



Polychlorinated Biphenyl Dangerous Waste Guide



Hazardous Waste and Toxics Reduction Program

Washington State Department of Ecology
Olympia, Washington

Revised March 2024, Publication 21-04-034

Publication Information

This document is available on the Department of Ecology's website at:
<https://fortress.wa.gov/ecy/publications/summarypages/2104034.html>.

Contact Information

Hazardous Waste and Toxics Reduction Program

P.O. Box 47600
Olympia, WA 98504-7600
Phone: 360-407-6700

Website: [Washington State Department of Ecology](http://www.ecology.wa.gov)¹

ADA Accessibility

The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

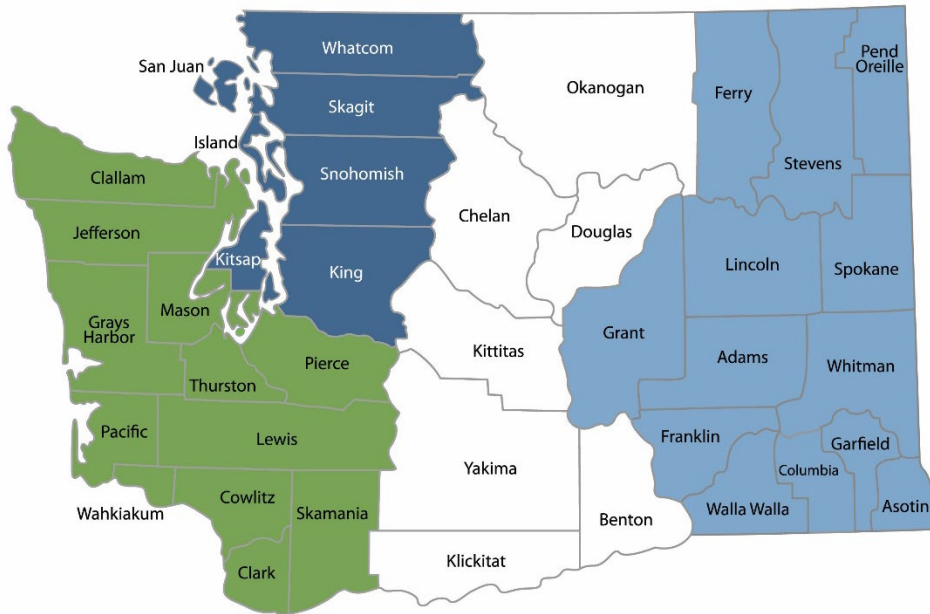
To request an ADA accommodation, contact Ecology by phone at 360-407-6700 or email at hwtrpubs@ecy.wa.gov. For Washington Relay Service or TTY call 711 or 877-833-6341. Visit [Ecology's website](http://www.ecology.wa.gov)² for more information.

¹ www.ecology.wa.gov/contact

² www.ecology.wa.gov/accessibility

Department of Ecology's Regional Offices

Map of Counties Served



Southwest Region 360-407-6300	Northwest Region 206-594-0000	Central Region 509-575-2490	Eastern Region 509-329-3400
---	---	---------------------------------------	---------------------------------------

Region	Counties served	Mailing Address	Phone
Southwest	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, Wahkiakum	PO Box 47775 Olympia, WA 98504	360-407-6300
Northwest	Island, King, Kitsap, San Juan, Skagit, Snohomish, Whatcom	PO Box 330316 Shoreline, WA 98133	206-594-0000
Central	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima	1250 W Alder St Union Gap, WA 98903	509-575-2490
Eastern	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman	4601 N Monroe Spokane, WA 99205	509-329-3400
Headquarters	Across Washington	PO Box 46700 Olympia, WA 98504	360-407-6000

Polychlorinated Biphenyl Dangerous Waste Guide

Hazardous Waste and Toxics Reduction Program
Washington State Department of Ecology
Olympia, WA

Revised March 2024 | Publication 21-04-034



DEPARTMENT OF
ECOLOGY
State of Washington

Table of Contents

Introduction	5
PCB Regulations	5
State and federal rules.....	5
State-only listed WPCB	7
WPCB wastes and activities not eligible for the exclusion	8
Common PCB Wastes	8
Intact transformers, capacitors, and bushings	8
Salvaged, rebuilt, or discarded transformers, capacitors, or bushings	9
Dielectric fluids and rinsate	9
PCB-contaminated soil and other materials.....	10
Questions and Answers	10
PCB oil spills	10
Reusing PCB oils in transformers	11
Deciding if a transformer, capacitor, or bushing is designated.....	11
Selling and burning PCB oil	11
Counting weight toward generator category	12
Transporting PCB wastes into Washington state	12
Appendix A. Acronyms and Abbreviations	13

Introduction

In this guide we describe how we regulate polychlorinated biphenyl (PCB) wastes in Washington state and provide guidance on safe PCB waste management.

