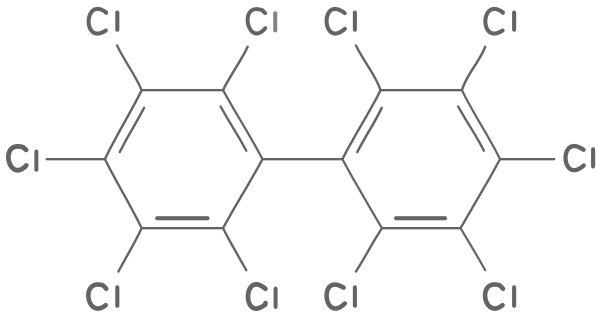


PCB Caulk in Older Buildings and Schools

By: Paul S. Zak, CIH, Michael B. Collins, CIH, Robert B. Greene, PE, PG, CIH

This past September, the **U.S. Environmental Protection Agency (EPA)** issued guidance to building owners and school administrators on Polychlorinated Biphenyl (PCB) exposures from caulks used in many buildings constructed or renovated between 1950 and 1978. The purpose of this guidance document is to assist the public in understanding and reducing the risks posed by PCB caulking, through good work practices, testing and assessing the materials, and clean-up procedures. **This PCB guidance may affect you, if you are the owner or manager of any building built or renovated between 1950 and 1978.**



What are PCBs?: PCBs are man-made chemicals that persist in the environment and were widely used in construction materials and electrical products prior to 1978. Although the manufacture and most uses of PCBs were banned and phased out in 1978, the EPA has evidence that many buildings across the country constructed or renovated between 1950 and 1978 may have PCBs at high levels in the caulk around windows and door frames, between masonry

columns, mastics, expansion joints and in other masonry building materials. This caulk may be present inside and on the exterior of the building, as well as surrounding surfaces.

How harmful are PCBs?: PCBs can cause a variety of adverse health effects. PCBs have been documented to cause cancer in animals, as well as other adverse effects to the immune system, reproductive system, nervous system, and endocrine system. PCBs can persist in the environment and bioaccumulate. Bioaccumulation refers to the accumulation of substances, such as PCBs, in a person. Bioaccumulation occurs when a person absorbs a toxic substance at a rate greater than that at which the substance is lost. Thus, the greater the risk of chronic poisoning, even if environmental levels of PCB are not very high. Exposure to these PCBs may occur as a result of their release from the caulk into the air, and exposure to indoor dust, surrounding surfaces and soil through direct contact.

The PCB guidance may affect you, if you are the owner or manager of any building built or renovated between 1950 and 1978.



What should I do?: The EPA recommends that building owners and managers implement procedures to minimize exposure to potentially contaminated caulk through “best” practices, including:



- Frequent cleaning, wet mopping, cleaning air ducts, frequent hand washing, etc.
- Testing peeling, brittle, cracking or deteriorating caulk
- Removing caulk if PCBs are present at significant levels
- Conducting air testing to determine if the airborne PCB levels exceed the EPA's suggested public health levels

In addition, the EPA recommends that PCB caulk be removed during planned renovations and repairs (i.e. when replacing windows, doors, roofs, ventilation, etc.).

The EPA regulations currently in place do not require testing for PCBs. However, the EPA does recommend air testing and sampling for deteriorated caulk as the next step for schools and other building owners that are concerned about potential risks and wish to supplement the protections provided by the EPA's recommended best practices. The EPA will continue to provide recommendations as more research is conducted.

The EPA provides the following cost estimation for testing:

Air Analysis: \$100 per sample	Caulk Analysis: \$100 per sample
Wipe Analysis: \$100 per sample	Soil Analysis: \$100 per sample

An assessment of PCBs in caulk in your facility should consist of the following:

- Review of construction/renovation records including MSDS sheets (if available)
- Air and bulk sampling
- Assessing the location and condition of the caulk
- Determining the potential for human exposure to the caulk
- Identification of interim actions to minimize exposure

Further information on PCB caulk can be found on:
GLE's web site at www.gleassociates.com/News/IndustryNews/PCB.aspx
EPA's web site at www.epa.gov/pcb
Specific questions can be answered by a GLE expert at 888-453-4531

