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From: "Robert Herrick" <herrick@hohp.harvard.edu>
To: "Daniel Lefkowitz" <dlefko7107@worldnet.att.net>
Cc: <herrick@hsph.harvard.edu>
Sent: Wednesday, February 23, 2005 2:33 PM
Subject: Re: PCB in Caulking

Hello Daniel - I would add the following to the information that is in the press release. Since that was written, some new information has been published in the scientific journals that adds to the significance of our findings.

Studies in Germany and Sweden have shown that there is a risk of PCB exposure to the occupants of buildings that contain these caulking materials. Studies of teachers in schools containing PCB caulking concluded that there was heavy indoor air contamination with low chlorinated PCBs, causing a significant increase of PCB blood levels.

In a study of German children attending a PCB-containing school compared to students attending a noncontaminated school, airborne PCB levels were much higher than in the non-PCB school, and PCBs could be detected in the blood of all the students at the PCB-containing school, compared to 27% of the students at the comparison school. Significantly higher median serum concentrations for PCBs were found in students at the contaminated school, compared to students from the control school. There was a significant positive association between years spent at the contaminated school and serum levels of the combined lower chlorinated PCB congeners.

Similar results were reported in a study of people living in PCB - containing apartment buildings in Sweden. The indoor air concentrations of PCB in these buildings were found to be up to two orders of magnitude higher in PCB-containing buildings compared to similar buildings without such materials. Blood samples were taken from individuals who had resided in their building for at least five years showed significant differences in serum PCB levels between the two groups.

The other aspect that has come to light is the potential for general environmental contamination that results when the old PCB-containing caulking materials are removed. The construction workers who handle this material generally have no knowledge of its PCB content and they use no protective measures to reduce their exposure from inhalation and dermal contact. The old PCB-containing caulks are a polysulfide-based polymer, while the new caulks that replace them are frequently silicone-based materials. These two materials are not chemically compatible, so the new caulking will not stick to a surface that still contains the old caulking. Therefore, the old caulking must be ground off with an abrasive wheel to get down to a bare stone or brick surface before the new caulking can be applied. This grinding process generates extremely high levels of airborne PCB, which is a hazard to the workers, but also releases PCB-containing dust into the environment. Studies in Finland have shown

that evaluation of PCB in soil around buildings were in the first 2 meters around the foundation, but that they were seeing levels above the Finnish standard in soil out to 10 meters. This data was from apartment buildings where the caulking had been removed up to 3 years ago.

Finally, the waste construction material including the PCB contained in old caulking is disposed of as general demolition waste, and typically goes to landfills or incinerators, rather than to the high-temperature incinerators designed to destroy PCB. The result is that inappropriate disposal practices increase the environmental load of PCBs. As the total amount of PCB in caulking remaining in place in Switzerland has been estimated at 50 to 150 t; 150 to 600 t in Sweden, and 75 t in Denmark, the public health threat of PCB exposure posed by failure to properly remove and dispose of this material is substantial.

All of this has been published in the scientific literature, or presented at scientific conferences. I would be happy to discuss any aspect of this, please give a call at 617.384.8803.

Bob