

Triumvirate's Roundtable

PCBs in Building Caulking

A Risk Management Approach for Today

Presented by:
Sean Reagan, Director of Operations



7 Stages of GRIEF

- SHOCK/DENIAL
 - PAIN/GUILT
 - ANGER
 - DEPRESSION
 - RESIGNATION
 - RECONSTRUCTION
 - ACCEPTANCE
- 

PCBs in Building Caulk

- 2000: URI - Chafee Building
- 2004: Dr. Bob Herrick, HSPH – “An Unrecognized Source of PCB Contamination in Schools and Other Buildings”
- 2004: French Hill Elementary, Yorktown Heights, NY
- 2005: SUNY Oswego
- 2006: MIT - Westgate Complex, MIT
- 2006: UMass - Lederle Complex
- 2007: Pablo Casals Elementary, Bronx, NY
- 2009: (Sept) EPA’s Guidance - “PCB in Caulk in Older Buildings”
- 2010: Connecticut Technical High Schools
- 2010: EPA Consent Order - City of NY Dept of Public Schools

How Would You Respond to:

- “Is my child at risk – what do you know about PCBs in their school/building and what are you doing about it?”
- “Are there PCBs in my buildings? What will they do to me?”
- “How much is this going to cost me?”

What is Your Current Approach?

- “Talk to the Hand” – sit and wait approach or just not aware, observing, no discussion internal – avoidance (60%)
- “Middle of Road” – recognize future action likely necessary - discussing issue internally – taking steps – inventory projects/buildings, debating internal policy/BMPs (30%)
- “Full-Tilt” – Implement BMPs, assessment of caulking, contact materials, dust, air, soil via testing, remediate caulking...engaging EPA on matter (10%)

Risk-Based PCB Caulk Program

- 1) Building Assessment
 - List Buildings – age of construction, use
 - Inventory and Inspection of Caulking
 - Develop and Implement BMPs
- 2) Cleaning/Selective Removal
- 3) Education/Awareness
 - Inform building occupants – how to minimize exposure
- 4) Testing (air/wipe/grab)
- 5) Contractor Management
- 6) On-site PCB Waste Management

Cleaning/Selective Removal

- 1) Need to not spread the problem – trained personnel
- 2) SOP for cleaning (protective equipment, TSP, Hexane)
- 3) Properly manage waste



Education/Awareness

- 1) Develop Fact Sheets, Educational posters
- 2) Language barriers
- 3) Train onsite inspection/cleaning crews

**Fact Sheet for Schools:
Caulk containing PCBs
may be present in older
schools and buildings**

Between 1960 and 1978, caulk containing potentially harmful PCBs (polychlorinated biphenyls) was used in many buildings, including schools. Although PCBs were banned in the United States in 1979, contaminated caulk still exists in older buildings, especially in buildings that have not had the caulk replaced. PCB bioaccumulation in children can damage immune, reproductive, nervous, and endocrine systems.

Children can be exposed to PCBs by:

- Breathing in dust contaminated with PCBs
- Touching caulk and contaminated soil directly
- Putting their hands into their mouths after touching the caulk, soil, and surrounding building materials.

What are PCBs?
PCBs are organic chemicals that were used in construction materials and electrical products produced before 1978. Caulk containing these chemicals may still be present in older schools and buildings, sometimes at high levels. With increased awareness and cleanup efforts, PCB levels in the United States have decreased substantially.

How are people exposed to PCBs?
People whose workplaces and jobs involve working with PCB-laden objects or in PCB cleanup are at the highest risk for elevated exposure. Most people have some accumulation of PCBs in their bodies. Fish, meat, and dairy contain small amounts of PCBs. In fact, most people's exposure to PCBs is via the food chain. When products containing PCBs are disposed of improperly, PCBs can enter residential and commercial fish and other animals. Indoor air has been found to contain PCBs from some types of caulk in building materials. People can also be exposed to PCBs when handling PCB-containing products such as caulk.

Does the caulk in my home or other places contain PCBs?
PCBs in caulk have not been found in single-family homes. EPA has only found the chemical in caulk in large, older apartment complexes and some older buildings, such as schools.

What can I do about PCBs in schools?
If caulk containing PCBs is discovered, you should avoid direct contact with caulk and nearby porous materials, if possible. If caulk-containing PCBs are discovered, be sure to limit exposure to the caulk until it has been safely removed. Here are some ways for decreasing exposure:

- Keep children from touching caulk or surfaces near caulk
- Clean frequently to reduce dust
- Use wet cloths to clean surfaces
- Use vacuum with HEPA filter
- Wash children's hands with soap and water before eating
- Wash children's toys often
- Wash surfaces, window sills, walls, and objects often in rooms known to have PCB-containing caulk
- Consider testing the air for PCBs or lead caulk if it is peeling or visibly deteriorating
- Consider safe work practices when renovating
- Improve ventilation by opening windows or adding exhaust fans
- Clean air ducts

What NOT to Do:

- Do not attempt to remove PCB-containing caulk by yourself. PCBs should be removed by professional remediation equipment who follow procedures to minimize the spread of PCBs.
- Do not sweep with dry brooms or use dustpans because they spread dust.

