New guidance for managing PCBs in caulk - Are we following in the footsteps of asbestos and lead?

March 17, 2010 - Connecticut

In recent months, EPA has issued several guidance documents on polychlorinated biphenyls (PCBs) in caulk. EPA has embarked on gathering research on the potential health effects of PCBs. This research is expected to take at least two years. While much of the current EPA guidance is directed toward school buildings and health effects on children, as discussed here, PCBs in caulk were widely used in many types of buildings.

PCBs are a family of man-made chemicals that persist in the environment. They have been predominantly known for their use in electrical equipment such as transformers. However, because of their properties (low flammability, fire resistant, chemically stable, electrical insulating, durability, resistant to degradation, and a softener and plasticizer) they have been used in a wide range of industrial applications. One of these applications was to use PCBs to make caulk more flexible.

EPA's concern about the health effects of PCBs in caulk is that PCBs can affect the immune, reproductive, nervous and endocrine systems and are potentially cancer causing if they accumulate in the body over long periods of time. PCBs were used in high concentrations in caulk from 1950 until 1978. This caulk was used around windows and door frames, between masonry columns and in other masonry building materials. Exposure to these PCBs can occur through several pathways, including air, dust, surrounding surfaces and soil. PCBs in caulk can also migrate into the surrounding materials such as brick, wood and sheet rock.

While EPA is treating PCBs in caulk as a serious issue for building owners, it does not believe that there is cause for alarm. EPA currently regulates PCBs under the Toxic Substances Control Act of 1976 (TSCA) (40CFR Part 761), and levels of PCBs at or exceeding 50 parts per million (ppm) require additional waste management procedures to comply with TSCA. Levels below 50 ppm require compliance with solid waste and RCRA regulations. EPA recommends taking several preventative steps in managing occupied buildings erected or renovated between 1950 and 1978 to minimize exposure to PCBs in caulk. These steps include: cleaning air ducts regularly, improving ventilation naturally or mechanically, cleaning frequently to reduce dust, using a wet or damp cloth or mop to clean surfaces, not using dry sweeping, using vacuums with high efficiency particulate air filters, and washing hands with soap and water before eating.

If the caulk in these buildings is brittle, cracking or deteriorating, then the caulk should be tested for PCBs. Concentrations of PCBs in caulk can easily exceed 50 ppm. If the caulk has PCBs at this concentration, it must be removed to comply with TSCA. Furthermore, if the caulk tests this high, the surrounding building materials should also be tested for PCBs. If the caulk is to be removed for renovation or for window replacement, it should be tested to ensure that the contractor disposes of the caulk in compliance with TSCA in a proper manner.

What are the disposal options if you have to remove PCBs in caulk? The caulk itself is classified

under TSCA as PCB bulk product waste and there are three ways to dispose of the material: (1) performance-based disposal, which allows for the caulk to be disposed of in a TSCA incinerator, TSCA chemical waste landfill, RCRA hazardous waste landfill, under a TSCA-approved alternate disposal method and does not require EPA approval; (2) disposal in solid waste landfills, which in some states only requires notification to the landfill and not EPA; and (3) a risk-based option, which allows for a site specific evaluation of whether PCB in bulk product waste may be disposed of in a manner other than (1) and (2) above. This third option must have EPA approval.

If you find that PCBs in caulk have migrated into adjacent materials such as brick, wood, etc., these materials have to be disposed of as PCB remediation waste under TSCA. Similar to the bulk product waste, there are three options for management: (1) self-implementing cleanup and disposal, which does not require EPA approval, but does require notification to the Regional PCB Coordinator; (2) performance-based disposal allows for the waste to be disposed of in either a TSCA chemical waste landfill or TSCA incinerator and does not require approval by EPA; and (3) Risk-based cleanup and disposal allows for site specific evaluation of whether PCB remediation waste may be cleaned up or disposed of in an alternative manner and must include EPA approval.

In summary, you should plan a strategy now if you suspect PCB-laden caulk may have been used at your building. You should take various precautions as stated above: replace damaged caulk, manage PCB caulks if you are doing any renovations, and make sure your contractor is aware of the handling and proper disposal of the caulk or any remediation wastes. You should also track EPA's progress over the next two years by going to www.epa.gov/pcbsincaulk.

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