



Minnesota
Pollution
Control
Agency

Identifying, Using and Managing PCBs

Waste/Hazardous Waste #4.48a • September 2010

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What are PCBs? Polychlorinated biphenyls (PCBs) are not a single chemical, but a class of 209 synthetic chemicals, often used as insulators in electrical equipment, including transformers, capacitors and ballasts. PCBs also were used as plasticizers in caulking and thermal stabilizers in hydraulic and lubricating fluids.

Regulating PCBs

In Minnesota, PCBs are subject to

- Federal Toxic Substance Control Act (TSCA) Regulations administered by the U.S Environmental Protection Agency (EPA)
- Minnesota Hazardous Waste Rules administered by the Minnesota Pollution Control Agency (MPCA)

Classifying PCBs

Materials—products, equipment, wastes—are classified in Minnesota as:

- **Non-PCB** – contains less than 50 parts per million (ppm) PCBs
- **PCB-Contaminated** – contains PCBs at a concentration of 50 ppm or more, but less than 500 ppm
- **PCB** – contains PCBs at a concentration of 500 ppm or more
- **MN03 listed hazardous waste** – waste that is PCB-Contaminated or PCB

PCB assumptions

If you are not able to document that materials are Non-PCB, you must assume that:

- Mineral oil-filled electrical equipment, including transformers, is **PCB-contaminated**
- Transformers filled with any fluid other than mineral oil are **PCB**
- Capacitors are **PCB**
- Any waste, including electrical equipment, lighting ballasts, caulking, shredder residue, and spill debris, which may reasonably contain PCBs, is **MN03 listed hazardous waste**

Documenting as Non-PCB

You may document that materials are Non-PCB through one of these three methods:

1. Analytical test results
2. Nameplate, other permanent marking or equivalent marking from the manufacturer or remanufacturer of equipment stating the equipment is Non-PCB
3. An equipment manufacture date after July 2, 1979 (date of purchase is not sufficient)

You may not rely solely on other markings, including the commonly used blue-with-white-lettering "Certified" label. You must have documentation using one of the three methods above showing the basis for the markings.

To access hazardous waste documents on the Minnesota Pollution Control Agency Web site, www.pca.state.mn.us,

1. Click on Waste on the menu bar.
2. On the pop-up submenu, click on Publications.
3. On the Waste-related Publications page, click on Hazardous Waste Publications.

PCB documents are located in the Specific Wastes section.

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Exhibit
3344

State of Minnesota v. 3M Co.,
Court File No. 27-CV-10-28862

Note: Oil-filled equipment for disposal that has been verified through testing to be PCB-Contaminated or less and from which all fluid has been drained may be managed equivalent to Non-PCB items. The MPCA considers such drained equipment to be non-hazardous. Manage the fluid as a regulated PCB-Contaminated waste.

Testing for PCBs

Analyze equipment or wastes for PCBs on a dry weight basis in ppm using the gas chromatography methods or an alternate method approved by the EPA. There is no specific Federal or Minnesota accreditation or licensure needed by the laboratory, although the Minnesota Department of Health (MDH) administers a voluntary laboratory certification program. If you would like assistance finding an MDH-certified laboratory, please contact the MDH or MPCA. You may not use field test kits characterize potentially PCB-containing materials for disposal.

If characterizing equipment with non-porous surfaces only for disposal, you may instead use wipe sample results, with the following equivalents:

- $\leq 10\mu\text{g}/100\text{ cm}^2$ is Non-PCB
- $>10\mu\text{g}/100\text{ cm}^2$ and $<100\mu\text{g}/100\text{ cm}^2$ is PCB-Contaminated
- $\geq 100\mu\text{g}/100\text{ cm}^2$ is PCB

Continued use of PCBs

You may continue to use electrical equipment that you assume or know contains PCBs for the remainder of its useful life provided:

1. All equipment is maintained in serviceable condition
2. All equipment meets the requirements either for use or for storage for reuse.

The MPCA encourages testing and phase-out of potentially PCB-containing equipment. Eliminating this equipment can reduce your risk of spills and overall system costs. For more information about PCB phase-outs in Minnesota, see MPCA Hazardous Waste fact sheet #4.48h, [Minnesota Changes in PCB Management](#), at www.pca.state.mn.us/waste/pubs/business.html.

