Goleta Union School District
PCBs in Schools:

Safety Approach for Schools

Summary of EPA Information

WHAT ARE PCBs?

PCBs are a group of synthetic organic chemicals that can cause a number of different harmful effects. There are no known natural sources of PCBs in the environment. PCBs are either oily liquids or solids and are colorless to light yellow. Some PCBs are volatile and may exist as a vapor in air. They have no known smell or taste. PCBs enter the environment as mixtures containing a variety of individual chlorinated biphenyl components, known as congeners, as well as impurities. Because the health effects of environmental mixtures of PCBs are difficult to evaluate, most of the information in this toxicological profile is about seven types of PCB mixtures that were commercially produced. These seven kinds of PCB mixtures include 35% of all the PCBs commercially produced and 98% of PCBs sold in the United States since 1970. Some commercial PCB mixtures are known in the United States by their industrial trade name, Aroclor. For example, the name Aroclor 1254 means that the mixture contains approximately 54% chlorine by weight, as indicated by the second two digits in the name. Because they don't burn easily and are good insulating materials, PCBs were used widely as coolants and lubricants in transformers, capacitors, and other electrical equipment. The manufacture of PCBs stopped in the United States in August 1977 because there was evidence that PCBs build up in the environment and may cause harmful effects. Consumer products that may contain PCBs include old fluorescent lighting fixtures, window and door caulking, electrical devices or appliances containing PCB capacitors made before PCB use was stopped, old microscope oil, and old hydraulic oil.

Regulations of PCBs

PCBs are regulated by the U.S. EPA under the Toxic Substances Control Act
A few key points:

- Regulations prohibit the use of PCBs equal to or greater than 50 ppm in caulk and other non-liquid products, including continued use of products already in place
- Intact PCB-containing light ballasts are an authorized use -BUT if they leak PCBs then the spill area must be cleaned and proper disposal of the ballast is required
- Proper classification and disposal of renovation and demolition wastes containing PCBs is required under TSCA regulations

Regulations regarding PCB use, clean-up, and disposal can be complicated - consult Shawn Delaney, MOT Department or your EPA Regional PCB Coordinator –

Steve Armann,
PCB Program Coordinator
armann.steve@epa.gov or (415) 972-3352.

Safety Approach to PCBs in Schools

• PCBs were widely used in building materials from about 1950 until 1979.
• Implementing PCB Best Management Practices
• Replacement of PCB Ballasts
• Thorough cleaning of school surfaces (initial and routine)
  – Testing of air for PCB concentrations
• If air concentrations are above national health guidelines then evaluate and mitigate sources.

Best Practices for Minimizing PCB Exposure

First Steps:

If the school or building was built or renovated between 1950 and 1979 there are several steps schools can take to reduce potential exposure until it can be determined with certainty if PCBs are present:

- Review and evaluate general cleaning practices to ensure the cleanliness of classrooms and avoid dust accumulation.
- Ensure ventilation systems are operating as designed
- Clean frequently to reduce dust and residue inside buildings
- Use a wet or damp cloth or mop to clean surfaces
- Use vacuums with high-efficiency particulate air (HEPA) filters
- Do not sweep with dry brooms; minimize the use of dusters
- Wash children's hands with soap & water often, particularly before eating
- Wash children's toys often
- Wash hands with soap and water after cleaning

Fluorescent and High Intensity Light Ballasts:

EPA recommends replacement of lights having PCB-containing ballasts. Review maintenance records to determine if PCB-flourescent light ballasts have been replaced.
Benefits include:

- ✓ A reduction of PCBs in the air
- ✓ Reduced disruption and cost in responding to smoking/leaking ballasts
- ✓ Expected reduction in energy consumption
- ✓ Long-term cost savings when replaced with more energy efficient lighting
- ✓ Improved classroom lighting

Caulk and Other PCB-Containing Materials:

Consider air testing as a way to determine **if PCBs are present above indoor air public health levels**; if so:

- Conduct Testing to identify potential sources of PCBs.
- Encapsulation or barriers may be considered as short-term measures; in the long term encapsulants are not effective for caulk with levels above a few hundred ppm
- Remove PCB-containing caulk and other known primary source materials from the building to help lower air concentrations
- Removal must be performed by qualified contractors and steps taken to minimize the spread of dust and vapors
- Re-test the air to verify successful reduction in levels; if levels in air are not reduced below public health levels, remediation and follow-up testing may be needed

PCB Air Testing

PCBs in Air

- ✓ There are no regulatory standards for PCB concentrations in indoor air
- ✓ EPA has developed recommended public health levels for different age groups that are anticipated to keep PCB exposures below the "reference dose" from the combined exposures at schools and from other sources
- ✓ For more information contact: Shawn Delaney, MOT Department or EPA Region 9's PCB Coordinator:
  Steve Armann, PCB Program Coordinator
  armann.steve@epa.gov or (415) 972-3352.

Public Health Levels of PCBs in School Indoor Air (ng/m3)

Age 1-<2	Age 2-<3	Age 3-<6	Age 6-<12 Elementary School	Age 12-<15 Middle School	Age 15-<19 High School	Age 19+ Adult
70	70	100	300	450	600	450

Get Professional Advice and Information:

- ✓ Remediating PCBs in buildings can be challenging
- ✓ Contact your EPA PCB Coordinator –Steve Armann
- ✓ Read EPA information and
- ✓ Work with certified contractors experienced in PCB assessment and remediation in buildings

Additional Resources

U.S. EPA. Current Best Practices for PCBs in Caulk Fact Sheet – Testing in Buildings
http://www.epa.gov/pcbsincaulk/caulktesting.htm

U.S. EPA. How to Test for PCBs and Characterize Suspect Materials
http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/guide/guide-sect3.htm

U.S. EPA. Steps to Safe Renovation and Abatement of Buildings that Have PCBContaining Caulk
http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/guide/index.htm

U.S. EPA. Contractors: Handling PCBs in Caulk During Renovation
http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/caulkcontractors.htm

U.S. EPA. Management, Cleanup, and Disposal of PCB Wastes
http://www.epa.gov/epawaste/hazard/tsd/pcbs/index.htm

U.S. EPA. Fact Sheets for Schools and Teachers About PCB-Contaminated Caulk
http://www.epa.gov/pcbsincaulk/caulkschoolkit.htm

U.S. EPA. PCBs in Schools Research
http://www.epa.gov/pcbsincaulk/caulkresearch.htm

CDC-ATSDR. Toxicological Profile for Polychlorinated Biphenyls (PCBs).
http://www.atsdr.cdc.gov/toxprofiles/tp.asp?id=142&tid=26

Goleta Union School District Safety Committee approved the PCB in Schools Plan on