MIDDLESEX-LONDON HEALTH UNIT

FACT SHEET

fact sheet

Information about Trichloroethylene (TCE) for Residents of the Brydges Street and Highbury Avenue Area

Trichloroethylene (TCE) has been identified in the water below the ground and in the soil several feet below basement level on Brydges Street west of Highbury Avenue.

Are these amounts dangerous?

No. There is no immediate risk to residents. Initial analysis shows that the levels of TCE in the groundwater are higher than provincial guidelines, but below levels that would cause immediate health effects.

Have I been exposed to TCE?

At this point, it is not clear yet whether the TCE in the groundwater and soil has entered into homes. It is possible that TCE vapour could seep up through the soil and be present in small amounts in basement air. The Ministry of the Environment and Climate Change (MOECC), The City of London and the Middlesex-London Health Unit are working together to identify whether there has been, or is, any level of TCE exposure within homes.

Is the water in our taps affected?

No. The water in your taps comes from London's drinking water distribution system, which draws water from Lake Erie and Lake Huron; it does not come into contact with groundwater. This presence of TCE in the groundwater in your neighbourhood does not affect your drinking water in any way.

What is the level of health risk in the Highbury and Brydges area?

The levels of TCE in the Highbury and Brydges area are not expected to result in any health effects in the short term.

It is possible, but not yet confirmed, that the level of TCE in some basements may be higher than provincial guidelines. If this is confirmed, it still represents a very low risk of approximately three (3) cases of cancer for every 100,000 people exposed over their entire lifetimes.

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These estimates are based on a lifetime of exposure at levels that have been observed in the groundwater near your home. For the average person in this neighbourhood, the risk from TCE would be much lower than this because:

- People don't usually live for their entire lives in one neighbourhood
- People don't usually spend their entire lives at home
- People don't usually spend their entire lives in the basement

Cancer is common in all areas of Canada. On average, 40,000 of every 100,000 people will develop some form of cancer in their lifetime. If TCE is present in basements, it would be at levels too low to cause any groups or clusters of people with cancers. It would not cause a noticeable change in the cancer risk in this neighbourhood.

Are there any other health concerns associated with TCE besides cancer?

If TCE is confirmed to be present in homes, it may represent a very low risk of other health effects. There is some evidence that TCE may cause birth defects, in particular of the heart and thymus. However, this evidence is not conclusive.

Is there a blood test for TCE?

TCE and some of its breakdown products can be measured in the urine and blood. These tests are not routinely available at a doctor's office and they cannot help to determine health risks associated with possible exposures to TCE in this particular situation. Urine and blood tests can only indicate that you may have recently (within the last few days) been exposed to a large amount of the chemical. They cannot determine the source of the exposure as some of the breakdown products of TCE can also be formed from other chemicals.

How can I limit my exposure to TCE while the assessment continues?

The initial assessment for potential TCE intrusion into buildings in the Highbury and Brydges area indicates a low likelihood that indoor air levels would require any active remediation measures. However, if you are concerned about your potential exposure level, you can plug cracks in your foundation, ventilate your basement, and avoid consumer products that contain TCE.

Will indoor air be tested to see if TCE is entering buildings in the Highbury and Brydges area?

Certain houses have been selected for indoor air sampling based on their location. These sample results will provide valuable information to further assess the risk of soil vapour intrusion for other buildings in the area.

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The sampling at the selected houses will help determine the risk in the neighbourhood. If your house is not selected and you are interested in having your home tested, indoor air testing is available through private firms at a cost ranging between $3,000 and $5,000 per house.

