

INFORMATION SHEET MIT W85 - Westgate

MIT has determined through sampling performed by MIT's Environment Health & Safety Office that some soil in the vicinity of Westgate ABC contains trace amounts of chemicals called PCBs [Polychlorinated Biphenyls]. The PCB levels found in most soil samples at MIT were below any applicable regulatory, environmental, or health risk threshold and are not hazardous to our community.

If people are exposed to high levels of PCBs (levels much higher than the levels found near the Westgate complex), health effects may occur. The health effects that have been associated with PCB exposure elsewhere occurred after direct skin contact or ingestion of large amounts of PCB-contaminated food or water.

Some of the Westgate samples contained levels that, while not posing an exposure that would lead to a health risk, require an abatement response under Massachusetts and federal laws. Abatement is required because, over time, PCBs accumulate in the environment and eventually could contaminate food and water supplies.

The suspected source of these PCBs is caulking that was used when the building was constructed in 1962. PCBs were added to some caulks prior to 1977 to increase the flexibility of the material. Over time or during renovations, some of the caulk can wear away or fall off of the building onto the ground, causing the PCBs to be present in soil. The Westgate buildings were renovated over several years beginning in 1992 at which time the window caulking was removed and replaced with non-PCB containing material. We recently performed testing of the non-window caulk to determine whether any of the original caulking that remains contains PCBs above the legal threshold. If so, that caulk may also need to be replaced.

Massachusetts regulations (which are based on risks to human health and the environment) consider soil concentrations of 2 milligrams per kilogram (mg/kg), or 2 parts per million (ppm), or less as posing "No Significant Risk" and require no action. Federal PCB regulations, however, provide for certain PCB cleanups to a concentration of 1 ppm. MIT is using the stricter federal standard to guide our abatement. MIT will take appropriate action (such as excavation) to address soils found with concentrations above 1 ppm.

The EHS Office has tested a total of 55 soil samples from the Westgate area (Building ABC and other areas including the playground). Of these, most (33 samples) contained concentrations below the 1 ppm action level. Overall, the PCB concentrations were generally in the range of 0.2 to 5 ppm; only 3 of the 55 samples were above this range, and none were above 10 ppm. Also, we recently collected samples from the garden area in response to resident concerns. These results are expected next week.

The locations of the soil samples that require abatement generally are within a few feet of the base of the building. On average, the samples from beyond 10 feet from the building are less than 1 ppm (average concentration 0.55 ppm). The playground area was also tested and PCBs were detected in 1 of 13 samples (average concentration 0.26 ppm). Therefore, we expect abatement will be needed primarily within 10 feet from the building.

Dr. David Diamond, a specialist in environmental and occupational medicine at MIT Medical, has reviewed the sampling results. He has determined, in consultation with other experts in environmental toxicology, that PCBs in soil at these very low concentrations do not pose a health risk, particularly in comparison to typical background exposures to PCBs. Exposure to PCBs in soil occurs through ingestion, skin contact, or possibly inhalation. The low levels of PCBs found in this soil would not be expected to cause significant exposures since a person would need to eat large amount of soil (literally pounds) or have long term, extensive skin contact. In contrast, a more significant source of PCB exposure for most individuals is through consumption of seafood, much of which contains low levels of PCBs.

Despite the lack of a health risk, MIT will excavate those areas above the regulatory threshold to protect against any possibility of long-term leaching into the water and food supplies. Licensed professionals will do this work in accordance with the regulations. You may see this activity occurring in the coming months. While the abatement is being designed and approved, MIT has covered the affected areas with a protective layer of fabric and mulch to form a barrier against even minimal exposure.

The MIT EHS Office, Housing Office and Medical Department are working together with Dr. Diamond to ensure the right responses and are available to answer questions. We will continue to communicate information as activities progress. Please send any questions that you may have to Dennis Collins [colins@mit.edu]. The best person to answer a question will respond as soon as possible during business hours.

Additional information regarding PCBs is available on the web at <http://www.atsdr.cdc.gov/tfacts17.pdf>