



EHS FACT SHEET
PCB's found in caulking material-Q&A
July 25, 2007 revision 3

Caulking found to be unrecognized source of PCB contamination in building materials

This fact sheet is intended to provide initial guidance to DOF Project Managers and other appropriate MIT personnel regarding PCB (Aroclor) containing building materials. A study conducted by the Harvard University School of Public Health (which can be found at <http://www.hsph.harvard.edu/press/releases/press07202004.html>) has shown that PCB containing caulking materials were used in the construction of masonry buildings during the 60's and 70's. The suspect caulking materials (polysulfide based) were used primarily for sealing doors, windows and possibly concrete joints and seams. The EPA banned the use of PCBs in manufacturing in 1977 but has not required caulking to be tested to determine PCB content, so it is unknown as to what extent the material still exists in these buildings. Like asbestos insulating materials, disturbing the PCB containing material during projects involving building repair, demolition or renovation can result in serious health and environmental concerns. The potential exists for exposure to PCB's among both building occupants and workers who remove the material.

What are PCB's?

PCBs (polychlorinated biphenyls) are synthetic organic compounds widely known for their insulating properties. They were used in electrical transformers and many other industrial and commercial applications. Product use included insulating and hydraulic oils, sealants, caulking and many plastic and rubber compounds.

Why the concern over PCB's?

PCB's are a suspected human carcinogen, thus requiring special handling and disposal procedures. When the caulking is disturbed the potential exists for exposure to PCB containing dust by inhalation, ingestion and dermal contact. PCB contaminated caulking and building material debris is regulated by the EPA as a hazardous waste under the Federal Toxic Substance Control Act (TSCA) and Federal regulation 40 CFR 761 and must be disposed of following all federal, state and local restrictions.

What is the concern about PCB's as it relates building maintenance, repair and renovation projects?

The concern relates to health and safety issues resulting from the uncontrolled disturbance/removal of caulking materials. When these buildings undergo repair or renovation work where windows and/or door systems are removed or joint/seams are disturbed; there is the potential for PCB contamination of the occupied spaces in the buildings. In addition, studies have shown that elevated levels of PCBs can be found in the soils surrounding buildings where PCB containing sealants and caulking materials have been used. Also identifying PCB containing caulking prior to the start of a project

will allow for budgeting of remediation and disposal expenses and minimize delays that would occur if discovered after the project starts.

Is PCB containing caulking materials present in buildings at MIT?

While no campus wide sampling or studies have been conducted at MIT, a Harvard University study of older masonry buildings in the Boston area suggests to us that PCB containing caulking and sealants may have been used during the construction of many buildings at MIT, especially those constructed during the 60's and 70's.

What is the recommended course of action to prevent PCB contamination during building repair, demolition and renovation activities at MIT?

Contact the MIT EHS Office so that sampling and analysis of sealants and caulking material can be conducted prior to building repair, demolition and renovation projects involving windows, exterior doors and any concrete joint/seam sealants in MIT buildings constructed prior to 1980.

MIT EHS has a well-established and fully implemented program for pre-construction asbestos sampling and testing of building materials. EHS recommends that the course of action in buildings built before 1980 additional samples will be collected and analyzed to confirm or deny the presence of PCB containing caulking as part of this process. Also over time PCBs from caulking can leach into the adjacent porous material i.e. concrete so this material will need to be tested. Any detectable concentration of PCBs would result in this material also being regulated under TSCA.

If sampling reveals the presence of PCB containing caulking material, then a licensed contractor should perform the removal of this material using control methods to protect the workers and prevent environmental contamination (e.g. asbestos removal contractor).

How should PCB contaminated caulking materials be disposed?

Caulking material containing PCBs greater than 50 parts per million at the time of disposal is considered hazardous waste regulated by the Federal Toxic Substance Control Act and federal regulation 40 CFR 761. Any removal of PCB containing caulking or concrete must receive prior approval by the EPA Region 1 office and requires a MA licensed Site Professional to design the project. Keep in mind that analytical and disposal costs will need to be included in project budgets.

Who do I contact if I have questions about PCB's?

Call the MIT EHS Office at 2-EHSS (617-452-3477.)

This fact sheet, as well the Harvard University study on PCB contaminated caulking materials can be found on our web page at <http://www.hsph.harvard.edu/news/press-releases/2004-releases/press07202004.html>

You can also go to <http://www.epa.gov/opptintr/pcb/> to access the Environmental Protection Agencies (EPA's) web site on PCB's.