

Controlling PCBs

A look at the new regulations

By Camille Atrache

Polychlorinated biphenyls or PCBs are a class of chemicals characterized by two phenyl groups with varying numbers of chlorine atoms. In general, the higher the chlorination of the molecule and mixtures, the longer PCBs remain in the environment and more likely they will infiltrate the food chain.

Prior to the 1970s, PCBs were used in hundreds of industrial and commercial applications, including electrical, heat transfer and hydraulic equipment, as well as plasticizers in paints, plastics and rubber products and in pigments, dyes and carbonless copy paper. More than 1.5 billion pounds of PCBs were manufactured in the U.S. prior to cessation of production in 1977.

Since 1977, the Canadian government has adopted a number of regulations to control the different activities related to PCBs, including Chlorobiphenyls Regulations (1977), Federal Mobile PCB Treatment and Destruction Regulations (1990), storage of PCB Material Regulations (1988), PCB waste Export Regulations (1996) and Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulation (2005).

On Sept. 17, 2008, Environment Canada published the PCB Regulations in Part 2 of the Canada Gazette, which publishes all laws and orders in council issued by the federal government. The new regulation consolidates, revokes and replaces the Chlorobiphenyls Regulations and the Storage of PCB Material Regulations. The requirements of this new

regulation, together with the more stringent release limits, will further reduce releases of PCBs into the environment.

The new regulation is designed to implement Canada's national and international commitments on the use (including exports and imports), storage and elimination of PCBs. It sets specific deadlines for the elimination of all PCBs and PCB-containing material currently in storage. Additionally, it limits the period of time PCBs can be stored before being destroyed and requires all PCB equipment to be phased out. The labelling and reporting requirements of this regulation also provides necessary information to monitor progress towards end of use targets.

The significant requirements of the regulation are divided into three parts.

End of Use Deadlines

Equipment containing more than 500 parts per million ($\mu\text{g/g}$) PCBs must be removed from service by Dec. 31, 2009. An extension up to Dec. 31, 2014, may be granted by the Minister of the Environment if application is made and certain conditions met.

Equipment with concentration of PCBs between 50 and 500 $\mu\text{g/g}$ and located in sensitive areas must be removed by Dec. 31, 2009. Sensitive locations include drinking water treatment plants, food or feed processing plants, child care facilities, preschools, primary schools, secondary schools, hospitals, senior citizens' care facilities and the property on which the

plant or facility is located and within 100 metres of it. All others have until Dec. 31, 2025.

Specific equipment, such as light ballasts, pole-top electrical transformers and pole-top auxiliary electrical equipment, has until Dec. 31, 2025.

Storage Requirements

PCBs currently in storage have to be removed and sent for destruction by Dec. 31, 2009.

Effective one year after the date these regulations come into force (Dec. 31, 2010), PCBs cannot be stored at or within 100 metres of a sensitive site. Light ballasts are exempted.

PCBs that go into a storage site after the regulation comes into force may stay in storage for a maximum of one year.


PCBs stored at or within 100 metres of a sensitive site must be eliminated within one year of the regulation coming into force.

Labelling, Reports and Records

PCB owners must prepare annual reports outlining quantities in use and stored as well as progress towards achieving end of use targets.

Additionally, PCB owners must label all known PCB items, including PCB cables and decontaminated transformers. Ballasts are exempted. The owner's name as well as the date the material was placed in storage must be clearly visible.

The regulations also establish sound management practices for the remaining PCBs in use (those with content of less than 50 $\mu\text{g/g}$) — until their eventual elimination — to prevent contamination of fluids and dispersion of small quantities of PCBs into other liquids.

It is expected the deadlines for ending the use and storage of PCBs will result in the removal of 90 per cent of PCBs still in use and 100 per cent of PCBs currently in storage by the end of the year. The remaining PCBs, comprising equipment in use containing low level concentrations of PCBs (for example, less than 500 $\mu\text{g/g}$), will be eliminated by 2025. 

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