

Focus on: PCBs in Building Materials



PCBs are harmful and build up in the environment

PCBs are considered probable human carcinogens that can cause a range of adverse health effects in animals and people. They can harm the immune, reproductive, and nervous systems, and hinder growth and development.

PCBs don't readily break down in the environment—they persist and bioaccumulate through the food chain. People are most likely to be exposed to them through their diet and when inhaling PCB-contaminated air.

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ADA Accommodations

For ADA accommodations, call 360-407-6700 or email hwtrpubs@ecy.wa.gov or visit ecology.wa.gov/accessibility. For Relay Service or TTY call 711 or 877-833-6341.

PCBs were added to building materials in the past

Polychlorinated biphenyls (PCBs) are synthetic chemicals manufactured in the United States between 1929 and 1979. They were intentionally added to capacitors, light ballasts, and other building materials to improve flexibility, adhesion, and durability.

PCBs have been found in many commercial and larger buildings in Washington built or renovated before 1979. They're commonly in:

- **'Open' products**, such as caulk and other joint materials, paint, and galbestos siding and roofing.
- **'Closed' products**, such as light ballasts, capacitors, and electrical transformers due to their insulating properties.

PCBs in building materials can impact our waterways

We continue to detect PCBs in the sediments and organisms in Washington rivers, lakes, and estuaries. There are current fish consumption advisories based on risks of eating PCB-contaminated fish from certain waterways: the Lower Duwamish, Spokane, Columbia, Yakima, and Wenatchee Rivers.

Urban runoff, or stormwater, is a pathway for PCBs to enter surface waters. Building materials can be one of the sources of PCBs in stormwater.

They enter stormwater when PCB-containing products degrade or intact products leach or emit PCBs. The surrounding ground and air can become contaminated. Pressure-washing and rain mobilize the contamination, causing the PCBs to enter the stormwater. Stormwater then flows into surface waters, usually without any treatment.

PCB-containing products located inside buildings—such as PCB fluorescent light ballasts—may also cause releases of PCBs to stormwater if not removed prior to renovation or demolition.

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Prioritizing demolition and renovation best management practices (BMPs)

It's important all property owners know of the potential for PCB-containing materials to be released without the use of proper BMPs during demolition or renovation.

There's greater potential for PCBs in building materials to enter stormwater and surface waters when disturbed during these activities. PCBs can be dislodged or mobilized during structural changes and activities like concrete grinding, window and door replacement, and siding removal. This poses a risk of release to stormwater and our aquatic ecosystems.

Contractors and property owners are often unaware that PCB-containing materials exist at their construction site and few know how to reduce risks to workers and stormwater. As a result, many don't use BMPs that reduce the risk of PCB release or follow PCB-specific disposal requirements.

It's important to prioritize BMPs that address PCBs in demolition and renovation waste to tackle this significant risk to human health and the environment.

Existing regulations on PCBs in building materials

The Toxic Substances Control Act (TSCA) (40 CFR Part 761), implemented by the U.S. Environmental Protection Agency (EPA), is the primary federal law that regulates PCBs.

In May 2021, EPA published a [PCBs in Building Materials Fact Sheet](#)¹ that explains how to identify, abate, and dispose of materials in accordance with TSCA. We suggest you familiarize yourself with it when planning demolitions or renovations, particularly if working on structures built or renovated between 1950 and 1980, when it was more common to add PCBs to products.

Under TSCA, property owners are required to comply with the use, transportation, storage and disposal regulations for PCB containing building materials. **Any building material containing 50 parts per million (ppm) or greater levels of PCBs is considered "prohibited use" and must be abated.** You may be in violation of TSCA for using prohibited substances, or for storing, transporting, or disposing of these products in a manner other than prescribed in the federal PCB regulations.

The Washington State Model Toxics Control Act (MTCA) (Chapter 70.105D RCW) is Washington state's environmental cleanup law that funds and directs investigation and cleanup of contaminated sites. MTCA focuses on protection of environmental media and doesn't regulate building materials specifically, although contamination from those materials may require PCB site cleanup on a case-by-case basis. Our preliminary evaluation of each site considers levels of PCBs found and the potential for them to spread into the environment.

There's no state requirement to self-report building materials containing PCBs under MTCA, but we'll follow up with any report of materials that contain **50 ppm** PCBs or more.