You can see a list of Toxic Substance Control Act (TSCA)-approved PCB commercial storage and disposal facilities on [EPA's website](#).³

We can help with your waste reduction and compliance questions, either by phone or during a technical assistance (non-enforcement) site visit.

- Our **toxics reduction specialists** are available to provide [technical assistance](#)⁴ and advise you on pollution prevention techniques and issues.
- Our **hazardous waste inspectors** can help you understand your regulatory requirements as a generator and offer sound advice on safe waste management.

Contact your [regional Ecology office](#)⁵ to learn more.

PCB Regulations

State and federal rules

PCB wastes are regulated by the following:

- Washington State Department of Ecology under chapter 173-303 WAC (Washington Administrative Code), Dangerous Waste Regulations.
- U.S. Environmental Protection Agency (EPA) under 40 CFR (Code of Federal Regulations) Part 761, TSCA.

In this guide, we focus on the Dangerous Waste Regulations requirements, but also indicate areas that are regulated under EPA's rule. While the Dangerous Waste Regulations regulate the management of waste materials, 40 CFR Part 761 is much broader and also regulates the manufacturing, processing, distribution, and use of PCBs.

You must meet the requirements of both rules for PCB waste. However, many wastes regulated under 40 CFR Part 761 are typically excluded from the Dangerous Waste Regulations.

³ <https://www.epa.gov/pcbs/list-approved-polychlorinated-biphenyl-pcb-commercial-storage-and-disposal-facilities>

⁴ <https://ecology.wa.gov/regulations-permits/guidance-technical-assistance/pollution-prevention-services/toxics-reduction-assistance>

⁵ <https://ecology.wa.gov/contact>

The following PCB wastes are **not** excluded from the Dangerous Waste Regulations and must meet the full requirements:

- PCB waste that's designated as a [listed dangerous waste](#)⁶ (other than WPCB⁷ listing), or
- PCB waste that has one or more of the characteristic dangerous waste codes D001–D017.

PCB exclusion

PCB wastes that would otherwise be regulated as dangerous waste are excluded from the Dangerous Waste Regulations if they meet the requirements in WAC 173-303-071(3)(k).

The PCB exclusion is divided into two parts.

Part One: -071(3)(k)(i)

Discarded PCB dielectric fluid and electric equipment, and any PCB wastes that designate for state-only criteria, are excluded if their disposal is regulated by EPA under 40 CFR 761 and they are dangerous waste either because:

- They fail the Toxicity Characteristic Leaching Procedure for waste codes D018–D043; or
- They are dangerous waste only because they designate as state-only persistent waste based on the dangerous waste criteria of 173-303-100.

For electrical equipment (including, but not limited to, transformers, capacitors, and bushings), the wastes regulated under 40 CFR Part 761.60 typically contain 50 ppm PCB or greater.

Most discarded PCB dielectric fluid and electric equipment, and other state-only persistent wastes, (regulated under Part 761 at 50 ppm PCBs or greater) can be excluded under the PCB exclusion.

Part Two: -071(3)(k)(ii)

If your waste is only dangerous because it's a listed Washington state PCB (WPCB code) as described in WAC 173-303-9904, you can manage it under the exclusion. You must store and dispose of the waste in a way that meets the requirements for concentrations of 50 ppm or greater PCBs in 40 CFR Part 761 Subpart D. However, under the dangerous waste regulations, WPCBs are regulated down to 2.0 ppm PCB.

WPCB-only wastes can be excluded without being regulated under 40 CFR Part 761. For example, a transformer containing PCB fluid at 5 ppm isn't regulated under 40 CFR Part 761, but if you store and dispose of the transformer according to 40 CFR 761 Subpart D requirements, then it meets the exclusion. In other words, to gain the exclusion you must manage the waste as if it was regulated by TSCA at 50 ppm.

