



Electrical Contractors and the *PCB Regulations*

What are polychlorinated biphenyls?

Polychlorinated biphenyls (PCBs) are synthetic compounds with stable chemical properties that were used mainly in electrical components until the 1970s. Their stable chemical properties made them ideally suited for applications that required durability and resistance to heat and light. They were never manufactured in Canada, but were widely used in this country. Although some equipment that contains PCBs remains in use, the manufacturing, processing, importing and offering for sale of PCBs have been prohibited in Canada since 1977. The *PCB Regulations*, which came into effect in 2008, implement stricter deadlines on equipment containing PCBs in use and in storage in order to reduce releases of PCBs into the environment.

Why are PCBs harmful?



PCBs are very persistent in the environment and in the living tissue of humans and animals. Scientific data suggests that PCBs are probable human carcinogens. As well, if PCBs are burned, they may produce dioxins and furans, which are highly carcinogenic compounds. PCBs are also toxic to fish at very low concentrations. In order to protect the health of Canadians and the environment, the federal *PCB Regulations* were enacted.

How do I IDENTIFY PCBs?

PCBs in electrical equipment are typically found as an oily liquid and were used as an insulating fluid for transformers, capacitors, bushings, circuit breakers, electromagnets, heat transfer equipment, reclosers, etc. PCBs are known by various trade names, most commonly as Askarel, Inerteen, Pyranol and Aroclor. The equipment containing PCBs is durable and has a service life of up to 50 years, or longer with retrofitting. Large quantities of PCBs can be found in this equipment: in use, placed in storage and in products that were improperly disposed of.

Do the *PCB Regulations* affect me?

You may be subject to the *PCB Regulations* if:

- 1 You are an electrical contractor that services PCB equipment.
- 2 You are an electrical contractor that removes PCB equipment.
- 3 You are an electrical contractor that does lamping refits.

Identification of equipment containing PCBs

Identification of equipment containing PCBs, such as transformers and capacitors, is dependent on a number of identifiers, but the following can help in assessing the likelihood that equipment contains PCBs:



Large regulator



Capacitors



Light-ballast capacitor

1. **Date of equipment** – was it manufactured prior to 1979?
2. **Nameplate information** – details of manufacturer, amount and type of liquid, and technical particulars. The type of liquid information varies among manufacturers, but one example is: if the “Type Number” begins with an “L”, then this usually indicates the presence of Askarel. Check with manufacturer if unsure.
3. Look for old Environment Canada labels that state “**Attention PCB**”.
4. **Transformers** may contain PCB liquids, PCB-contaminated mineral oil or mineral oil. If in doubt, sample and analyze. PCBs were widely used and are still found in a variety of locations. Transformers can be pad-mounted, pole-top-mounted, in vaults, roof-mounted, etc. Transformers that use a liquid coolant, or “wet” transformers, may contain PCBs. Dry-type transformers that use air for cooling typically does not contain PCBs.
5. **Capacitors** – most capacitors manufactured between 1930 and 1977 were manufactured using Askarel, so those dates are typically a good indicator that PCBs may be present. PCBs should not be present if the date of manufacture is known to be after 1977 and/or the capacitor is clearly labelled non-PCB. Capacitors are found both inside and outside buildings. Because capacitors have multiple applications, their size, shape and appearance may vary. They may be mounted on panels, in boxes, on walls or on floors, individually, or in banks.
6. **Light-ballast capacitors** are found in fluorescent light fixtures. Ballasts manufactured prior to 1980 typically contain PCBs. During refits, PCB-containing ballasts should be separated from non-PCB ballasts to ensure proper handling and disposal.



Pad-mounted transformer



“Wet” transformer



Old Environment Canada PCB label

WHO IS RESPONSIBLE FOR PCBs?

The owners of equipment that contains PCBs are legally responsible for its proper handling and disposal of the PCBs. Ownership cannot be transferred. Owners are responsible for all reporting requirements for the storage, shipment and destruction of PCBs. For more information, please go to Environment Canada's website or contact Environment Canada (see below). The PCB Online Reporting System and information on how to use the system can be found at: <https://srbpc-pcbrs.ec.gc.ca/Connexion-Login.aspx>

Building renovations, relamping, equipment servicing/removal

If PCB-containing equipment is being removed, serviced or retrofitted, ensure that the equipment is checked for PCBs. If the equipment contains PCBs, typically only an **authorized hazardous waste company** may remove the PCBs from the owner's property. Only lamp ballasts and other equipment that does not contain PCBs may be able to be recycled without first being treated. If you are servicing equipment that contains PCBs, you may only service this equipment

with liquids containing PCBs in a concentration of less than 2 mg/kg, unless the equipment was previously granted an extension.

Electrical contractors, unless they are also an authorized hazardous waste service provider, are not permitted to transport, store or dispose of PCBs. It is the responsibility of the owner of the PCBs to ensure the proper storage and disposal of all PCBs.

For more information

Please consult the following additional reference materials:

Identification of Lamp Ballasts Containing PCBs

www.ec.gc.ca/Publications/default.asp?lang=En&xml=F1D91988-3B5E-4956-A705-78D054685FFE

Handbook on PCBs in Electrical Equipment

www.ec.gc.ca/Publications/default.asp?lang=En&xml=C8925758-5AF3-474D-B7C7-157045250986

Environment Canada PCB Website

www.ec.gc.ca/bpc-pcb/Default.asp?lang=En&n=52C1E9EF-1

PCB Regulations

<http://laws-lois.justice.gc.ca/eng/regulations/SOR-2008-273/index.html>

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Ontario

Tel.: 416-739-4826

Email: EnviroInfo.Ontario@ec.gc.ca

Prairie and Northern

Tel.: 204-983-1906

Email: PNRCompliancePromotion@ec.gc.ca

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