

Recommended Practices for Working with Polychlorinated Byphenyls (PCB's)

Background

PCB's are defined as commercial preparations of chlorinated biphenyl compounds, including those preparations which may be described as single isomers or classes of isomers such as Decachlorodiphenyl. PCB's are generally referred to as "askerals", and are found in electrical transformers because of the material's excellent insulating quality. Examples of commercial trade names of such PCB containing compounds are Chlorextol, Noflamol, Saf-T-Kuhl, Pyranol and Inerteen.

PCB's are considered to be potentially carcinogenic and teratogenic in man as a result of data from animal studies. These compounds have also been shown to cause liver damage and chloracne as a result of penetration through the skin.

The University standard includes a environmental Time Weighted Average concentration of 0.5 milligram per cubic meter of air for up to ten-hour work day, 40-hour work week as recommended by the American Conference of Governmental Industrial Hygienists. The recommendations also include specific work procedures, medical monitoring, education and record keeping requirements. These recommendations are written for the Physical Plant electrical shop employees because they will most likely come into contact with PCB's during the course of their work.

Standard

A. Personal Protective Equipment

1. In operations where workers may come into direct contact with PCB's, protective clothing impervious to the PCB's should be worn. Such clothing should include neoprene gloves, overshoes and rubberized outer clothing. Chemical safety goggles, face shields or safety glasses with side-shields should be worn to prevent eye contact with PCB's (first aid measure for PCB splashes into the eye is irrigation with water for a period of no less than 15 minutes).

2. Positive pressure respirators should be used to limit occupational exposures to within the recommended Time Weighted Average when PCB's pose an inhalation hazard as determined by the Department of Environmental Health and Safety.

3. Any questions regarding PCB exposure should be directed to the Department of Environmental Health and Safety.

B. Medical Monitoring

1. Employees who routinely transfer PCB's as part of the normal maintenance activities (greater than four hours a week), should be provided with an annual medical exam which

includes comprehensive medical and work histories with special emphasis on hepatic functions, skin condition and reproductive history. Specific tests include SGOT and SGPT determinations.

2. Employees who routinely transfer PCB's should be evaluated by appropriate medical personnel as to their ability to use positive pressure respirators.

3. Persons having medical conditions which would directly or indirectly be aggravated by exposure to PCB's should be moved to a different activity.

4. Women of childbearing age should be advised of potential adverse effects of PCB's upon the unborn child.

C. Record keeping

1. Pertinent medical records and any environmental monitoring should be maintained for all employees exposed to PCB's for a period of 30 years.

D. Labeling

1. PCB labels should be fixed on PCB storage tanks, barrels and transformers.

2. Warning labels should be affixed in readily visible locations near PCB work areas.

E. Disposal of PCB Waste

1. Materials associated with transfer of PCB's such as clothing, absorbent or rags should be treated as hazardous waste.

Arrangements should be made with Physical Plant (Phone No. 6-1304) to provide drums and other equipment for packaging of waste oil and associated materials. All waste drums should be labeled as per Department of Transportation (DOT) and Environmental Protection Agency (EPA) regulations before shipment.