

1. Working with Federal and State PCB Regulations on Brownfield Sites

When and What Federal Involvement is Required?

Brochure Series

Guiding States and Brownfield Projects through the PCB Rules under TSCA: Navigating the TSCA process is complex and represents a challenge for many Brownfield remediation and redevelopment projects which can stretch limited funds. This brochure series focuses on the topics most relevant to the states and their Brownfield stakeholders:

1. Working with the Federal and State PCB Regulations on Brownfield Sites: When and What Federal Involvement is Required;

2. Characterization: Sampling and Testing Approaches for PCBs;

3. Cleanup and Management of PCBs;

4. PCBs in Building Materials; and

5. PCB Articles, Containers and Liquids.

Polychlorinated biphenyls (PCBs) are contaminants often encountered on Brownfield sites. PCBs can be present in a variety of media:

- Electrical equipment including transformers, capacitors, and fluorescent light ballasts
- Building products including caulking, paint, tile mastic, and roofing material
- Industrial products including hydraulic fluids and cutting oils
- Contaminated media including soil, groundwater, and building surfaces impacted by spills, use, and improper handling or disposal of PCBs.

The cost of investigating and cleaning up PCBs can be significant. The Toxic Substances Control Act (TSCA) and the federal PCB regulations under 40 CFR Part 761 govern the manufacture, use, distribution in commerce, storage, and disposal of PCBs. However, the mere presence of PCBs at a site does not automatically involve the United States Environmental Protection Agency (USEPA) and TSCA. PCBs are also regulated by state environmental programs.

There can be distinct differences between federal and state regulations for PCB materials (and differences among the states' programs). As a result, an important first step in the restoration of any PCB-impacted Brownfield site is to determine the jurisdiction of both federal and state regulations.

This brochure is an initial guide to identifying federal regulations that apply to cleanup and disposal activities, and when USEPA approvals are required. There may be PCB impacts at Brownfield sites that require disposal in accordance with federal regulations, but do not require notification to USEPA or its oversight involvement. Also, even though there may not be any requirements under federal regulations, in certain circumstances, state requirements may still be applicable. Finally, it is common for both federal and state involvement to be required, which adds an additional layer of complexity of working with two environmental agencies.

The table below identifies PCB-materials, commonly found on Brownfield sites. The table is grouped into three general categories with applicable cleanup and disposal regulations indicated. For full definitions of the terms and classifications used within this brochure, please refer to 40 CFR 761.3.

PCB Articles, Containers and Liquids (40 CFR 761.60)	PCB Remediation Waste (40 CFR 761.61)	PCB Bulk Product Waste (40 CFR 761.62) *
Additional information is provided in Brochure 5 in this series	Additional information is provided in Brochures 1, 2 & 3 in this series	Additional information is provided in Brochure 4 in this series
Capacitors and transformers	Soil, sediment, and sludge	Caulking and grout
Electric motors and hydraulic machines	Building and other man-made media such as concrete floors, wood floors, or walls	Adhesives and dried oil-based paints
Natural gas pipeline systems	Sewage sludge	Galbestos
PCB contaminated containers	Rags and cleanup debris	Fluorescent light ballasts
Mineral, hydraulic, & cutting oil		Plastic coatings insulating wires and cables

PCB Articles, Containers, and Liquids (40 CFR 761.60): PCB Articles, Containers and Liquids containing less than 50 parts per million (ppm) are generally not subject to the requirements in the federal PCB regulations; however, certain exceptions apply. General guidelines are provided in companion brochure No. 5, on PCB Articles, Containers, and Liquids.

PCB Remediation Waste (40 CFR 761.61): **PCB Remediation Waste** includes waste containing PCBs as a result of a spill, release, or other unauthorized disposal. Typically, TSCA only applies to materials with *as-found concentrations* equal to or greater than 1 ppm.

As-found means the concentration of the PCBs at the site at the time the waste is discovered, before it was excavated or potentially mixed with clean soil. *Original source concentration* however, is the concentration of the PCBs in the material that was originally spilled or released. Regulations prohibit dilution of the *as-found PCB concentrations* of contaminated soil by mixing it with clean soil during excavation.

To determine if a material is a **PCB Remediation Waste** you need to know its *as-found concentrations*, date of release, and *original source concentration*; additional research to determine dates and concentrations may benefit your project by simplifying the number and level of environmental agencies involved in assisting your efforts.

PCB Remediation Waste includes the following materials:

1. Material with *as-found* PCB concentrations equal to or greater than 50 ppm which is the result of a release that occurred prior to April 18, 1978, regardless of the concentration of the original release.
2. Material with any PCB concentration or volume which was impacted as a result of a PCB release which occurred between April 18, 1978 to July 2, 1979, where the *original source concentration* was greater than or equal to 500 ppm. Note that this window of time is less than one year and therefore has a limited probability of applying to most cases.
3. Material at any PCB concentration or volume whose *original source concentration* is greater than or equal to 50 ppm and was released on or after July 2, 1979. If the material is a **PCB Remediation Waste**, USEPA regulations apply to disposal, characterization, and remediation activities at the site. There are different options for cleanup and disposal under the TSCA regulations, each with varying degrees of USEPA involvement required, as described in the [companion brochure No. 3 on cleanup and management of PCBs](#). For cleanups at most sites, the generator must submit a notification under 40 CFR 761.61(a)(3) to the regional TSCA coordinator.
4. Materials which are currently at any concentration if the PCBs are spilled or released from a source not authorized for use under 40 CFR Part 761.

The USEPA has some discretion regarding the extent of cleanups of pre-1978 releases based on the risk present. If **PCB Remediation Waste** is not present, the USEPA will not be involved, but the material will still be subject to any applicable state regulations.