Under 40 CFR Part 761 Subpart D, you must dispose of or incinerate PCB wastes at TSCA permitted landfills or incineration facilities within one year.

⁶ <https://apps.leg.wa.gov/wac/default.aspx?cite=173-303-9904>

⁷ WPCB stands for Washington state-only PCB listed waste.

State-only listed WPCB

Washington's state-only PCB listing WPCB originally went into effect on May 15, 1985. The rule has had several revisions since then. PCB wastes that meet the WPCB listing in WAC 173-303-9904 are considered dangerous wastes and must be managed accordingly.

In general, the listing includes discarded transformers, capacitors, or bushings that contain PCB dielectric fluid at 2 ppm or greater. If you drain all free-flowing liquid from the PCB-containing electrical equipment, the equipment doesn't meet the listing and isn't a dangerous waste (provided it remains whole).

The WPCB listing also includes wastes from salvaging, rebuilding, or discarding the electrical equipment mentioned above.

What is covered under the WPCB listing?

The WPCB listing for PCBs only covers transformer, capacitor, and bushing wastes that contain 2 ppm or greater PCB concentration. The regulated concentration refers to the PCB concentration of the dielectric fluid or other wastes⁸ in (or removed from) the electrical equipment.

The following types of wastes are regulated as WPCB dangerous wastes if they contain 2 ppm or greater PCB:

- Transformers, capacitors, or bushings that you'll no longer use for their intended use and that you're salvaging, rebuilding, or discarding. However, if you have drained all free-flowing liquid from the transformer, capacitor, or bushing, then the empty unit isn't regulated.
- Dielectric fluids from transformers, capacitors, or bushings that you're salvaging, rebuilding, or discarding—except when you're reusing the dielectric fluids for their intended purpose⁹ (without being reclaimed) in electrical equipment.
- Cores (including core papers) from transformers, capacitors, or bushings that you're salvaging, rebuilding, or discarding. You're responsible for all wastes generated from salvaging or rebuilding activities (such as cores and core papers), even if the equipment was previously drained. You must meet all applicable requirements of the Dangerous Waste Regulations.
- Rinsate from rinsing transformers, capacitors, or bushings that you're salvaging, rebuilding, or discarding—unless you're reusing the rinsate⁹ (without being reclaimed) in other electrical equipment. Ecology doesn't recommend rinsing PCB-containing transformers, capacitors, or bushings. If you do choose to rinse them and the rinsate contains 2 ppm or greater PCB, you must manage it as WPCB dangerous waste.

⁸ The term **other wastes** includes solid or semi-solid phase pastes, waxes, or core papers, for example.

⁹ Distribution, marketing, and processing of PCB is subject to regulation under 40 CFR Part 761.

- All solid waste generated from recycling, treatment, storage, or disposal of the materials listed above—for example, residues, contaminated soils, absorbents, personal protective equipment, wastewater, or air treatment sludges.

Businesses affected by the WPCB listing

Those most likely to be affected by the WPCB listing include:

- Businesses that receive transformers, capacitors, or bushings for scrap metal or rebuilding.
- Public utility districts.
- Electrical energy production and distribution systems (e.g., Washington Public Power Supply System, Bonneville Power Administration).
- Industries that own or operate on-site transformers and capacitors.

WPCB wastes and activities not eligible for the exclusion

In general, if you don't store or dispose PCB waste according to 40 CFR 761 Subpart D requirements, it's subject to the Dangerous Waste Regulations and doesn't qualify for the WAC 173-303-071(3)(k) exclusion.

In order to be excluded, the following activities must meet 40 CFR 761 Subpart D storage and disposal standards:

- Discarding undrained transformers, capacitors, or bushings.
- Discarding dielectric fluids and rinsate. This includes discharging these substances to air, land, or water, and burning these substances.
- Managing wastes from salvaging, scrapping, or rebuilding transformers, capacitors, or bushings.
- Disposing of soils, rags, absorbents, or other materials contaminated with PCB during the salvaging or rebuilding of transformers, capacitors, or bushings.

Common PCB Wastes

We've described common PCB wastes regulated by the Dangerous Waste Regulations below. We also included applicable requirements and options that may be available for these wastes under the regulations. PCB wastes are often subject to regulation under 40 CFR Part 761 and all applicable requirements must be met in order to take advantage of the PCB exclusion.

