



PCBs in Schools: Why are they there, and what can we do?

- Between 1950 and 1980, many building materials like caulk, light fixtures, and adhesives were made using PCBs.

- Many schools built between 1950 and 1980 may have used these materials.

- PCBs were banned in 1979, but many schools built between 1950 and 1980 still contain PCBs.

What are PCBs?

Polychlorinated biphenyls (PCBs) are a group of chemicals that are useful in manufacturing and construction. Unfortunately, we now know that they can also affect human health and the environment.

They take a very long time to break down in the environment.

How many schools could be affected?

The number of schools at risk is large



■ All schools built between 1950 and 1980 (48,000)

The number of schools estimated to contain PCBs ranges from 25,920 ■ to 12,960 ■

How do we know if our school contains PCBs?

If your school was built between 1950 and 1980 and there is concern that PCBs are present, the EPA recommends that schools test the air rather than caulk. If the air levels are above the EPA's suggested levels, your school should contact your regional EPA PCBs Coordinator.

Why are PCBs a problem?

PCBs build up in the body over many years. We are all exposed to very small amounts of PCBs and the health risks are small.



neurodevelopment
problems in
children

cancer

problems in the
immune system

problems in the
endocrine system

We are still learning about all the ways that PCBs may affect our health.

How can children and staff be exposed to PCBs in schools?

When PCB-containing building materials age, they may release:

- PCBs into dust on surfaces, or
- into the air.

Children can be exposed by:

- touching contaminated surfaces and absorbing PCBs through their skin,
- putting their hands in their mouths and ingesting PCBs that may be in dust and
- inhaling PCBs in the air into their lungs.

Pregnant teachers and staff are a concern because:

- unborn children in the mother's womb are at greatest risk of injury. -
- exposures to even low levels of toxic chemicals during pregnancy may cause injury to the developing fetal brain.

Exposures of girls in childhood may build up in their bodies and then expose their fetuses during pregnancy when they are adults.

Young children may be at increased risk of exposure to PCBs because they put their hands in their mouths.

What can we do about PCBs in schools?

The most effective thing you can do is
remove the materials that contain PCBs.

First, remove old fluorescent light fixtures.

If it is possible to remove other building
materials, this will further reduce PCBs.

If it isn't possible to remove PCB containing
building materials, use best management
practices to lower PCBs on surfaces and in
dust.

Remove old fluorescent light fixtures that contain PCBs



**Fluorescent light fixtures
manufactured before July 1, 1979
may contain PCBs**

Many light fixtures still in use are beyond the life expectancy of their ballasts, increasing the risk of leaks, ruptures and even fires. This will result in release of PCBs.



**Replcement of Fluorescent fixtures
with LED fixtures will result in future
energy cost savings**

This will offset the cost of replacement over time, as well as making the building safer.

Removal of PCB-containing materials



The most effective thing you can do is remove the materials that contain PCBs, but this is very expensive and many schools can't afford it.

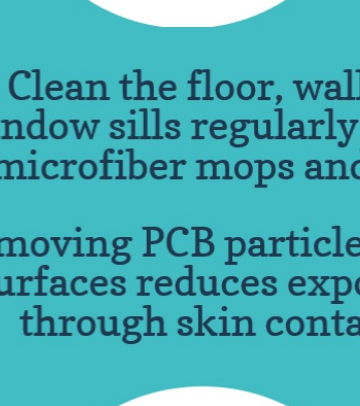
These materials have to be treated as hazardous waste.

When renovating a school that could contain PCBs, the contractor must test the materials or just treat them as hazardous waste.

Contact your regional EPA PCB coordinator for more information before you renovate.

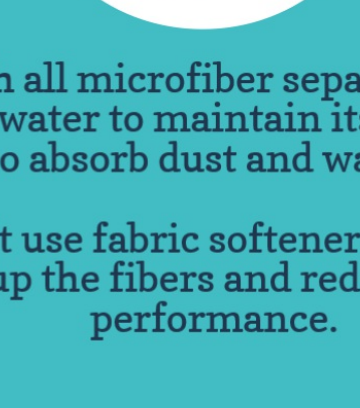
If renovation can't happen immediately, use best practices to reduce exposure to PCBs

Start a Green Cleaning Program!