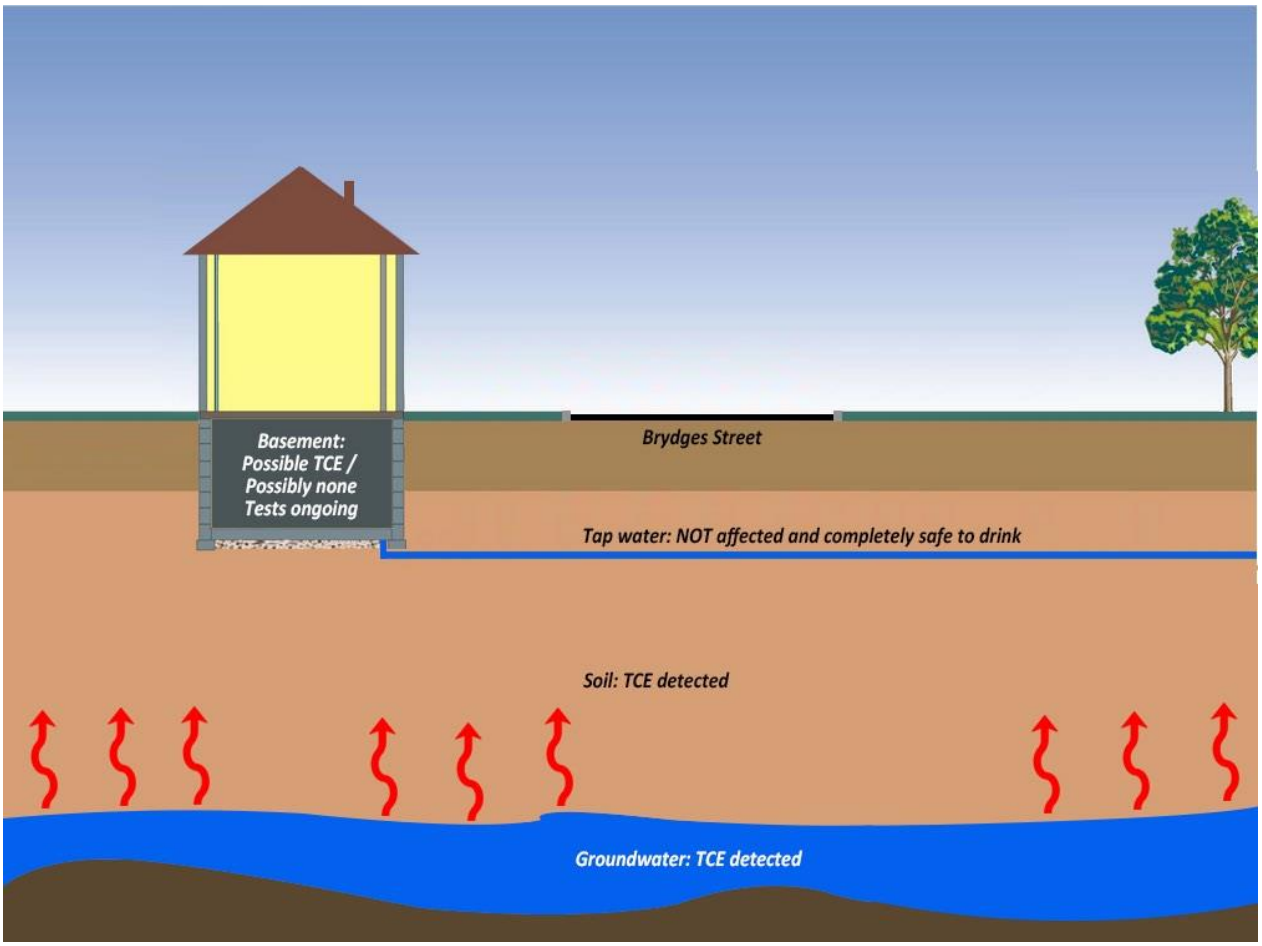
My children or pets have been playing in this soil. Does this increase their risk?

No. At these levels, skin exposure is not a risk. TCE breaks down quickly in outdoor air, and so vapours are not problematic outdoors. In general, public health advises that children should wash their hands after playing outside and before eating.

I have been growing a vegetable garden in this soil. Does this increase my risk?

No. TCE levels in soil measured several feet below basements are low, and would be even lower at the surface of the ground. It is not expected that vegetables grown in this soil would contain any significant amounts of TCE.

Graphic depicting situation for some homes on Brydges Street



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General Information about Trichloroethylene

What is trichloroethylene (TCE)?

TCE is a clear, colourless, volatile liquid used mainly for degreasing metal parts in the automotive and metal industries. It can also be found in some household products including glues and adhesives, paint and spot removers, rug cleaning fluids, paints, metal cleaners and typewriter correction fluid. In the past it was used as an anesthetic in medicine. It was also used in the food industry to decaffeinate coffee and to extract oils from plants.

How does TCE get into the environment?

TCE can be released to air, water and soil at places where it is produced and used. While TCE breaks down quickly in the air it can stay in the soil and groundwater for a long time. The largest source of TCE in the soil and groundwater is due to improper disposal and leaks or spills.

How are individuals exposed to TCE?

Aside from workplace exposures, the most common sources of exposure to TCE for the general population are through indoor air and drinking water.

The municipal drinking water supplied by the City of London is highly regulated and monitored regularly for over 100 chemicals, including TCE, and it is safe for consumption.
A potential route of exposure to TCE for residents living near a contaminated site is through the indoor air. TCE can evaporate from the contaminated groundwater, enter the soil vapor (air spaces between soil particles), and migrate through building foundations into the building's indoor air. This process is called "soil vapor intrusion."

What health risks are associated with TCE exposure?

As with exposure to any chemical, potential health effects of TCE depend on how much a person was exposed to, how long a person was exposed and other factors associated with the individual such as age, health, lifestyle choices, family traits, and other chemicals the person is exposed to.

Acute (short-term) health effects of TCE, such as sleepiness, dizziness, irritation of mucous membranes, are unlikely to occur at the levels normally found in homes. Long-term exposure at sufficiently high concentrations may cause liver and kidney damage and affect immune system function. Exposure to high-levels of TCE in the workplace or elevated levels of TCE in drinking water has been associated with increased risk of kidney cancer. There may also be some association between TCE and liver cancer and non-Hodgkin’s lymphoma. There is also some evidence that TCE may be related to heart malformations in the developing fetus.

How can I limit my exposure to TCE?

As with any indoor air contaminant, removing household sources of TCE will help reduce indoor air levels of the chemical. Maintaining adequate ventilation will also help reduce the indoor air levels of TCE. If you have very high levels of TCE in the indoor air as a result of vapor intrusion, other methods such as soil vapour extraction are useful in preventing the movement of TCE from soil vapour into indoor air.

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