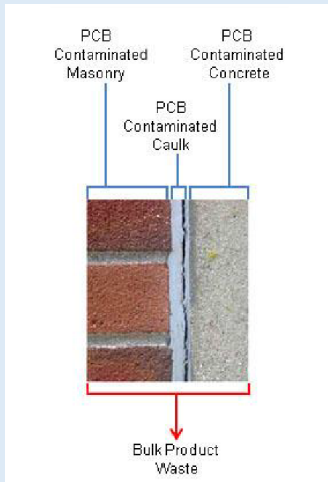
The Dangerous Waste Regulations (WAC 173-303), which implement the **Hazardous Waste Management Act** (Chapter 70A.300 RCW) regulate building materials once they become waste. Most types of PCB waste—including most PCB bulk waste materials—are excluded from dangerous waste regulation under WAC 173-303-071(3)(k) if disposal is regulated under TSCA. The following PCB-containing dangerous wastes can be excluded:

- Building material samples that exceed regulatory level toxicity characteristic leaching procedure (TCLP) concentrations for Dangerous Waste codes D018 through D043 in WAC 173-303-090(8)(c) [50].
- Materials that are state-only dangerous waste based on criteria set in WAC 173-303-100 [50].

Under TSCA, EPA addresses how to dispose of different types of cleanup debris and provides information on TSCA-approved disposal facilities. Landfills in WA state typically don't accept PCB wastes over 50 ppm.

¹ <https://www.epa.gov/pcbs/pcbs-building-materials-determining-presence-manufactured-pcb-products-buildings-or-other>

Simplify disposal requirements



Managing PCB bulk product waste under TSCA can simplify disposal requirements.

Examples of PCB bulk product waste include dried paints, caulking, and galbestos; rubber parts and components; varnishes, waxes, coatings, and sealants; and non-liquid building demolition debris.

Prevent PCBs from moving off site

No matter how PCB-containing waste is designated, once PCBs are identified, ensure you have stormwater BMPs in place to prevent PCBs from impacting nearby soils, stormwater, surface waters, and air.

BMP examples include covering debris piles, installing storm drain inlet protection, cleaning construction sites with enhanced sweeping, and using tools that minimize dust and heat.

Interim tips for building owners and others

According to EPA, building owners doing renovation or demolition can comply with TSCA by either:

- Assuming a building contains PCBs at levels of 50 ppm or greater and following TSCA for materials management and disposal, or
- Sampling and analyzing materials for PCB concentration, then following the TSCA PCB regulations based on the results.

Consider your situation in terms of cost, time, expertise, and potential for PCBs to be present.

Test building materials first

Test building materials for the presence of PCBs **before** starting your project. Collect samples from window/door caulk, paint, and other joint materials. Laboratories should provide sample containers and instructions, and can help determine the proper testing method for your building materials.

Remove PCB-contaminated waste

Note: If you're responsible for PCB cleanup, contact [EPA Region 10](https://www.epa.gov/region-10).²

When you remove the material containing PCBs, it's a **PCB bulk product waste**. You must handle it as such. Don't co-mingle it with any materials intended for recycling. When the substrate (e.g., masonry, concrete) is still attached to PCB-contaminated material (like caulk), it's also considered PCB bulk product waste (40 CFR 761.62). If substrate is not identified as PCB bulk product waste prior to demolition and separates from the primary building material during abatement activities, the substrate is considered PCB remediation waste.

Landfills sometimes restrict PCB bulk product waste, so notify your intended landfill at least 15 days before your first shipment. In Washington state, municipal solid waste landfills typically don't accept PCBs over 50 ppm.

If you fully remove impacted substrate from PCB-containing materials or fail to identify it as PCB bulk waste prior to demolition activities, you must handle it as **PCB remediation waste** (40 CFR 761.61). Separating the substrate from the PCB-containing material can be cumbersome (studies suggest substrates absorb PCBs), so TSCA allows you to dispose of the substrate and the PCB-containing material **together** as PCB bulk product waste. **We recommend you investigate. Sampling your substrate allows you to divert PCB-containing wastes as bulk waste and recycle or reuse the remaining substrate. This simplifies the waste characterization process and often reduces cost and time.**

Steps to abatement

EPA has **guidance** for testing and abating, and **requirements** for storage, transportation, disposal, reporting, and recordkeeping. You can find these on EPA's website under [steps to safe abatement](https://www.epa.gov/pcbs/steps-safe-pcb-abatement-activities).³

² <https://www.epa.gov/aboutepa/visiting-epa-region-10-pacific-northwest>

³ <https://www.epa.gov/pcbs/steps-safe-pcb-abatement-activities>