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COMPARISON BETWEEN NEW AND OLD EPA PCB GUIDANCE

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Introduction

There are three new or updated publications on EPA's website which change EPA's approach to PCBs in schools and other buildings to discourage any testing which could lead to remediating caulk and other PCB-containing building materials:

"PCBs in Building Materials, Questions and Answers," dated July 28, 2015;

"Exposure Levels for Evaluating PCBs in Indoor Air" (undated and also contained within the Q & A) and

"Practical Actions for Reducing Exposure to PCBs in Schools and Other Buildings," dated July 28, 2015.

The Toxic Substances Control Act (TSCA) and its implementing regulations make it illegal to continue use of building materials which contain 50 parts per million (ppm) or more PCBs, based upon a finding by EPA that use of these materials "presents an unreasonable risk of injury to health." The old guidance essentially advised school districts and other building owners to evade TSCA by not testing caulk or other building materials, so that TSCA's 50 ppm limit could not come into play, at least at the outset. Instead, it advised Best Management Practices (BMPs) (basically cleaning and servicing ventilation systems). But it also encouraged air testing, which though in itself cannot detect legal violations and require remediation, was presented as a step to caulk testing and remediation if EPA's public health guidelines for PCBs in indoor air were exceeded.

By contrast, under the new guidance, EPA is not advising caulk testing at all except in connection with renovation or demolition of the building. Even air testing is discouraged, only to be considered in consultation with the EPA regional PCB Coordinators in unspecified circumstances. All schools built between 1950 and 1980 are advised to conduct BMPs and to remove PCB light ballasts, without ever testing to find out what their situation is or if there are legal violations. Legal violations are barely mentioned. Thus, except in unusual and unspecified circumstances, owners and occupants of schools and other buildings will never find out the levels of PCBs to which they are being exposed, and whether they are legally required to be removed, unless and until there is a planned renovation or demolition in which the PCB-containing materials will be removed anyway. Even if a building owner does decide to test the

air, the consequences are greatly attenuated. Exceeding the standards does not automatically warrant action, but only "thoughtful consideration." In addition, the acceptable levels have been increased, especially for 3 to 6 year old children, where the acceptable amount of PCBs in air has been doubled.

Comparison of new and old public guidance

1. Recommendations to test air and building materials. In an older document, "Preventing Exposure to PCBs in Caulking Material," EPA states:

> **Test for PCBs in buildings built between 1950 and 1979**
>
> I£ school administrators and building owners are concerned about exposure to PCBs and wish to supplement these steps [BMPs], EPA recommends testing to determine if PCB levels in the air exceed EPA's suggested public health levels. If testing reveals PCB levels above these levels, schools should attempt to identify any potential sources of PCBs that may be present in the building, including testing samples of' caulk and other building materials (e.g., paints, floor and ceiling tiles) and looking for other potential PCB sources (e.g., old transformers, capacitors, or fluorescent light ballasts that might still be present at the school).
> ….
>
> **Avoid exposure to PCBs in building caulk**
>
> PCBs may be released to air from intact, undisturbed caulk through off-gassing, and people may inhale the released PCBs. The condition of the caulk is not an indicator of the presence of PCBs. The only way to be sure that caulk has PCBs is to have a professional test the caulk. In addition to inhalation from PCBs in the air or dust, exposure may occur when a person comes in contact with the caulk and any surrounding materials into which the PCBs may have been released (e.g., brick, concrete, wood). Exposure may also occur through contact with PCB-contaminated soil adjacent to buildings. Soil may become contaminated with PCBs when caulk weathers.

Another document, "How to Test for PCBs and Characterize Suspect Materials" does even further in recommending caulk testing, though it does say it applies "if you would like to test for the presence of PCBs in a building."