The burden of proof for determining the *original source concentration* and date of release is on the party performing the remediation and waste disposal. You must evaluate the site history to determine the most likely scenario. Historical research performed as part of a Phase I Environmental Site Assessment may provide you with the necessary information, and should save time for your project in the long run if you can streamline the number of environmental regulations and regulatory agencies involved with your project. Information regarding site activities, manufacturing operations, waste shipments, environmental reports, and dates of operation are all important. Sources to consult to provide a credible understanding of *original source concentration*:

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| • Sanborn Historic Maps | • Facility Diagrams | • Previous Environmental Reports |
| • Maintenance Records | • Interviews with Employees | • Material Safety Data Sheets |
| • State Spill Records | • EPA Transformer Registration Database | • Aroclor and Homolog analysis to identify manufacturer name and date |
| • Labels on Electric Equipment | | |

If after completing the research a determination or reasonable assumption cannot be made regarding the time of release or the *original source concentration*, it must be assumed that the material is a **PCB Remediation Waste** subject to the cleanup and disposal requirements in 40 CFR 761.61. The following examples list commonly encountered scenarios.

Scenario No. 1: PCBs (Aroclor 1260) were detected at 2 to 7 ppm in several soil samples collected from a former electrical substation that operated from 1955-1977. Sanborn fire insurance maps noted several on-site transformers. In 1977, the substation was dismantled and removed to build a recreational center. Aerial photographs document the removal of the substation in 1977. There are no reported spills of PCBs or oil at the site. How are the PCB-contaminated materials regulated?

Answer: The date of release is uncertain. The site was used as an electrical substation for 22 years. It is likely that the source of PCBs is from electrical equipment. Dielectric fluids containing >50 ppm of Aroclor 1260 were commonly used in electrical equipment installed in the 1950s and 1960s. The spill likely occurred before 4/18/1978. As indicated in the scenario description the *as-found concentrations* are <50 ppm. Federal PCB regulations are not applicable under this scenario because the release occurred prior to 1978 and the *as-found concentration* is <50ppm. Characterization, remediation, notification, and disposal should be conducted in accordance with state regulations. If, however, detected concentrations equaled or exceeded 50 ppm, the regional TSCA coordinator should be contacted to determine if there is an unreasonable risk and if EPA involvement is required.

Bulk Product Waste (40 CFR 761.62): PCB Bulk Product Waste* includes waste derived from manufactured products containing non-liquid PCBs regardless of concentration. If the concentration of the material is greater than or equal to 50 ppm, its use is not authorized and it must be disposed of in accordance with 40 CFR 761.62. Materials with <50 ppm are considered excluded PCB products and continued use is allowed (40 CFR 761.3 and 761.20 (a)(1)). The **companion brochure No. 4 on PCBs in building materials** provides information regarding the management of these materials.

Materials which have PCB concentrations ≥ 50 ppm as a result of PCB leaching from **PCB Bulk Product Waste*** are considered **PCB Remediation Waste**.

Scenario No. 2: A building contains wood floors that have been painted. There is no reason to believe that the paint contains PCBs, but it is suspected that the floor may have been exposed to PCBs in the past by virtue of its location. If PCBs are present in the paint, how is it classified for disposal?

*Answer: If the paint contains PCBs that were added during its manufacture, the painted surface is **PCB Bulk Product Waste**. If the paint contains PCBs that it absorbed as a result of a spill, the painted surface is **PCB Remediation Waste**.*

Important Considerations:

- To determine if a material is a **PCB Remediation Waste** or **PCB Bulk Product Waste***, testing is required. All PCBs should be analyzed by USEPA Method 8082 using a soxhlet extraction to prepare the sample for analysis. Your experienced contractor or laboratory can assist you.
- For **PCB Articles**, consult with your experienced contractor regarding “continued use” assumptions within the federal rules.
- **PCB Remediation Waste** must be tested in-place to determine the *as-found concentration*.
- Regulations prohibit the dilution of PCB-containing materials for the purpose of reducing the concentrations of PCBs as a way to avoid state or federal requirements. The concentration must be determined with in-place sampling prior to stockpiling, containing, or other potentially diluting process.
- Final decisions on applicable rules cannot be made until the extent of impacts is determined. For example, if you collect one sample and it contains 0.32 ppm of PCB, this indicates a release. Further testing is required to determine if this is the highest level at a release area or on the fringe of a highly-impacted area.
- Additional regulations will apply if PCBs are mixed with other hazardous materials, such as lead or asbestos.
- Identify state requirements which may differ from federal requirements under TSCA.
- EPA internet references are available at: <http://www.epa.gov/epawaste/hazard/tsd/pcbs/index.htm>

**Note: In an effort to accelerate cleanups and provide a straighter path for disposal, especially from school sites, USEPA accepted comments through March 30, 2012 to its proposed reinterpretation of the status of PCB-contaminated building materials. As of publication of this brochure, twenty five comments were received by USEPA; no final reinterpretation was published by USEPA as of brochure publication. Information first indicated with a “*” in brochures 1 and 4 of this series may be subject to change based on the Agency’s final reinterpretation.*

This guidance document addresses cleanup and disposal requirements for Polychlorinated Biphenyls (PCBs) only. This guidance document does not replace or supplant the requirements of the Toxic Substances Control Act (TSCA) PCB regulations. Please refer to the PCB regulations at 40 CFR Part 761 for specific regulatory and legal requirements.

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For **State Contact Information**,
please see Brochure #5 - **PCB Articles, Containers and Liquids**

