

PCBs in Schools: Region 9's Risk Based Approach to Schools



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Steve Armann
U.S. Region 9
Waste Management Division, PCB Program

Summary of EPA Information

- PCB Regulations
- Region 9's Risk Based Approach
- Best Practices for Reducing Exposures
- Air Testing
- Additional Resources

Regulation of PCBs

40 CFR 761 - Toxic Substances Control Act

Polychlorinated Biphenyls (PCBs) Manufacturing, Processing,
Distribution in Commerce, and Use Prohibitions

- PCBs are regulated by the U.S. EPA under the Toxic Substances Control Act
- A few key points:
 - Regulations prohibit the use of PCBs equal to or greater than 50 ppm in caulk and other non-liquid products, including continued use of products already in place
 - Intact PCB-containing light ballasts are an authorized use - BUT if they leak PCBs then the spill area must be cleaned and proper disposal of the ballast is required
 - Proper classification and disposal of renovation and demolition wastes containing PCBs is required under TSCA regulations
- Regulations regarding PCB use, clean-up, and disposal can be complicated - consult your EPA Regional PCB Coordinator – Carmen Santos - 415-972-3360 or “Santos.Carmen@epa.gov”

Region 9's Risk Based Approach To PCBs in Schools

- PCBs were widely used in building materials from about 1950 until 1979.
- If your school was built or renovated during this timeframe you may want to consider:
 - Implementing PCB Best Management Practices
 - Replacement of PCB Ballasts
 - Thorough cleaning of school surfaces (initial and routine)
 - Testing of air for PCB concentrations
 - If air concentrations are above national health guidelines, evaluate and mitigate sources.

Current Best Practices for Minimizing PCB Exposures

First Steps:

If your school or building was built or renovated between 1950 and 1979, there are several steps schools can take to reduce potential exposure until it can be determined with certainty if PCBs are present:

- Ensure ventilation systems are operating as designed
- Clean frequently to reduce dust and residue inside buildings
- Use a wet or damp cloth or mop to clean surfaces
- Use vacuums with high-efficiency particulate air (HEPA) filters
- Do not sweep with dry brooms; minimize the use of dusters
- Wash children's hands with soap & water often, particularly before eating
- Wash children's toys often
- Wash hands with soap and water after cleaning



Current Best Practices for Minimizing PCB Exposures



Fluorescent and High Intensity Light Ballasts:

- EPA recommends replacement of lights having PCB-containing ballasts
- Benefits include:
 - A reduction of PCBs in the air
 - Reduced disruption and cost in responding to smoking/leaking ballasts
 - Expected reduction in energy consumption
 - Long-term cost savings when replaced with more energy efficient lighting
 - Improved classroom lighting

Current Best Practices for Minimizing PCB Exposures

Caulk and Other PCB-Containing Materials:

Consider air testing as a way to determine if PCBs are present above indoor air public health levels; if so:



- Conduct Testing to identify potential sources of PCBs.
- Encapsulation or barriers may be considered as short-term measures; in the long term encapsulants are not effective for caulk with levels above a few hundred ppm
- Remove PCB-containing caulk and other known primary source materials from the building to help lower air concentrations
- Removal must be performed by qualified contractors and steps taken to minimize the spread of dust and vapors
- Re-test the air to verify successful reduction in levels; if levels in air are not reduced below public health levels, remediation and follow-up testing may be needed

PCB Air Testing

PCBs in Air

- There are no regulatory standards for PCB concentrations in indoor air
- EPA has developed recommended public health levels for different age groups that are anticipated to keep PCB exposures below the “reference dose” from the combined exposures at schools and from other sources
- For more information contact EPA Region 9’s PCB Coordinator –
 - Carmen Santos – 415-972-3360 or “Santos.Carmen@EPA.gov”

Public Health Levels of PCBs in School Indoor Air (ng/m³)

Age 1-<2 yr	Age 2-<3 yr	Age 3-<6 yr	Age 6-<12 yr Elementary School	Age 12-<15 yr Middle School	Age 15-<19 yr High School	Age 19+ yr Adult
70	70	100	300	450	600	450

Current Best Practices for Minimizing PCB Exposures

PCBs in Caulk in Older Buildings | Polychlorinated Biphenyls (PCBs) | EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

Polychlorinated Biphenyls (PCBs)

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PCBs in Caulk in Older Buildings

PCBs in Caulk in Older Buildings

You will need Adobe Reader to view some of the files on this page. See [this page](#) to learn more.

Page Contents

- Overview
- Background
- What You Can Do to Minimize Exposure
- Testing
- Resources for Contractors Working on Older Buildings
- Additional Information
- What is EPA's Got More Information?