Intact transformers, capacitors, and bushings

Intact transformers, capacitors, and bushings that contain PCB dielectric fluids at 2 ppm or greater are regulated as WPCB dangerous wastes when discarded. Note that the regulatory

definition of **discarded** includes disposal, sham recycling, and storage in lieu of disposal or recycling.

Once you take a transformer, capacitor, or bushing out of service and it can no longer serve the purpose for which it was produced without being reclaimed, it's a solid waste and may designate as a WPCB dangerous waste. However, the unit is excluded from regulation as a dangerous waste if either of these apply:

- It's drained of all free-flowing liquid.
- It's excluded under WAC 173-303-071(3)(k).

You must dispose of drained PCB units properly. The use, storage, and disposal of transformers, capacitors, and bushings that contain PCBs are also subject to regulation under 40 CFR Part 761.

Salvaged, rebuilt, or discarded transformers, capacitors, or bushings

Several wastes generated by these activities are listed as WPCB dangerous wastes if the units contained PCB at 2 ppm or greater. Specifically, the listed wastes are:

- Dielectric fluids (and any materials contaminated by dielectric fluids).
- Cores, including core papers.

These wastes may be excluded under the conditions listed in WAC 173-303-071(3)(k).

Some metallic materials removed from transformers, capacitors, or bushings may be excluded from regulation as dangerous waste. They must meet the definition of scrap metal found in WAC 173-303-040 and you must manage them in a way that prevents release of PCBs into the environment.

You must take exceptional care when using this approach since any materials that aren't scrap metal, but are contaminated with residual PCBs (such as transformer core papers), will designate as a listed WPCB dangerous waste and must be managed appropriately. Salvaging, rebuilding, and disposing of transformers, capacitors, and bushings that contain PCB are also subject to regulation under 40 CFR Part 761.

Dielectric fluids and rinsate

Dielectric fluids and rinsates drained from transformers, capacitors, or bushings are listed WPCB wastes if the PCB concentration is 2 ppm or greater. These fluids may be excluded under the conditions listed in WAC 173-303-071(3)(k).

If you reuse the fluids as cooling, insulating, or rinsing fluids without reclaiming them, they aren't solid wastes and aren't subject to the Dangerous Waste Regulations—as long as they are reused within one year from draining.

Processing, distribution in commerce, and burning PCB fluids at any concentration are also subject to regulation under 40 CFR Part 761.

PCB-contaminated soil and other materials

Soil and other waste materials that are contaminated with 2 ppm or greater PCB (such as rags and absorbents) are regulated as WPCB dangerous waste if the contamination resulted from salvaging, rebuilding, or discarding transformers, capacitors, or bushings. This includes any solid wastes that were mixed with WPCB dangerous waste.

These wastes may be excluded if they meet the conditions for exclusion in WAC 173-303-071(3)(k). These wastes may also qualify for the conditional special waste exclusion under WAC 173-303-073. Otherwise, they must be managed as dangerous waste. Spills resulting from the release of materials containing PCB are also subject to regulation under 40 CFR Part 761.

The Dangerous Waste Regulations also regulate soils and building debris (other than WPCB listed waste) if they contain PCBs at concentrations of 100 ppm or greater:

- They are regulated under WAC 173-303-100(5) as state persistent wastes.
- They may be eligible for the PCB exclusion in WAC 173-303-071(3K)(i)(B) if they're also regulated under TSCA PCB regulations.

PCB soil remediation waste is regulated under 40 CFR 761.61.

PCB-containing demolition debris is regulated under 40 CFR 761.62 as PCB bulk product waste. PCB bulk product waste includes waste materials such as caulking, plastic wiring and insulation. Read our [Focus on: PCBs in Building Materials Regulations](#)¹⁰ publication for more details.

Questions and Answers

Here are answers to the most commonly asked questions about PCB requirements.

PCB oil spills

Question: Are spills of PCB oil from transformers that are in active operation covered by the Dangerous Waste Regulations?

Answer: Yes, but not under the WPCB listing.

Spills of hazardous substances are regulated under WAC 173-303-145, including spills from transformers, capacitors, and bushings that are in active operation. Spills from discarded or salvaged transformers, capacitors, or bushings that have not been drained of all free-flowing liquid are regulated under the WPCB listing, and also subject to WAC 173-303-145.

