

EPA Fact Sheet - PCBs in Caulk

PCBs

- Polychlorinated biphenyls (PCBs) are man-made chemicals that persist in the environment and were widely used in construction materials and electrical products prior to 1978
- PCBs can affect the immune system, reproductive system, nervous system and endocrine system and are potentially cancer-causing if they build up in the body over long periods of time.
- Congress banned manufacture and use of PCBs in 1976 and they were phased out in 1978 except in certain limited uses.

PCBs in Caulk

- PCBs may be present in the caulk used in windows, door frames, masonry columns and other masonry building materials in many schools and other buildings built or renovated between 1950 and 1978
- In some cases, PCBs represent a high percentage of the caulk, e.g. 100,000 parts per million (ppm) or higher
- Because PCBs can migrate from the caulk into air, dust, surrounding materials and soil, EPA is concerned about potential PCB exposure to school children and other building occupants
- The link between PCBs in caulk and exposures to PCBs in the air or dust is not well understood. EPA is currently conducting research to better understand this issue
- People are exposed to PCBs from many sources, including diet, but air or dust levels in buildings may account for a significant portion of exposure.
- The air levels of PCBs to which individuals may be exposed vary depending on the age of the person exposed and the amount of time the person spends in building areas where PCBs are present. 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. Those levels vary depending on the age group and use assumptions about potential PCB exposures in schools and from other sources, such as diet.

Immediate Steps to Reduce Exposure

- Though this is a serious issue, the potential presence of PCBs in schools and buildings should not be a cause for alarm – there are steps school administrators and building owners can take to protect students, teachers and others
- Where a school or other building was built or renovated between 1950 and 1978, EPA recommends the following "best practices" to minimize potential exposure:
 - o Improve ventilation by opening windows and using or installing fans where possible
 - o Clean frequently to reduce dust and residue inside buildings
 - o Use a wet or damp cloth or mop to clean surfaces
 - o Using vacuums with high efficiency particulate air filters
 - o Do not sweep with dry brooms; minimize the use of dusters
 - o Wash children's hands with soap and water often, particularly before eating
 - o Wash children's toys frequently
 - o Wash hands with soap and water after cleaning, and before eating or drinking.

Testing the Air for PCBs and Addressing Elevated Levels

- If school administrators and building owners are concerned about exposure to PCBs and wish to supplement these steps, EPA recommends testing to determine if PCB levels in the air exceed EPA's suggested public health levels.
- Schools should attempt to identify any potential sources of PCBs that may be present in the building, including testing samples of caulk and looking for other potential PCB sources (e.g., old transformers, capacitors, or fluorescent light ballasts that might still be present at the school).

- If elevated air levels of PCBs are found, schools should have the ventilation system evaluated to determine if it is contaminated with PCBs. Although the ventilation system is unlikely to be an original source of PCB contamination, it may have been contaminated before other sources of PCBs were removed from the school and may be contributing to elevated air levels. Contaminated ventilation systems should be carefully cleaned. Ideally, such cleaning should be planned in concert with removal of any sources of PCBs that are found to avoid re-contamination of the system.
- During the search for potential sources, schools should be especially vigilant in implementing to minimize exposures and should retest to determine whether those practices are reducing PCB air levels
- If these measures do not reduce exposures, caulk and other known sources of PCBs should be removed as soon as practicable.

Removal of PCB-contaminated Caulk during Renovations and Repairs

- Where schools or other buildings were constructed or renovated between 1950 and 1978, EPA recommends that PCB-containing caulk be removed during planned renovations and repairs (when replacing windows, doors, roofs, ventilation, etc.)
- It is critically important to ensure that PCBs are not released into the air during renovation or repair of caulk in affected buildings. EPA is recommending simple, common sense work practices to prevent the release of PCBs during these operations.
- Assessment of the ventilation system for potential contamination, proper cleaning when required, and isolation of the system to prevent further contamination are also important.
- A list of these work practices can be found at www.epa.gov/pcbsincaulk.

Addressing Deteriorating Caulk

- If caulk is peeling, brittle, cracking or visibly deteriorating, EPA recommends it be tested directly for the presence of PCBs and removed if PCBs are present at significant levels.

Future EPA Recommendations

- Research conducted by EPA and others over the next two years will clarify three issues: 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.
- This research will result in additional EPA recommendations on how best to reduce risk and exposure from PCBs in schools and other buildings.

For More Information

- Building owners and school administrators seeking additional guidance and information can call **(888) 835-5372**.
- Schools, parents, building owners and contractors can find information on the safe handling and renovation of potentially contaminated caulk here: www.epa.gov/pcbsincaulk