management practices described in the fact sheets available at the information centers and on the web page.

2. Question asked by multiple people: While Libby Amphibole is relatively safe if undisturbed, what happens during the cleanup process while it's being disturbed as part of a removal action? Why don't the contractors water the soils down before (removing/disturbing) the soils to lessen the exposure?

Response: We take great care to minimize dust generation when we perform a removal. We wet the yard one or two days prior to, and during the removal, to minimize dust. One basic job site rule is that there is no visible dust in order to reduce the possibility of asbestos release during removal activities. We also conduct perimeter air monitoring to ensure the measures being taken to suppress dust are effective.

3. Question: Was Riverfront Park (OU1) clean in 2005?

Response: A number of cleanup actions have taken place at Riverfront Park since 2002. EPA looks forward to completing the work at OU1 during the 2011 and 2012 construction seasons. Institutional controls and operation and maintenance to preserve the integrity of the remedy will be part of the final cleanup. Since waste will be left in place at depth, five year reviews will be required to ensure continued protectiveness of the remedy.

4. Question: The city has to get its soil outside the Libby Valley and it costs more. The city has already negotiated with the EPA on the restoration price of Riverfront Park (OU1). None of the conditions were that we had to get topsoil from Nebraska.

Response: EPA will perform the cleanup and restoration of the park and will get soil from outside the Libby Valley.

5. Question: Several expressed concern about the replacement soil—it won't grow things, pH too high, etc. Is there any thought that EPA might consider providing financial help to residents trying to establish their yards given the poor quality of soil that was placed in their yards?

Response: EPA has revised its topsoil specifications for 2011. The agency will continue to monitor the effectiveness of these improvements. There have been a few properties that have not been successfully vegetated. EPA is evaluating those properties and taking additional steps to resolve the problem. We will continue to work with the residents to address this issue. EPA provides financial assistance to residents with additional water costs incurred while establishing vegetation.

6. Question: What is EPA doing about the bark at the former Stimson Lumber property (OU5)?

Response: In 2011, EPA will further assess the LA concentrations that may be present in the wood chip materials and will conduct activity based sampling (ABS) for typical homeowner and commercial exposures.

7. Question: You dig down 12 inches. What if there is a “pile” of asbestos deeper than that?

Response: EPA removes, at a minimum, 12 inches of soil and may remove down to three feet if asbestos contamination is present. If there is still contamination below three feet, we place a marker barrier (orange plastic fencing material) down as a warning for future excavation. The area is then backfilled with clean soil.

8. Question: What happens to the vermiculite left in walls or if it's found in the future?

Response: EPA does not address vermiculite left in walls because it is considered to be contained. Should you come across vermiculite or if you are unsure, please contact Environmental Resource Specialist (ERS) at 406-291-5335 at no cost to you.

9. Question: Why is replaced topsoil packed down so hard that it makes it hard to grow grass?

Response: The machinery used during soil replacement compacts the soil. EPA is now taking steps to loosen the soil after placement.

10. Question: What does it mean to get soil “outside the Libby Valley?” Are you going to Kalispell or Eureka? Have you considered getting soils from Bonners Ferry? You used to amend soil to improve it. Is that still working or being done?

Response: We are seeking more consistent sources of better quality soil. To reduce the possibility of background levels of asbestos in replacement soil, we are obtaining soil from outside the Libby Valley. For its definition of the Libby Valley, EPA uses data from the USGS that outlined the highest point of the ancient lake that had existed in the Libby area. This ancient lake was formed from the recession of the glaciers and the scouring of the mountains. The supplier must provide soil that meets EPA standards. In some cases the supplier adds amendments to meet the standards.

11. Question: What do I need to do to have my entire property cleaned up instead of bits and pieces?

Response: If you have specific questions regarding your property in Libby, please contact the EPA Information Center in Libby at 406-293-6194 or in Troy contact 406-295-9238.

General Questions

1. Question: Can you please explain which locations in “the valley” were not affected by mining and its sub processes in the ambient air?

Response: For its definition of the "Libby Valley" in background studies, EPA used data from the USGS that outlined the highest point of the ancient lake that had existed in the Libby area. This ancient lake was formed from the recession of the glaciers and the scouring of the mountains. In addition, the volcano that formed the vermiculite deposit also may have contributed to the lake sediments. The materials that were left behind by the glacial activity and the volcano contained asbestos. There are areas within the boundaries of the ancient lake that have not been developed or forested. These undeveloped areas represent soil not impacted by vermiculite mining activities and may represent "background soil" conditions.

