

C O N T R A C T O R S

Handling PCBs in Caulk During Renovation



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This brochure is meant to provide contractors, parents, teachers, and school administrators a general overview of the practices a contractor should consider when conducting the renovation of a building that has polychlorinated biphenyl (PCB)-containing caulk. PCBs were not added to caulk after 1978. Therefore, in general, schools built after 1978 do not contain PCBs in caulk.

Contractors play an important role in protecting public health by helping prevent exposure to toxic PCBs. Ordinary renovation and maintenance activities involving the removal of PCB-containing caulk and the surrounding contaminated substrate (brick, masonry, cinder block, wood, etc.) can create dust that contains PCBs which can expose children and adults. PCBs have been demonstrated to cause a variety of adverse health effects, including cancer in animals. PCBs have also been shown to cause a number of serious non-cancer health effects in animals, including effects on the immune system, reproductive system, nervous system, endocrine system, and other health effects.

Consider Testing the Air in Buildings Built Between 1950 and 1978 to Determine Whether Your School or Building May Have PCBs

If school administrators and building owners are concerned about exposure to PCBs and wish to supplement the steps recommended in this brochure, EPA recommends testing to determine if PCB levels in the air exceed EPA's suggested public health levels. If testing reveals PCB levels above these levels, schools and buildings should be especially vigilant in implementing and monitoring practices to minimize exposures.

If PCBs are found in the air, EPA will assist in developing a plan to reduce exposure and manage the caulk. Caulk that is peeling or deteriorating may be tested to determine its PCB content. Your EPA regional PCB coordinator can direct you to a PCB testing lab.

Take Site-Specific Protective Measures

- Be in compliance with occupational protection regulations for contractors. (http://www.osha.gov/OshDoc/data_General_Facts/ppe-factsheet.pdf).

- Protect building occupants and passersby by containing the work area to prevent PCB-containing caulk dust from getting into the surrounding environment.
- Determine disposal options based on concentration and type of material.
- Use replacement caulk/sealant that is free of environmental hazards.



A pilot renovation project may be warranted to verify whether the renovation goals can be met. It will allow you to compare methods, tools, and protective measures to get specific information about their effectiveness and cost.

Before Starting the Job, Consider the Types of Tools and Machinery for Removing Caulk

- Manual tools are recommended for soft flexible caulk:
Advantages: no dust and no heat.
Disadvantages: labor intensive and slow.
- Electric tools are recommended for hardened/brittle caulk:
Advantages: faster, less labor intensive.
Disadvantages: generate heat (which can volatilize the PCBs) and dust, requiring added protective measures. Also must consider the potential abrasive effects on sensitive adjoining structures (e.g., wood and metal).

Notify Interested Parties and Plan for Emergencies

- Communicate the goals, type, and length of projects and specific behavior rules to the affected groups (PTA, school principal, etc.).
- Have an emergency contact list (hospitals, police, etc.).
- Ensure workers are properly trained.
- Prevent unauthorized persons from entering the site.

Take General Protective Measures

- Ensure workers are properly trained.
- Choose the method that minimizes the amount of dust generated.
- Choose methods that protect workers, building users, passersby, and the surroundings of the restoration project.
- Use proper containers to hold removed caulk.
- Use gloves and skin protection.
- Use eye goggles.

- Do not smoke, drink, or eat in the work area.
- Wash hands prior to breaks.
- In dusty work areas, have showers available and separate changing areas so that dust on clothing is not brought home.
- If working with solvents, provide respirators.

Interior Areas

- Cover work areas with plastic.
- Use signs to keep residents and pets out of the work area.
- Remove furniture and belongings, or cover them securely with heavy plastic sheeting.
- Use heavy plastic sheeting to cover floors and other fixed surfaces like large appliances in the work area.
- Improve ventilation and add exhaust fans. Close and seal the ventilation system in the work area and, if necessary, turn off forced-air heating and air-conditioning systems.
- Regularly clean the work area with an industrial HEPA vacuum and by wet mopping.
- Properly dispose of personal protective equipment and cleaning material.

Exterior Areas

- Mark off the work areas to keep non-workers away.
- Cover the ground.
- Enclose scaffolding.
- Cover the ground and plants with heavy plastic sheeting.
- Close windows and doors near the work area.
- Move or cover play areas near the work area.

Leave the Work Area Clean

On a daily basis you should:

- Put trash and debris in heavy-duty plastic bags.
- Wrap waste building components, such as windows and doors, in heavy plastic sheeting and tape shut.
 - Ensure that everything, including tools, equipment, and even workers, is free of dust and debris before leaving the work area.
 - HEPA vacuum the work area.
 - Remember, you do not want to bring PCB dust home and expose your family.



- Remind residents to stay out of the work area. When the job is complete, you should also:
 - Remove the plastic sheeting carefully, mist with water, fold dirty side in, tape shut, and dispose of it.
 - HEPA vacuum all surfaces, including walls.
 - Wash the work area with a general purpose cleaner.
 - Check your work carefully for dust because hazardous amounts may be minute and not easily visible. If you see any dust or debris, then reclean the area.