If you spill or discharge PCBs into the environment such that human health or the environment is threatened, you must [notify the appropriate Ecology regional office](#)¹¹ and other appropriate authorities. You also must clean up the spill and manage all contaminated materials appropriately. Spills resulting from the release of materials containing PCB are also subject to regulation under 40 CFR Part 761.

¹⁰ <https://apps.ecology.wa.gov/publications/SummaryPages/2104030.html>

¹¹ <https://ecology.wa.gov/Report-a-spill>

Reusing PCB oils in transformers

Question: Can I reuse PCB oils in my transformers?

Answer: Use of PCB fluids for refilling, processing, and distribution in commerce is subject to regulation under 40 CFR Part 761. We don't implement or regulate this activity.

Deciding if a transformer, capacitor, or bushing is designated

Question: When does a person who owns and uses a transformer, capacitor, or bushing have to decide whether or not it is a waste?

Answer: A transformer, capacitor, or bushing becomes a waste when it will no longer be used for its intended use. The person who owns or uses the transformer, capacitor, or bushing is responsible for making this decision.

When you remove the device from service, you must evaluate it to determine if it's still usable. If you will no longer use it, then you must evaluate it (i.e. [designate it](#)¹²) under the Dangerous Waste Regulations to determine if it's a dangerous waste.

If you take a device out of service and make the claim it's not a waste, you should be able to show the unit is still usable and for what purpose.

Selling and burning PCB oil

Question: How is selling and burning PCB oil for fuel affected by the Dangerous Waste Regulations and 40 CFR 761?

Answer: Burning PCB-containing transformer oil as used oil fuel is prohibited by WAC 173-303-515, standards for the management of used oil.

Marketing used oil containing detectable amounts of PCBs (greater than or equal to 2 ppm) for energy recovery is prohibited under 40 CFR 761.20. The requirements for burning PCB oil under 40 CFR Part 761 are more stringent than and supersede those in the Dangerous Waste Regulations under WAC 173-303-510, special requirements for dangerous waste burned for energy recovery.

¹² <https://ecology.wa.gov/Designation>

Counting weight toward generator category

Question: Do I need to count the weight of the transformer, capacitor, or bushing shell toward my generator category?

Answer: The total weight of the transformer, capacitor, or bushing, including the shell, must be counted toward your generator category if both of the following are true:

- The unit is recycled or discarded without being drained of all free liquid.
- The unit was not excluded under WAC 173-303-071(3)(k).

Once you drain the unit, it's not designated as a WPCB dangerous waste. The fluid drained from the unit is designated as WPCB dangerous waste if it's not excluded under WAC 173-303-071(3)(k).

If a transformer, capacitor, or bushing is disassembled in the process of salvaging, rebuilding, or discarding, the core (but not the shell) is designated as WPCB dangerous waste and counts towards your generator category.

Transporting PCB wastes into Washington state

Question: How are PCB-containing wastes regulated if they're generated outside of Washington and then transported into the state?

Answer: PCB-containing waste generated out of state and transported to Washington for management may be regulated under the Dangerous Waste Regulations.

The out-of-state generator will need to evaluate the PCB-containing waste under the regulations to determine if it designates. If the dangerous waste meets the listing for WPCB waste¹³ or any other applicable dangerous waste listing, characteristic, or criteria, then you will need to manage it as a dangerous waste.¹⁴

Some types of building materials and demolition debris transported across state lines may contain PCBs, such as legacy paints and caulking. These types of wastes may designate under Washington state persistence criteria if they contain 100 ppm PCBs or greater. You would need to manage them as a dangerous waste, unless the PCB exclusion applies.

If the material is a dangerous waste, once it crosses the border into Washington you must use a uniform hazardous waste manifest and manage it as a dangerous waste. If the dangerous waste is only transported through Washington to another state—without being held at a transfer facility—the Dangerous Waste Regulations don't apply. Follow applicable U.S. Department of Transportation hazardous material regulations.

¹³ For example, it has a total PCB concentration of 2 ppm or greater and originated from a transformer, capacitor or bushing.

¹⁴ See above for information about the PCB exclusion in WAC 173-303-071(3)(k)(ii), as this may affect how the waste is managed.

Appendix A. Acronyms and Abbreviations

CFR: Code of Federal Regulations

EPA: U.S. Environmental Protection Agency

PCB: Polychlorinated biphenyl

PPM: Parts per million

TSCA: Toxic Substances Control Act

WAC: Washington Administrative Code

WPCB: Washington state-only PCB listed waste