**MINNESOTA**

What is Vapor Intrusion?

RESIDENTIAL

Chemicals that have been spilled or dumped on the ground can pollute soil and groundwater. Volatile organic compounds (VOCs) are chemicals that easily evaporate into air.

VOCs that evaporate from polluted soil and groundwater rise toward the ground surface. If these vapors move and come in contact with a building, they may enter through cracks in the foundation, around pipes, or through a sump or drain system. The VOCs can then contaminate indoor air. This process - when pollution moves from air spaces in soil to indoor air - is called vapor intrusion.
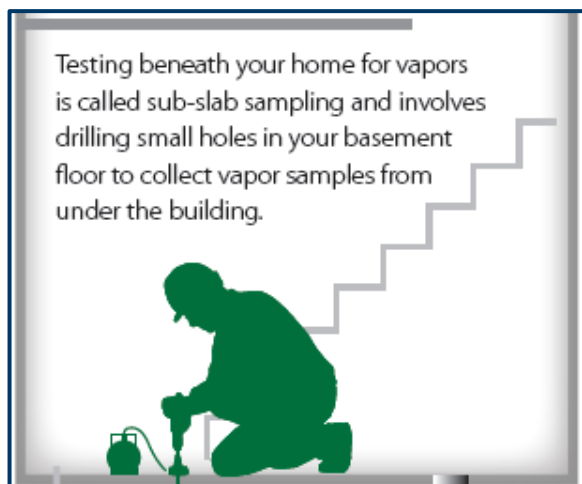
The VOCs found most often during vapor intrusion investigations in Minnesota are the industrial degreaser trichloroethylene (TCE), the dry cleaning solvent tetrachloroethylene (perchloroethylene, PCE), and components of petroleum. Examples of properties that can be sources of these VOCs are industrial manufacturers, dry cleaners, and metal plating shops.
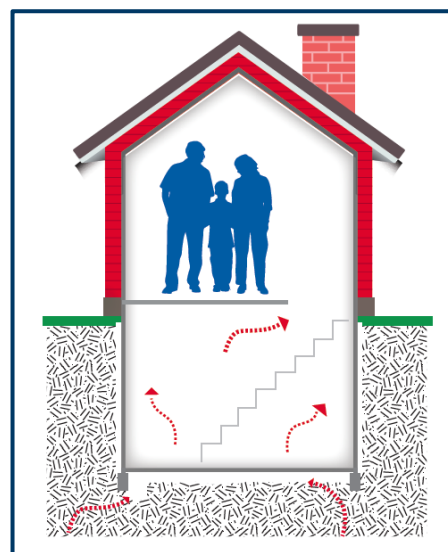
What is the purpose of a vapor intrusion investigation?

Buildings are investigated for vapor intrusion to determine if there is any risk for chemical vapor entry or a potential health concern. For there to be a health concern, contaminated vapor has to get into the indoor air at levels of concern AND people need to breathe the contaminated indoor air over time. Health risks from vapor intrusion are usually low, but it is important to take steps to reduce or eliminate vapor intrusion where possible.

What happens if vapor intrusion is suspected?

Testing beneath your home for vapors is called sub-slab sampling and involves drilling small holes in your basement floor to collect vapor samples from under the building.

Vapor intrusion is investigated by collecting environmental samples to look for chemicals and the amounts present.

If chemicals are present near buildings, it may be necessary to collect samples of sub-slab soil vapor from beneath the building. Indoor air samples may also be collected. Samples are collected in special canisters shown here.

Radon in Homes

Radon also enters buildings from soil. Radon is an odorless, radioactive gas that occurs naturally in soils. Radon is the number one cause of lung cancer in non-smokers. In Minnesota, about 40% of homes have radon levels that pose a significant health risk. For more information, visit the Minnesota Department of Health (MDH) webpage - Radon in Homes mn.gov/radon

FREE RADON TEST KIT! If you are in or near a vapor intrusion investigation area, use the MDH contact information below to contact MDH to request a FREE radon test kit.

What is done to reduce vapor intrusion and improve indoor air quality?

If soil vapors under your home are found at levels that indicate a concern, the Minnesota Pollution Control Agency (MPCA) or Responsible Party will offer to install a mitigation system to vent the vapors to the outside air. This system prevents harmful underground vapors from entering the building and are the same as those used to keep radon from entering homes. Vapor mitigation systems are simple, reliable, and proven to be effective.

Is my drinking water affected?

Vapor intrusion is often associated with contamination of shallow groundwater or soil. Municipal drinking water usually comes from deep wells or surface water and is routinely tested for contamination to ensure it meets standards. If you use a private well for drinking water and your property is undergoing a vapor intrusion investigation, contact MDH for more information.

Vapor mitigation systems work by creating a pressure barrier that prevents vapor intrusion.

For questions or information

About site investigations, sampling, mitigation systems
Contact MPCA by phone at 651-757-2040 or by email at vaporinfo.pca@state.mn.us.

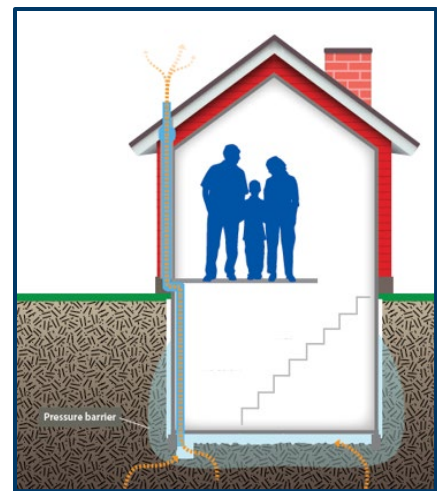MPCA Managing vapor intrusion (https://www.pca.state.mn.us/air-water-land-climate/managing-vapor-intrusion)

About vapor intrusion and health, radon, drinking water
Contact MDH by phone at 651-201-4897 or by email at health.hazard@state.mn.us.

MDH Vapor Intrusion (https://www.health.state.mn.us/communities/environment/hazardous/topics/vaporintrusion.html)

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To obtain this information in a different format, call 651-201-4897.