Dispose of Renovation Waste Materials that Contain PCBs in Compliance with the Toxic Substances Control Act (TSCA)

- PCB-containing caulk is considered *PCB bulk product waste* if the concentration of PCBs in the caulk is greater than or equal to (\geq) 50 parts per million (ppm).
- If PCBs have contaminated either the surrounding building materials or adjacent soil, these materials are considered *PCB remediation waste*.

Disposal Options

PCB bulk product waste:

The disposal of *PCB bulk product waste* is regulated under 40 CFR § 761.62 of TSCA. Under this provision, *PCB bulk product waste* must be disposed of in one of two ways: disposal in a permitted solid waste landfill or via a risk-based disposal approval process.

Disposal in solid waste landfills. Certain *PCB bulk product waste*, such as PCB-containing caulk, even if the concentration of PCBs in the caulk is \geq 50 ppm, may be disposed of in non-hazardous waste landfills permitted by states. Disposal under this option does not require you to obtain approval from EPA.

Risk-based option. The risk-based option allows for a site-specific, risk-based evaluation of whether *PCB bulk product waste* may be disposed of in a manner other than under the performance-based disposal option or the solid waste landfill disposal option. Disposal of *PCB bulk*

product waste under this option requires you to obtain approval from EPA based on a finding that the disposal will not present an unreasonable risk of injury to health or the environment.

PCB remediation waste:

The disposal of *PCB remediation waste* is regulated under 40 CFR § 761.61 of TSCA. There are three options for management of *PCB remediation waste*:

Self-implementing cleanup and disposal. The self-implementing option links cleanup levels with the expected occupancy rates of the area or building where the contaminated materials are present. The disposal requirements for the self-implementing regulatory option vary based on the type of contaminated material and concentration of PCBs in the materials, among other things. Cleanup and disposal under this option requires you to notify your [EPA Regional PCB Coordinator](http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/coordin.htm) (<http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/coordin.htm>).

Performance-based disposal. The performance-based option allows for disposal of the contaminated materials in either a TSCA chemical waste landfill or TSCA incinerator, through a TSCA-approved alternate disposal method, under the TSCA-regulated decontamination procedures, or in a facility with a coordinated approval issued under TSCA. Disposal under this option generally does not require you to obtain approval from EPA.

Risk-based cleanup and disposal. The risk-based option allows for a site-specific evaluation of whether *PCB remediation waste* may be cleaned up or disposed of in a manner other than the alternatives provided under the self-implementing or the performance-based disposal options. Disposal of *PCB remediation waste* under this option requires you to obtain an approval from EPA based on a finding that the disposal will not present an unreasonable risk of injury to health or the environment.



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Printed with Vegetable Oil-Based Inks on Recycled Paper
(Minimum 50% Postconsumer) Process Chlorine Free

Additional Information on EPA's Website (www.epa.gov/pcbsincaulk/)

EPA has developed an informational brochure and fact sheets to provide building owners and managers with key information on the current best practices for addressing PCBs in caulk. You can find these documents at <http://www.epa.gov/pcbsincaulk/> :

[Preventing Exposure to PCBs in Caulking Material](http://www.epa.gov/waste/hazard/tsd/pcbs/pubs/caulk/caulkexposure.htm)
(<http://www.epa.gov/waste/hazard/tsd/pcbs/pubs/caulk/caulkexposure.htm>)

[Fact Sheet: Testing for PCBs in Buildings](http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/caulk/caulktesting.htm) (<http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/caulk/caulktesting.htm>)

[Fact Sheet: Interim Measures for Reducing Risk and Taking Action to Reduce Exposures](http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/caulk/caulkinterim.htm) (<http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/caulk/caulkinterim.htm>)

[Fact Sheet: Removal and Clean-Up of PCBs in Caulk and PCB-Contaminated Soil and Building Materials](http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/caulk/caulkremoval.htm)
(<http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/caulk/caulkremoval.htm>)

[Fact Sheet: Disposal Options for PCBs in Caulk and PCB-Contaminated Soil and Building Materials](http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/caulk/caulkdisposal.htm) (<http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/caulk/caulkdisposal.htm>)

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 the air, soil, or in the caulk and other building materials, EPA is committed to helping schools and communities enact plans to reduce exposure. Please contact your regional PCB coordinator at 888-835-5372 for help with assessing contamination and exposure and developing cleanup plans.

Where Can I Get More Information?

For more information on how to properly test for and address PCBs in caulk, contact the [Regional PCB Coordinator](http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/coordin.htm) (<http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/coordin.htm>) for your state. For more detailed information on renovation and removal, go to <http://www.epa.gov/pcbsincaulk/> or call the PCBs in Caulk Hotline at 888-835-5372.