Requirements for use

Electrical equipment is considered 'in use' when it is connected to an electrical distribution system and energized. Electrical equipment that is not 'in use' is considered either

- stored for reuse or
- stored for disposal

Ensure that all 'in use' electrical and other equipment that has not been documented to be Non-PCB meets these requirements:

- **PCBs are being used in a totally enclosed system**
Electrical, hydraulic, or heat-transfer equipment cannot be leaking, weeping, or seeping. Immediately remove from service all equipment that is releasing any amount of oil; do not return it to service until it is repaired.
Note: The MPCA interprets this prohibition strictly. Signs of unusual dust or dirt adhering to electrical equipment are considered signs of oil leakage until proven otherwise.
- **PCB transformers** are registered with the EPA and meet the requirements listed in the 'PCB transformer conditions' section.
- **PCB electromagnets** are not used or stored for reuse in a location where there is risk of human food or animal feed being exposed to them.
- **PCB voltage regulators** meet all the requirements applicable to PCB transformers listed in the 'PCB transformer conditions' section, except for registration with EPA and building owners.
- **Railroad locomotive transformers** are documented as containing PCBs at a concentration of 1000 ppm or less.
- **Mining equipment, heat transfer equipment, and hydraulic systems** are Non-PCB.

Requirements for storage for reuse

Electrical equipment that is not connected to an electrical distribution system and energized is considered 'stored.' If you want to store working electrical equipment that is in good condition for later use, but you cannot document it as Non-PCB, you must meet the TSCA Storage for Reuse requirements. For more information about PCB storage requirements, see MPCA Hazardous Waste fact sheet #4.48c, [Storing PCBs](#), at www.pca.state.mn.us/waste/pubs/business.html.

Note: Equipment removed from service for PCB testing to determine disposition must meet either the Storage for Reuse requirements or the Storage for Disposal

requirements. Neither the TSCA Regulations nor the Hazardous Waste Rules allow any interim unregulated status period.

PCB transformer conditions

All transformers known or assumed to be PCB Transformers must meet these conditions, whether they are in use or in storage for reuse:

- They are registered with the EPA using EPA Form 7720-12. You may obtain this form on the EPA Web site www.epa.gov. You must keep a copy of the registration

Note: When you dispose of or reclassify a PCB Transformer registered by you or a previous owner, the MPCA recommends that you contact the MPCA to request removal of the registration from the EPA registry. Do not submit a new registration form to the EPA listing '0' PCB transformers or leaving the number blank.

- They are not used at any location or for any use that might pose an exposure risk to human food or animal feed
- They are not used or stored for reuse in or near commercial buildings if the secondary voltage is 480 volts (V) or more
- They are registered with the owners of record if used or stored for reuse in or within 30 meters (about 98 feet) of commercial buildings and the secondary voltage is less than 480V
- They are labeled with the PCB M_L mark. For an example of the PCB M_L mark and more information on labeling of PCBs, see MPCA Hazardous Waste fact sheet #4.48b, Marking and Labeling PCBs, available from the MPCA [hazardous waste publications](#) Web page.
- Access ways to the PCB Transformer are labeled with the PCB M_L mark.
- No combustible material, such as paint, plastics, or wood are stored in the transformer vault or within 5 meters (about 16 feet) of the transformer vault or enclosure or, if unenclosed, of the transformer itself.
- If involved in a fire, it is reported immediately to the National Response Center and the Minnesota Duty Officer. For more information on reporting incidents involving PCBs, see MPCA Hazardous Waste fact sheet #4.48g, PCB Spill Cleanup Policy, available on the MPCA's [hazardous waste publications](#) Web page.
- If they have not been tested or if they are known to contain 60,000 ppm PCBs or more, they are

inspected every three months with at least 30 days between inspections. Inspections are documented.

- If they are known to contain less than 60,000 ppm PCBs or if they have secondary containment able to hold at least the total volume of all the equipment in the containment area, they are inspected every 12 months. Inspections are documented.
- The coil is not removed during servicing or rebuilding

Reclassifying electrical equipment

To reclassify electrical equipment do the following:

1. Test it to determine its exact concentration of PCBs. If you do not test, assume it contains 1,000 ppm PCBs or more.
2. Drain the dielectric fluid. Store and dispose of the drained fluid as waste PCBs.
3. Refill the equipment with Non-PCB fluid.
4. Wait at least 90 days. If the original concentration of the equipment was known or assumed to be 1,000 ppm PCBs or more, you must operate the equipment under electrical load during this time period.
5. Retest the equipment. The equipment is now regulated under the retested concentration of PCBs.
6. Maintain documentation for each step of reclassification.

Note: If the testing in step 1 classifies the equipment as PCB-Contaminated and you use only 'clean' fluid (less than 2 ppm PCBs) to refill it, then you may skip steps 4 and 5.

More information

The MPCA and EPA have staff available to answer your PCB management questions. For more information, contact MPCA or EPA Region 5 PCB staff.

Minnesota Pollution Control Agency

Toll free (all offices) 1-800-657-3864
St. Paul 651-296-6300
Web site www.pca.state.mn.us

U.S. Environmental Protection Agency, Region 5

Toll free (from Minnesota) 1-800-621-8431
Web site www.epa.gov/region5/

U.S. Environmental Protection Agency, Headquarters

TSCA Hotline 202-554-1404
Web site www.epa.gov