Overview

In recent years, EPA has learned that caulk containing potentially harmful polychlorinated biphenyls (PCBs) was used in many buildings, including schools, in the 1950s through the 1970s. Most schools and buildings built after 1979 do not contain PCBs in caulk. On September 25, 2020, EPA announced new guidance for school administrators and building managers with important information about managing PCBs in caulk and tools to help minimize possible exposures. Through [this PCB background document](#), the Agency will also assist communities in identifying potential problems and, if necessary, developing plans for PCB testing and removal.

For more information:

- [PCBs in Caulk Fact Sheet \(PDF\)](#) (10 pp, 30K)
- [PCBs in Caulk Frequently Asked Questions \(FAQ\)](#) (14 pp, 31K)

The EPA is conducting research to address several unresolved scientific questions that must be better understood to assess the magnitude of the problem of PCBs in caulk and identify the best long-term solutions. For example, the link between the concentrations of PCBs in caulk and PCBs in the air or dust is not well understood. The Agency is doing research to determine the sources and levels of PCBs in schools and to evaluate different strategies to reduce exposures. The results of this research will be used to provide further guidance to schools and building owners as they develop and implement long-term solutions. Read more about [research on PCBs in caulk](#).

EPA has calculated prudent public health levels that maintain PCB exposures below the "reference dose" – the amount of PCB exposure that EPA does not believe will cause harm. Read [Public Health Levels for PCBs in Indoor Air \(PDF\)](#) (11 pp, 14K).

Background

Caulk is a flexible material used to seal gaps to make windows, door frames, masonry and joints in buildings and other structures watertight or airtight. At one time caulk was manufactured to contain PCBs because PCBs imparted flexibility.

<http://www.epa.gov/pcbcaulk> (2/7/20) (4.5 KB, 36 PNG)

Get Professional Advice and Information:

- Remediating PCBs in buildings can be challenging
- Contact your EPA PCB Coordinator – Carmen Santos
- Read EPA information and guidance – see “Additional Resources” at the end of this presentation
- Work with certified contractors experienced in PCB assessment and remediation in buildings

Additional Resources

U.S. EPA. Find your EPA Regional PCB Coordinator
<http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/coordin.htm>

U.S. EPA. PCBs in Caulk in Older Buildings
<http://www.epa.gov/pcbsincaulk/>

U.S. EPA. PCBs in Caulk – Frequently Asked Questions
<http://www.epa.gov/pcbsincaulk/pdf/caulk-faqs.pdf>

U.S. EPA. PCB-Containing Fluorescent Light Ballasts (FLBs) in School Buildings; A Guide for School Administrators and Maintenance Personnel
<http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/ballasts.htm>

U.S. EPA. Public Health Levels for PCBs in Indoor School Air
<http://epa.gov/pcbsincaulk/maxconcentrations.htm>

U.S. EPA. Current Best Practices for PCBs in Caulk Fact Sheet – Interim Measures for Assessing Risk and Taking Action to Reduce Exposures
<http://www.epa.gov/pcbsincaulk/caulkinterim.htm>

U.S. EPA. Current Best Practices for PCBs in Caulk Fact Sheet – Removal and Clean-Up of PCBs in Caulk and PCB-Contaminated Soil and Building Materials
<http://www.epa.gov/pcbsincaulk/caulkremoval.htm>

Additional Resources

U.S. EPA. Current Best Practices for PCBs in Caulk Fact Sheet – Testing in Buildings
<http://www.epa.gov/pcbsincaulk/caulktesting.htm>

U.S. EPA. How to Test for PCBs and Characterize Suspect Materials
<http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/guide/guide-sect3.htm>

U.S. EPA. Steps to Safe Renovation and Abatement of Buildings that Have PCB-Containing Caulk
<http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/guide/index.htm>

U.S. EPA. Contractors: Handling PCBs in Caulk During Renovation
<http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/caulkcontractors.htm>

U.S. EPA. Management, Cleanup, and Disposal of PCB Wastes
<http://www.epa.gov/epawaste/hazard/tsd/pcbs/index.htm>

U.S. EPA. Fact Sheets for Schools and Teachers About PCB-Contaminated Caulk
<http://www.epa.gov/pcbsincaulk/caulkschoolkit.htm>

U.S. EPA. PCBs in Schools Research
<http://www.epa.gov/pcbsincaulk/caulkresearch.htm>

CDC-ATSDR. Toxicological Profile for Polychlorinated Biphenyls (PCBs).
<http://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=142&tid=26>