

PCB AWARENESS BMP FACTSHEET 17

Rev. 04/2019



A typical pre-1979 PCB-containing fluorescent light ballast (FLB)

Targeted Pollutants

Sediment	
Nutrients	
Trash	
Metals	
Bacteria	
Oil & Grease	
Chemicals	X
Salt	

Objectives

Cover	
Contain	
Educate	X
Reduce/Minimize	
Product Substitution	

DESCRIPTION

PCB stands for Polychlorinated Biphenyl. This chemical is a class of man-made chemicals known as chlorinated hydrocarbons. PCB's were manufactured by the US between 1929 and 1979. Due to their chemical stability, non-flammability, and superior insulating properties, PCBs were used in a large number of industrial and commercial products. These products include; electrical equipment, paints and plastics, dyes and pigments, light bulbs, caulking, carbon paper, and many types of adhesives.

****Always exercise caution if you come across what you think might be a contaminated area or old equipment (transformers and light ballasts) with PCBs. If you believe you may have found a source of PCB contamination contact DPW/ENV. DIV. at 703-806-0020 or 703-806-3694. SEE SOMETHING, SAY SOMETHING!****

IDENTIFICATION GUIDELINES

PCBs have no known taste or smell and range in consistency from an oil to a waxy solid. It can be difficult to distinguish PCBs from other materials so it is important to become familiar with the most common sources of PCBs contamination. PCBs are most commonly reported in poorly maintained hazardous waste sites and leaks from old electrical transformers.

Fort Belvoir also has many older sites that may house old transformers or Fluorescent Light Ballasts (FLBs) that have not yet been discovered and therefore disposed of properly. The following criteria are provided to help identify transformers and FLBs that may contain PCBs:

- FLBs and transformers manufactured before July 1, 1979 may contain PCBs.
- Products manufactured between July 1, 1979 and July 1, 1998 that do not contain PCBs must be labeled "No PCBs".
- If a FLB or Transformer is not labeled "No PCBs", it is best to assume it contains PCBs unless it is manufactured after 1979.
- Products manufactured after 1998 are not required to be labeled.

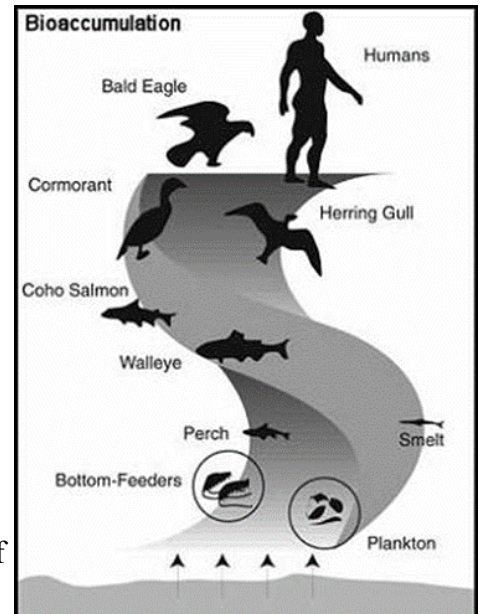
PCBs may be present as a yellow, oily liquid or in the tar-like potting material that leaks from the FLB or transformer. A leaking FLB or transformer may increase PCB levels in the air. Therefore, measures should be taken to avoid personal exposure.

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ENVIRONMENTAL IMPACTS OF PCBs

The discharge of PCBs into the environment was outlawed by federal environmental regulations in 1976. However, the effects of PCBs are still evident today because PCB's are unique in that PCB molecules bind to fine sediments and can remain stable in the environment for a very long time. Between 1929 and 1979 when PCBs were manufactured, there were often no effective controls for disposal. Because PCBs do not break down easily, they are now found widely distributed in our environment. Generally concentrations in the environment are quite low, however, the chemical properties of PCBs cause them to be concentrated up the food chain through a process called bioaccumulation. Bioaccumulation takes place when bottom feeders that ingest sediment containing PCBs are eaten by larger animals. PCBs can become a million times more concentrated in larger predatory animals such as fish and birds. So when we eat fish that come from contaminated streams we are at risk of consuming large amounts of PCBs as well. See diagram below that helps explain what bio accumulation is. The health effects of PCBs have been widely studied. Evidence shows that PCBs cause a variety of adverse health effects including developmental disorders, cancer, and disorders of the immune system, reproductive system, nervous system, and endocrine system.



POSSIBLE EXPOSURE TO PCBs

Because PCBs are no longer manufactured or widely used today, there are relatively few ways that people can be exposed to concentrated PCBs. The most common exposure routes include:



- **Food:** PCBs in food are probably the single most significant source of exposure for people. PCBs can be highly concentrated in the fish of waters contaminated with even low levels of PCBs. Predator fish at the top of the food chain as well as bottom feeding fish, tend to contain the highest PCB levels in those waters. Make sure the fish you eat does not come from areas of known PCB contamination. Pay attention to signs posted in fishing areas.
- **Surface Soils:** The health hazard related to soil is the potential for people to swallow small amounts of the soil and for the soils to runoff to lakes and rivers and concentrate in fish

and other wildlife.

- **Drinking Water and Groundwater:** Fortunately PCBs are not very water-soluble so it is rare for them to be found in groundwater. Some submersible pumps found in private wells have been recalled because PCB containing oils had been used in the manufacturing of the pump. When these pumps fail PCB oils can leak out into the drinking water.
- **Indoor Air:** Older fluorescent lights found in schools, offices, and homes may still contain transformers or ballasts that contain PCBs. If the ballasts fail, PCBs can leak out and contaminate exposed surfaces and the air.