

New research finds some wood floor finishes are a likely source of PCB exposure

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A case study to be published in the online open access journal *Environmental Health* suggests that old wood floor finishes in some homes may be an overlooked source of exposure to the now banned environmental pollutants polychlorinated biphenyls (PCBs).

PCBs are persistent organic pollutants identified worldwide as human blood and breast milk contaminants. They were widely used in industry as cooling and insulating fluids for electrical equipment as well as in construction and domestic products such as varnishes and caulks. PCBs were banned in the 1970s because of their high toxicity.

PCBs are associated with thyroid toxicity, effects on immune, reproductive, nervous, and endocrine systems, and cancer effects including breast cancer. The research by the Silent Spring Institute shows that current exposure from old wood floor finishes may be even more significant for some people than their diet.

Researchers Ruthann Rudel and Julia Brody of the Silent Spring Institute and Liesel Seryak, of the Ohio State University previously measured PCBs in indoor air and dust in homes in Cape Cod during 1999-2001. They found detectable levels of PCBs in almost one in three of 120 residences. However, two of the homes had much higher concentrations of PCBs than the others. They have now retested those two homes to verify the initial finding, and they have evaluated blood PCB concentrations of the residents.

The newest findings are that air and dust concentrations of PCBs remained elevated over five years between initial and follow-up sampling. Residents in the two homes also showed higher levels of PCBs in their blood serum than the 95th percentile of a representative sample of the US population.

The likely source of the PCBs was brought to light when a resident reported using a particular floor finish, Fabulon, in the home in the 1950s and 1960s. Researchers learned that this product contained PCBs in the past from a reference book series “Clinical Toxicology of Commercial Products” which was published at that time.

The researchers point out that many buildings, including schools and public buildings, from this period may harbor PCB-containing floor finishes or other products. "Our findings suggest that the exposure potential posed by historic use of PCBs in building materials may be significantly underestimated," the researchers said.

Source: BioMed Central

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