> **Building Characterization and Sampling Plan**
>
> A sampling plan should be developed to characterize the caulk and other potential building materials that might either contain PCBs or be contaminated through contact with PCB-containing caulk such as wood, masonry, or brick. The sampling plan should consider the following steps:

1. Test indoor air to determine if PCBs are present in building indoor air. If your building is a school you can compare the test results to the Exposure Levels for Evaluating PCBs in Indoor School Air.
   If PCBs in indoor school air are above the exposure levels determine the extent of the problem by:

2. Testing suspect building material to determine PCB sources. Building material that is removed and contains 50 ppm PCBs or greater is regulated for disposal (see Abatement Step 3)
3. Evaluate building material sample results and determine if surrounding materials warrant testing.
4. Outline areas requiring corrective action and prioritize contaminated building materials for removal based on their PCB-concentration levels, potential accessibility, and building occupancy (see Abatement Step 1 for more details).

By contrast, the new "Practical Actions for Reducing Exposure to PCBs in Schools and Other Buildings," recommends only 1) removal of PCB-containing florescent light ballasts 2) BMPs; 3) removal of PCB-containing building materials during planned renovations or repairs; and 4) considering encapsulation to reduce PCB exposure, which applies only to surrounding materials after PCB building materials are removed during repairs and renovations, and is to be considered on a case-by-case basis by the EPA regional PCB coordinator. Materials identification and testing is not mentioned at all.

On the subject of testing, the old (2012) Q & A document stated:

> 44. **If the 50 ppm regulatory standard applies to PCB levels as contained in the caulk, why are you telling people to test the air?**
> Where schools or building owners are concerned about PCB exposure and want to supplement EPA's best management practices, testing the air is the most meaningful way of assessing the potential for exposure and risk.
>
> **27. Why shouldn't all schools be testing all caulk to determine whether it contains PCBs?**
> The regulations do not require testing for PCBs. While testing the caulk to determine whether PCBs are present is useful is some instances, EPA at this time recommends air testing as the next step for schools that are concerned about potential risks and wish to supplement the protections provided by EPA's recommended best practices. As EPA gains new information from ongoing research, it will make further recommendations regarding testing and removal of PCB-containing caulk. School administrators and building owners should consider testing to determine if PCB levels in the air exceed EPA's suggested public health levels. It is possible that PCBs may be released to air from intact, undisturbed caulk through off-gassing, although the mechanism for such release is not well-understood.

By contrast, the new Q & A eliminates the above questions and answers and states:

21. What should a school administrator do if there are concerns about possible exposure to PCBs in school indoor air?

As noted in Q & A # 16, EPA recommends that all schools and other buildings built or renovated between about 1950 and 1979 implement Best Management Practices (BMPs) to minimize potential building occupant exposure to PCBs. After implementing BMPs, school administrators should consult their EPA Regional PCB Coordinator to assess if there still may be the potential for PCB releases in their school and whether to consider testing indoor air for PCBs. If air testing is conducted, the test results should be evaluated using the Exposure Levels for Evaluating PCBs in Indoor School Air (see Q&A # 25 and 26).

Each school is unique, which means that many factors should be considered when deciding whether and how to test the indoor air at a school. The decision should be made in consultation with the EPA Regional Coordinator and the decision makers should thoughtfully consider all available information, such as: school-specific conditions (e.g., building age, types of materials used in construction, layout, maintenance and renovation history), BMPs already implemented to address PCB sources (see (Q&A #16), and available technical resources, costs and public concerns.

2. Conversion of air levels from action levels to levels for "thoughtful consideration." The old recommended air levels were called "Public Health Levels for PCBs in Indoor School Air" or, as titled in the old Q & A, "Maximum Concentrations of PCBs in School Air." The old Q&A documents states: "EPA recommends that the concentrations of PCBs in indoor air be kept as low as is reasonably achievable and that total PCB exposure be kept below the reference dose level."

In contrast, the new document is titled "Exposure Levels for Evaluating PCBs in Indoor Air," and EPA emphasizes that the indoor air levels "were derived to serve as health protective values intended for evaluation purposes. They should not be interpreted nor applied as 'bright line' or 'not-to-exceed' criteria, but may be used to guide thoughtful evaluation of indoor air quality in schools."

