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PCBs EXPOSURE FROM SANDING OLD WOOD FLOORS?

Polychlorinated Biphenyls (PCBs) are odorless, tasteless clear or yellow liquids that were at one time widely used in paints, cements, hydraulic fluids, and a wide range of other products. They were banned in 1977 due to studies linking exposure to a variety of health problems including suppressed antibody production and immune response, rashes, liver damage, fatigue, and cognitive development problems in children. PCBs exposure can be through direct contact, inhalation, or ingestion. They readily penetrate skin, PVC, and latex.

Exposure to PCBs is usually measured by analysis of fish, meat, and milk consumption. However, Ruthann Rudel, a toxicologist at the nonprofit Silent Spring Institute in Newton, Massachusetts, theorizes that older finished wood floors could present a major source of exposure.

In a study conducted between 1999 and 2001, Rudel measured various indoor air pollutants that had previously been linked to breast cancer in 120 homes on Cape Cod. One of her findings took her by surprise – approximately one third of the homes had detectable levels of PCBs, and two homes were found to have exceedingly high levels.

In 2005, Rudel revisited these two homes in order to perform a more in-depth study of PCBs exposure. Blood tests taken from the occupants showed high levels of PCBs. Further, elevated levels of PCBs were found in both air and dust samples.

Through occupant interviews, Rudel discovered that one of the homeowners had sanded and refinished his old hardwood floors just prior to the study. The other home also had older finished wood floors, but these had not been refinished in years. The homeowner with the highest levels of PCBs told Rudel that the floors had previously been coated with “Fabulon” varnish which, during the 1950s and 1960s claimed to provide a “bowling-alley shine.”

Rudel hypothesizes that the older varnish initially used to finish the floors releases PCBs into the indoor environment, and that sanding the floors can result in elevated exposure. She is currently working to determine if measures such as carpet installation can help reduce the levels of PCBs in the homes. Until she knows for sure, she recommends that homeowners avoid sanding their older finished wood floors.