PCBs in Schools—Still a Problem
Legacy PCBs in construction materials used in schools

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Source: www.pcbinschools.org

We acknowledge support from the Harvard NIEHS Center for Environmental Health, Grant number P30ES000002
At the end of 9 minutes you will know:

PCBs were commonly used in building materials from about 1950 to about 1980.

Those materials release PCBs to the environment.

People who work, live and go to school in those buildings are exposed to PCBs.

They have elevated levels of PCBs in their blood from exposure in these buildings.
Who was first?

Studies in the US

SOURCES OF TOXIN REVEALED AT BOURNE SCHOOL

Author(s): Shirley Leung, Globe Staff  Date: March 21, 1996  Page: 92  Section: METRO

The US Army Corps of Engineers said yesterday that joint caulking and wood fiber ceiling material and paint are the sources of a known toxin found at a Bourne elementary school last September.

The Clayton E. Campbell School on the Massachusetts Military Reservation has been shut down since the beginning of the school year because of environmental problems. Tests conducted at the school revealed levels of polychlorinated biphenyls (PCBs), a probable carcinogen, that were 2,000 times greater than acceptable under state rules.

The school, built in 1965 by the Housing & Home Finance Agency for the children of personnel stationed at Otis Air Force Base, closed in the early 1970s because of budget cuts but was to open last fall to 250 third and fourth graders.

It is one of four schools on the military reservation, a federal Superfund site. There was no contamination found at the other schools.

Perform a new search
## PCBs in Building Materials – Boston Area

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Aroclor 1254 (ppm) in Caulking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government office</td>
<td>35,600</td>
</tr>
<tr>
<td>Government office</td>
<td>25.2</td>
</tr>
<tr>
<td>University housing</td>
<td>36,200</td>
</tr>
<tr>
<td>University dorm</td>
<td>70.5</td>
</tr>
<tr>
<td>University classroom</td>
<td>26,400</td>
</tr>
<tr>
<td>Elementary school</td>
<td>7,740</td>
</tr>
<tr>
<td>Middle school</td>
<td>5,010</td>
</tr>
<tr>
<td>High School</td>
<td>5,970</td>
</tr>
<tr>
<td>Synagogue</td>
<td>8,240</td>
</tr>
</tbody>
</table>

Source: Environmental Health Perspectives Vol 112, No. 10, July 2004
• Of the 24 buildings sampled, 13 contained caulking material in which detectable levels of PCBs were measured.

• Of these 13, eight buildings contained caulking that exceeded the 50 ppm EPA criteria, in some cases by a factor of nearly 1000 (range 70.5-36,200 ppm; mean 15,645 ppm).
PCBs in Schools

• URI Closes Building on Kingston Campus
  (URI News Bureau, URI, 12/23/00)

• Tests Reveal High PCB Levels at French Hill School
  (N. County News, Yorktown Heights, NY, 9/14/05)

• Science Library Closed Temporarily for PCB Testing
  (In the Loop, UMass-Amherst, 9/6/06)

• PCBs in Caulking and Soils in Westchester County Schools
  (N. County News, Yorktown Heights, NY, 5/24/06)

• Mahar Hall at SUNY Oswego Tested Positive for PCB Material in Caulking
  (SUNY Construction Fund, Albany, NY, 10/07/05)

• Some Caulking May be Linked to Cancer, Harvard Study Finds
  (The Boston Globe, Boston, MA, 7/21/04)
In what state health officials call the first cleanup of its kind in the state, a school district in Westchester County is planning to remove soil next to an elementary school in Yorktown Heights because the soil is contaminated by PCB's from caulking in the school's windows.

Dr. Daniel Lefkowitz requested tests on scraps of caulk left after maintenance at French Hill Elementary School, where his son, Evan, is a student. The tests found PCB's at 350 times above the federal limit.
<table>
<thead>
<tr>
<th>Location</th>
<th>PCB in caulk (range, ppm)</th>
<th>PCB in air</th>
<th>reference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>mean/median (ng/m$^3$)</td>
<td>range (ng/m$^3$)</td>
</tr>
<tr>
<td>Germany</td>
<td>124,000 and 327,000 ppm</td>
<td>nr (not reported)</td>
<td>1,000 and greater</td>
</tr>
<tr>
<td>Germany</td>
<td>500,000 (approx)</td>
<td>nr</td>
<td>3,643-13,561</td>
</tr>
<tr>
<td>Sweden</td>
<td>70-120,000 schools</td>
<td>nr</td>
<td>0-37</td>
</tr>
<tr>
<td>US</td>
<td>Nondetected-33,000</td>
<td>nr</td>
<td>&lt; 38.2-393</td>
</tr>
<tr>
<td>US</td>
<td>1,830 – 29,400</td>
<td>432 median</td>
<td>299 – 1,800</td>
</tr>
<tr>
<td>US</td>
<td>&lt;1-440,000</td>
<td>318 median</td>
<td>&lt;49-953</td>
</tr>
</tbody>
</table>
EPA/NYC Pilot Project

- January 2009- Evaluated PCBs in caulk
- Summer 2010- Air, dust and soil samples
- Levels above health-based benchmarks

Source: PCBs in Lighting Fixtures in NYC Schools

Presentation by Judith Enck, EPA Regional Administrator, US EPA Region 2
Ballast Location
Oily Stains
Serum PCB concentrations – teachers compared to referents
More Information

A comprehensive summary is at www.pcbinschools.org


USEPA at http://www.epa.gov/pcbsincaulk/

Malibu Unites for healthy schools at http://malibuunites.com/
References


U.S. Environmental Protection Agency “Polychlorinated Biphenyls (PCBs) in School Buildings: Sources, Environmental Levels, and Exposures” Au:Kent Thomas, Jianping Xue, Ronald Williams, Paul Jones, Donald Whitaker; EPA/600/R-12/051 | September 30, 2012