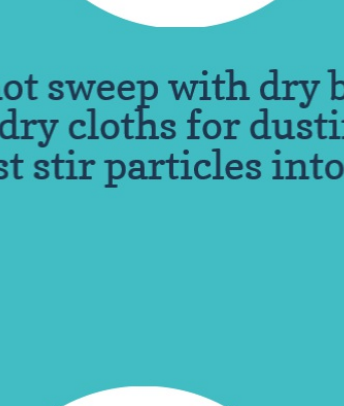
Clean the floor, walls, and
window sills regularly with wet
microfiber mops and cloths

Removing PCB particles from
surfaces reduces exposure
through skin contact.



Wash all microfiber separately in
hot water to maintain its ability
to absorb dust and water.

Don't use fabric softener-it gums
up the fibers and reduces
performance.



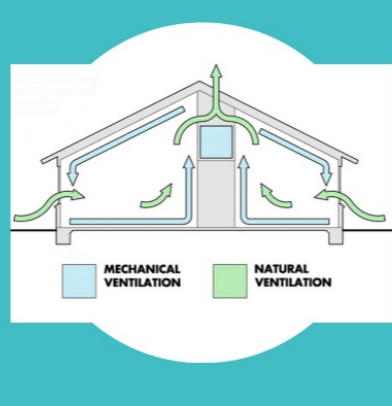
• Do not sweep with dry brooms
or use dry cloths for dusting-they
will just stir particles into the air.

Wash hands with soap and water
often, particularly before eating
and drinking.

Dust on hands gets into the body
when children are eating if they
haven't washed their hands.



Use a vacuum with a HEPA filter to
reduce dust containing PCBs,
allergens and other toxic
chemicals often found in dust.



Implement an Indoor Air Quality
improvement program. The
EPA's Indoor Air Quality Tools for
Schools Action Kit is a great place
to start (See Resources).

Delivery of outdoor air into the
school and removing air
containing PCBs through
ventilation reduces exposure to
PCBs from inhalation.

A Green Cleaning Program will help reduce the risk of
exposure to PCBs, and it will also reduce the risk of
exposure to allergens and some other toxic chemicals
commonly found in dust.

Choosing cleaning products certified by an independent
third party agency to be safer also reduces exposure to toxic
chemicals often found in cleaning products.

Resources

EPA Regional PCB Contacts <https://www.epa.gov/pcbs/epa-regional-polychlorinated-biphenyl-pcb-programs>

ATSDR, Public Health Statement: PCBs, available online at <http://www.atsdr.cdc.gov/ToxProfiles/tp17-c1-b.pdf>

EPA guidelines for disposal of PCB construction waste: <https://www.epa.gov/pcbs/polychlorinated-biphenyl-pcb-guidance-reinterpretation> and <https://www.epa.gov/pcbs/steps-safe-pcb-abatement-activities>

Exposure Levels for Evaluation of PCBs in Indoor School Air <https://www.epa.gov/pcbs/exposure-levels-evaluation-polychlorinated-biphenyls-pcbs-indoor-school-air>

Fluorescent ballasts removal: <https://www.epa.gov/pcbs/polychlorinated-biphenyl-pcb-containing-fluorescent-light-ballasts-flbs-school-buildings#procedures>

Caulk removal: <https://www.epa.gov/pcbs/summary-tools-and-methods-caulk-removal>

EPA Indoor Air Quality Tools for Schools Action Kit: <https://www.epa.gov/iaq-schools/indoor-air-quality-tools-schools-action-kit>

Green Cleaning, Sanitizing and Disinfecting: A Toolkit for Early Care and Education <http://wspehsu.ucsf.edu/general-public/resources/environmental-health-in-early-care-and-education-project/>

EPA's Safer Choice Program, <https://www.epa.gov/saferchoice>

For more information, see wspehsu.ucsf.edu/pcbsinschools