The new Q & A document expands upon this, stating: "Isolated or infrequent indoor air PCB measurements that exceed the exposure levels would not signal unsafe exposure to PCBs. When measured indoor school air PCB concentrations are above these exposure levels, the EPA suggests that school building administrators take further steps to reduce PCB exposure such as reviewing, reevaluating and adjusting BMPs or taking other actions to identify and address PCB sources."

3. Acceptable Air Levels of PCBs Increased

The levels for 1 to 2 and 2 to 3 year olds have increased from 70 nanograms per cubic meter to 100.
The level for 3 to 6 year olds had been increased from 100 to 200.
The level for 6 to 12 year olds has remained the same at 300.

The level for 12 to 15 year olds has increased from 450 to 500.
The level for 15 to 19 year olds has remained the same at 600.
The level for adults has increased from 450 to 500. (The level for adults is lower than for older children because it is assumed that they spend more time at the school).

No research or documentation is presented justifying these increases, (or for that matter was presented to justify the old levels), but EPA states that they were changed based on two factors: 1) rounding to the nearest 100 nanograms and 2) to reflect more recent data on dietary exposure. (Less dietary exposure would increase the exposure that could come from air and still meet the dose believed to be safe). However it appears that the values that were not round numbers, the amounts for 1 to 2, 2 to 3, and 12 to 15 year olds and adults, were rounded up to the nearest hundred, and the increase from 3 to 6 year olds from 100 to 200 is the only one that must have been based on decreased dietary exposure. There is no explanation why rounding (which all turned out to be up) is warranted, what that means about the precision of the estimates, or what evidence supports decreased dietary exposure and why it affected only 3 to 6 year olds.

4. Implementation of TSCA Law. The new documents greatly escalate EPA's movement towards ignoring the TSCA law and its own regulation which outlaws the continued use of materials containing PCBs at 50 ppm or more. By avoiding testing, building owners will never know whether they are in violation of the law, and EPA will have nothing to enforce. The previous Q&A discussed the law at some length, and gave clear warnings that use of PCBs above 50 ppm was illegal, though it did express EPA's intention not to enforce it if its other recommendations were followed:

> **EPA's Enforcement Approach for PCB-Contaminated Caulk**
>
> **41. Don't the regulations prohibit caulk containing PCBs above 50 ppm? Will EPA require all such caulk to be removed?**
> EPA regulations implementing the Toxic Substances Control Act (TSCA) prohibit the use of PCBs at levels above 50 ppm, including continued use in caulk that is already in place. While TSCA regulations do not require building owners to test caulk for PCBs, if testing shows PCB concentrations above the regulatory limit, then the regulations require the removal of those PCBs. Schools that are planning renovations or repairs should take the opportunity to test for PCBs and remove caulk found above the regulatory limit.
> **42. Does EPA intend to enforce the requirement that caulk above 50 ppm be removed?**
> Although EPA does have enforcement tools which it can use as appropriate where the PCB concentration in the caulk is above the regulatory limit, EPA is most interested in ensuring that schools undertake the recommended steps it has announced today. EPA believes that enforcement may not be the most effective tool to reduce health risks where schools are following these recommendations. Thus, such schools will in most cases be a low priority for enforcement. Nonetheless, EPA will not hesitate to act in situations where there are significant risks to public health.
> **43. Should schools speak with EPA about their potential enforcement exposure?**

A school's top priority should be to implement the best practices described elsewhere in this announcement to minimize exposure as soon as possible. Schools do not need to enter into an agreement with EPA to implement the majority of these actions, except where noted. For school administrators or others who want to formalize their actions, EPA will make available a streamlined model administrative consent order confirming the school's commitment to implement the current EPA recommendations.

….

45. Does EPA have authority to require testing for PCBs – in caulk or air?

EPA regulations do not require schools to test for PCBs in caulk or air, although it encourages testing in certain circumstances as noted above. EPA retains authority to obtain an order to address situations presenting an imminent hazard.