Are children in direct danger if their school has caulk containing PCBs?
PCBs accumulate in the body at high levels only after prolonged exposure to the chemical. Follow the recommended procedures to reduce exposure. Restricting children from areas where PCB-containing caulk is located, promoting safe work practices during renovation activities in schools, and removing caulk as part of a PCB removal or renovation project reduces the potential for exposure.

EPA is helping to address the issue of PCBs in caulk
EPA is conducting research on how the public is exposed to PCBs in caulk and on the best approaches for reducing exposure and potential risks associated with PCBs in caulk. Where PCBs have been found in caulk, EPA is committed to helping schools and communities enact plans to reduce exposure. Please contact your regional PCB coordinator at 888-836-8372 for help with assessing contamination and exposure and developing cleanup plans.

Contact
Call EPA's PCBs in Caulk Hotline: 888-836-8372 to learn more about PCBs in caulk and to get information on PCB professionals in your area.

EPA-747-F-09-003

CONTRACTORS

**Handling PCBs in Caulk
During Renovation**

EPA-747-F-09-004

United States
Environmental Protection
Agency
Office of Pollution Prevention and Toxics (7404)

EPA-747-F-09-005
September 2009

**EPA Preventing Exposure to
PCBs in Caulking Material**

Testing

- 1) Very careful considerations
- 2) Recommend testing to verify AFTER cleaning
- 3) Air, Wipes, Caulking, Soil

Contractor Management

- 1) Numerous contractors took random tests to protect their workers
- 2) Develop form letter that addends contract – cannot sample w/o our prior acknowledgement
- 3) Increased attention from Solid Waste facilities
- 4) Hazmat assessments for pre-construction
- 5) Due Diligence and Fin47

On-site PCB Waste Mgt.

- 1) Handle contact material and caulking as PCB bulk waste (no sampling) – in a bulk container
- 2) Prevents “failure to waste determination”

Benefits of a Program

- Make risk based decisions to deploy limited resources wisely
- Establish local awareness of mgt. personnel and occupants (reduce fear)
- Proactive position is one of strength
- Ability to address concerned agencies or citizens – may provide some leverage
- Avoid costly cleanups (contractor/solid waste facilities)

SUSPECT PCB CONTAINING MATERIALS: BUILDING EVALUATION SUMMARY SHEET

Building Name: Address: Telephone No.:		Completion Date: By: Principal:	
Construction 0= After 1979 5= Prior to 1930 10= Between 1930 & 1979 Major Renovation 0= After 1979 10= Between 1930 & 1979 Building Occupied 0= No 10= Yes Scheduled Renovation 0= No 10= Yes Environmental Justice Area 0= No 5= Yes HVAC System 0= HVAC System Present 5= Heating System Only No. of Classrooms 1= Less than 5 2= 5-15 Classrooms 3= 15-25 Classrooms 4= >25 Classrooms	Building 1= Administration Only Population 2= Grades 9-12 3= Grades 5-8 4= Grades 1-4 5= Kindergarten & Preschool Total of Material Summary Sheets For Exterior (0 for pre-inspection ranking) Total of Material Summary Sheets For Interior *Multiply total for interior by 1.5 (0 for pre-inspection ranking) Additional Consideration 0= No 5= Yes Describe: _____ _____ _____ _____		
TOTAL BUILDING RATING (Qualitative rating for relative comparison. Scale 0-64 for pre-inspection.)			
Comments: _____ _____ _____			

What's Next?

- Likely that more PCB caulk cases will appear in media
- Solid waste facilities may require “as common practice” - PCB testing of C&D loads
- EPA research on health effects of PCB caulking results – no time table (next 2-4 years?)
- Special interest groups/politicians likely to become more involved
-stay tuned.....

TEI's PCB in Building Materials Webpage

http://www.triumvirate.com/pcb-consulting-services/

Education PCB Testing and Remediation Services - Microsoft Internet Explorer provided by TRIUMVIRATE ENVIRONMENTAL

http://www.triumvirate.com/pcb-consulting-services/

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PCB Remediation Blogs

- [EPA Guidance on Managing PCB Caulk](#)
- [PCBs: An Environmental Health and Safety Concern](#)
- [PCBs in Schools - Déjà vu All Over Again](#)
- [What are PCBs?](#)
- [*ALL PCB REMEDIATION BLOGS](#)

PCB Testing & Remediation Services

An emerging environmental health issue with wide-ranging implications - for all facilities, especially for schools - is the presence of PCBs in building related material including caulking and paints. While EPA Headquarters and Regional offices develop more specific policy and regulations, schools and other facilities are left little guidance to assist them in weaving their way through this very complex, expensive and time-consuming issue.

Triumvirate Environmental has been actively engaged on this issue for the past 5 years with policy/strategy development, testing programs, project/remediation management, as well as developing innovative, cost-saving remedial approaches. This page contains

Questions?

800.966.9282
x8959

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