2. Question: What level of liability does the owner of a contaminated property assume by refusing to allow remediation?

Response: EPA's policy titled “Policy Towards Owners Of Residential Property At Superfund Sites” OSWER Directive 9834.6 dated July 3, 1991, states that EPA, in the exercise of its enforcement discretion, will not take enforcement actions against an owner of residential property unless his activities lead to a release or threat of release of hazardous substances, resulting in the taking of a response action at the site.

An owner of residential property located on a Superfund site is protected if the owner:

- Has not engaged and does not engage in activities that lead to a release or threat of release of hazardous substances, resulting in the taking of a response action at the site.
- Cooperates fully with EPA by providing access and information when requested and does not interfere with the activities either EPA or a state is taking to implement a CERCLA response action.
- Does not improve the property in a manner inconsistent with residential use.
- Complies with institutional controls (e.g., property use restrictions) that may be placed on the residential property as part of the Agency's response action.

EPA's policy can be found at:

www.epa.gov/compliance/resources/policies/cleanup/superfund/policy-owner-rpt.pdf.

EPA's policy, as described above, does not affect any possible liability of the owner of the property to third parties.

3. Question: What is the boundary of the "Libby Valley?"

Response: EPA used data from the USGS that outlined the high water level of the ancient lake that was formed from the recession of the glaciers and the scouring of the mountains.

4. Question: Will there be funding for the cleanup with all of EPA's budget cuts?

Response: Currently, most of EPA's activities in Libby are being funded from a cash settlement from a former operator of the mine. Once the settlement account is expended, funding for the Libby Superfund site will come from the agency's annual Superfund budget.

5. Question: Does EPA have an obligation to control sales of material from an operable unit (OU)?

Response: EPA has the authority to address any "substantial threat" of a release to the environment of material containing low levels of asbestos provided EPA has information showing that this release would present an unacceptable risk or an imminent and substantial endangerment to public health or the environment. EPA does not have broad authority to simply ban the sale or distribution of any material containing low levels of asbestos.

6. Question: At the conclusion of remedial work will the site be deleted from the National Priorities List (NPL)? What does it take to get the sites off the NPL list? Once you've gone through a response action are there any criteria for taking the property off the NPL list?

Response: Upon implementation of the remedy, delisting of an operable unit(s) (OU) from the NPL can occur as long as the OU meets the performance standards established in the Record of Decision (ROD). More information on deletions can be found in section 3 and section 5 of EPA's guidance titled "Closeout Procedures for National Priorities List Sites," OSWER directive 9320.2-22, dated May 2011 at: www.epa.gov/superfund/programs/npl_hrs/closeout/index.htm. Generally entire sites are deleted, but under some circumstances portions of a site can be deleted.

7. Question: According to the Superfund Orientation manual, which is part of EPA CERCLA guidance, once a site is deemed complete EPA submits its intention to delist the site. The guidance goes on to say that EPA cannot certify site completion and certify NPL delisting if the hazardous substance is still located on the site and the example the manual uses is a containment remedy. How are properties going to be delisted from the NPL if you've left contamination in place?

Response: A site, or portion of a site, including a site that involved a containment remedy, can be deleted from the National Priorities List once the performance standards have been met. (See Section 5 of EPA's guidance titled "Closeout Procedures for National Priorities List Sites," OSWER directive 9320.2-22, dated May 2011 www.epa.gov/superfund/programs/npl_hrs/closeout/index.htm.) If waste has been left in place, above levels that would allow for unrestricted use and unrestricted exposure, five-year reviews will be required to ensure continued protectiveness of the remedy.

8. Question: Are more people now providing access?

Response: Yes. EPA is making a concerted effort to get access from those property owners who have not given us access in the past. EPA continues to encourage those who have not permitted access to their property to do so.

9. Question: How can I stay in the loop regarding progress on residential cleanups, ICs, etc.?

Response: EPA and MDEQ maintain information centers in Libby and Troy that provide the community with access to information relating to the cleanup activities. In addition, EPA participates in a number of public meetings on a monthly basis in Libby. These include the Libby Area Technical Assistance Group, the Community Advisory Group, as well as other small group meetings, all of which are open to the public. Dates and times of these and other public meetings are advertised in the local newspapers in Libby. EPA also maintains a Libby Asbestos site webpage at www.epa.gov/libby.

10. Question: How can we improve press coverage in the national media?

Response: EPA works to tell the full story. We have no control over how the media frames its reporting. We also will continue to remind the media that a lot has been accomplished to make both Libby and Troy safer than they were 10 years ago.