46. What will EPA do if schools don't test? Or if they test and find PCBs well above 50 ppm in the caulk or above EPA's risk thresholds in the air?

EPA regulations do not require schools to test for PCBs, but EPA encourages schools to conduct air testing where PCB use is suspected and to take action to reduce exposure where EPA's public health levels are exceeded. Although EPA does have enforcement tools which it can use as appropriate where the PCB concentration in the caulk is above the regulatory limit, EPA is most interested in ensuring that schools undertake the recommended best management practices. EPA believes that enforcement is generally not the most effective tool to reduce health risks where schools are following these recommendations. However, EPA will consider its enforcement options where PCBs in schools or other buildings present serious risks to public health that are not being addressed.

In contrast, the new Q & A eliminates the above questions and answers and has only one Q & A on the subject on the law and enforcement:

VI. EPA's Enforcement Approach for PCB-Containing Building Materials

33. Does EPA intend to enforce the requirement that caulk ≥ 50 ppm and other PCB materials unauthorized for use be removed?

EPA regulations implementing the Toxic Substances Control Act (TSCA) prohibit the use of PCBs in caulk and other building materials manufactured with PCBs at levels greater than or equal to 50 ppm, including the continued use of such materials that are already in place. EPA regulations also generally prohibit the continued use of other materials that are contaminated with PCBs by such manufactured sources. Although EPA does have enforcement tools that it can use as appropriate where the PCB concentration in the caulk or other materials is above the regulatory limit, EPA is most interested in ensuring that school districts and other building owners undertake the recommended actions to limit exposures to PCBs (see Q&A #16). EPA believes that enforcement may not be the most effective tool to reduce health risks when school districts and other building owners follow these recommendations. Thus, such buildings will in

most cases be a low priority for enforcement. Nonetheless, EPA will not hesitate to act in situations where there are significant risks to public health that are not being addressed.

5. Research

Research that EPA previously said it had or would conduct regarding PCBs, including how sources of PCBs contribute to concentrations in air, dust and soil, and research evaluating methods to reduce exposure, apparently has not been done, or not made available to the public. Using particular air levels to evaluate what action should be taken, or recommending best management practices to reduce exposure, as EPA has done, without such research leaves those recommendations without scientific support.

"EPA Fact Sheet - PCBs in Caulk" (Dec. 2012) states:

> ….
> **EPA Research on PCBs in Buildings**
> • EPA has conducted research to: 1) characterize potential sources of PCB exposures in schools (caulk, coatings, light ballasts, etc.); 2) investigate the relationship of these sources to PCB concentrations in air, dust, and soil; and, 3) evaluate methods to reduce exposures to PCBs in caulk and other sources.
> • Read more about the results of this research.

However, the current research page on EPA's website states only the following:

Research Results

- Caulk put in place between 1950 and 1979 may contain as much as 40% PCBs and can emit PCBs into the surrounding air. PCBs from caulk may also contaminate adjacent materials such as masonry or wood.

- Fluorescent lighting fixtures that still contain their original PCB-containing light ballasts have exceeded their designed lifespan, and the chance for rupture and emitting PCBs is significant. Sudden rupture of PCB-containing light ballasts may result in exposure to the occupants and may also result in the addition of significant clean-up costs.

- Some building materials (e.g., paint and masonry walls) and indoor dust can absorb PCB emissions and become potential secondary sources for PCBs. When the primary PCB-emitting sources are removed, the secondary sources often emit PCBs.

- Encapsulation is a containment method that uses a coating material to separate PCB sources from the surrounding environment to reduce surface and air concentrations of PCBs. Encapsulation is only effective at reducing air concentrations to desirable levels when PCB content in the source is low. Selecting high-performance coating materials is key to effective encapsulation. Multiple layers of coatings enhance the performance of the encapsulation.

As EPA gains new information, it will make further recommendations regarding PCBs in schools and how to best prevent harmful exposure.

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