

PCBS



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WHAT IS PCB?

PCB is short for Polychlorinated Biphenyl's. Most human PCB exposure results from eating fish from contaminated waters. PCBs look like a yellow brown oil and smell like moth balls.

JOBS WITH EXPOSURE – PAST AND PRESENT

- Electrical component assemblers
- Plasticizer makers
- Cable coaters
- Resin makers
- Dye makers
- Rubber workers
- Herbicide workers
- Textile Flameproofers
- Lacquer makers
- Transformer workers
- Paper treaters
- Wood preservers

Maintenance workers in almost every industry may come in contact with PCBs during routine inspections, maintenance, or emergency situations. Utility workers have the greatest likelihood of exposure. 21.8% of the total PCBs inventoried are found in utility companies.

USES:

PCB production began in 1929 and was viewed as the wonder chemical due to its non-flammable insulating abilities. It was formerly used as a dielectrical fluid in transformers and capacitors and as a fire retardant coating on tiles and other products. PCBs are stable and non-flammable and find their chief use in insulation for electric condensers. PCBs have been used in carbonless carbon paper. New uses were banned in 1976, but much of the electrical equipment currently in use still contains PCBs. Due to the ban on production and the resulting replacement of PCBs with less toxic materials, we are beginning to recognize the problems of hazardous waste disposal and environmental contamination.

PCBs are very resistant to breaking down, and therefore remain in the environment. Workers, in addition to their occupational exposure, may be further exposed to PCBs from general contamination of the air, water and food supply. Within workplaces, PCBs have been shown to remain in the air and on surfaces long after their use.

PCBS AS A CARCINOGEN

Animal studies have demonstrated that PCBs are carcinogenic to the liver and pancreas. However, only animal evidence of carcinogenicity is currently accepted. Studies of exposed workers are inconclusive. The Industrial Disease Standards Panel for the Ministry of Labour found a probable connection between occupational PCB exposure and types of liver, biliary tract and gall bladder concerns in man. No conclusive evidence was found for other site specific cancer. The Panel concluded the WCB would accept these cancers as caused by PCB exposure if the worker has at least three months of exposure and a five year latency.

SYMPTOMS OF ACUTE EXPOSURE

PCBs can be ingested and absorbed through the skin. Breathing or swallowing PCBs may lead to nausea, vomiting, weight loss, jaundice, swelling and abdominal pain. Prolonged skin contact with PCB fumes or cold wax may cause the formation of a type of acne composed of small pimples and blackheads known as chloracne. Chloracne is difficult to treat, and is often chronic. Irritation to eyes, nose and throat may also occur. Blood cholesterol levels in humans are found to be increased when blood PCB levels are increased. There is some evidence blood pressure increases can also be associated with increased PCB levels. Any substance that contains more than 0.005% by weight or 50 ppm PCBs is considered by the Ministry of Environment to be contaminated, and must be treated as a PCB substance.

SYMPTOMS OF CHRONIC EXPOSURE

After weeks of skin, stomach and nervous system complaints, symptoms of acute toxic hepatitis can appear (*loss of appetite, yellow colour to the skin, abdominal distress and dark urine*). This type of hepatitis may cause cirrhosis.

The highly chlorinated PCB compounds have a tendency to accumulate in body fat tissue and the liver. Unfortunately, we still don't know if the PCBs stored in our bodies are doing us any harm.

REPRODUCTIVE EFFECTS

In animal studies, reproductive effects such as spontaneous abortions, lower fertility, decreased survival and birth defects occur primarily at higher doses. menstrual cycles become irregular and prolonged with increased exposure to PCBs.

PERSONAL PROTECTIVE EQUIPMENT

Protection of exposed skin is highly recommended, as absorption through the skin is a major route of entry into the body. Barrier creams, gloves, protective clothing and good personal hygiene should be used in areas of vapour concentrations of heated PCBs.

If you suspect you are having medical problems due to PCB exposure, contact your Health and Safety Rep, see your family doctor or the Occupational Health Clinics for Ontario Workers Inc.

OHCOW OFFICES

If you need further assistance, call the Occupational Health Clinic for Ontario Workers Inc. Closest to you.

HAMILTON

848 Main Street East
Hamilton, ON
L8M 1L9
(905)-549-2552
Toll Free: 1-800-263-2129
Fax: (905)-549-7993
E-mail: hamilton@ohcow.on.ca

SARNIA-LAMBTON CLINIC

171 Kendall Street
Point Edward, ON
N7V 4G6
(519)-337-4627
Fax: (519)-337-9442
E-mail: sarnia@ohcow.on.ca

SUDBURY

1300 Paris St.
Suite 4
Sudbury, ON
P3E 3A3
(705)-523-2330
Toll Free: 1-800-461-7120
Fax: (705)-523-2606
E-mail: sudbury@ohcow.on.ca

TORONTO

970 Lawrence Ave. West
Main Floor
Toronto, ON
M6A 3B6
(416)-449-0009
Toll Free: 1-888-596-3800
Fax: (416) 449-7772
E-mail: toronto@ohcow.on.ca

WINDSOR

3129 Marentette Avenue
Unit #1
Windsor, ON
N9A 4N1
(519)-973-4800
Toll Free: 1-800-565-3185
Fax: (519)-973-1906
E-mail: windsor@ohcow.on.ca

PROVINCIAL OFFICE

15 Gervais Drive
Suite 601
Don Mills, ON
M3C 1Y8
(416)-443-6320
Fax: (416)-443-6323
Toll Free : 1-877-817-0336
E-mail: info@ohcow.on.ca

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