

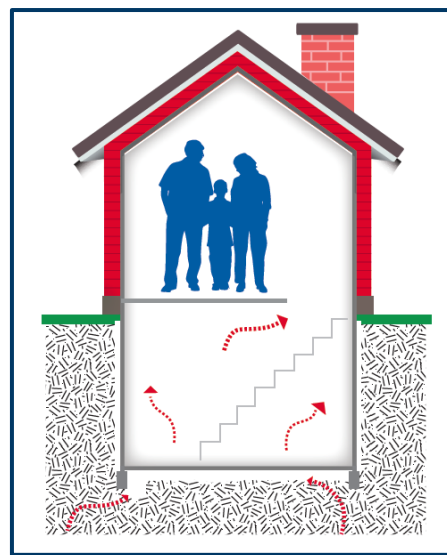
## What is Vapor Intrusion?

### 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?



Vapor intrusion is investigated by collecting environmental samples to look for the presence of chemicals and the amounts of chemicals. If chemicals are present near buildings, it may be necessary to collect samples of sub-slab soil vapor from beneath the building. Sub-slab samples are collected by drilling a small hole through the building foundation. Indoor air samples may also be collected. Samples are collected in special canisters (see photo at left).

## 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 MPCA will offer to install a mitigation system to vent the vapors to the outside air. In nearly all cases, this is done at no cost to the homeowner. These mitigation systems are the same as those used to keep radon from entering homes. They are relatively inexpensive to operate, simple to design and install, and are a proven solution to radon and vapor intrusion problems.

## 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 us for more information.

## Visit the MDH website for more information about:

- understanding your vapor intrusion test results
- who MDH would consider more sensitive to vapor intrusion health risks
- chemicals commonly found at vapor intrusion sites - TCE and PCE

### 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. There are options available for homeowners to lower exposure to radon in their homes.

For more information about radon and radon testing, visit

[Radon in Homes](#)

(<https://www.health.state.mn.us/radon>).

### **FREE RADON TEST KIT!**

If you are in or near a vapor intrusion investigation area, use the contact info below to request a FREE radon test kit. Please include your address so we can mail a test kit to your home.

## Questions? Contact Minnesota Department of Health

Site Assessment and Consultation Unit

Call (651) 201-4897 or Email [health.hazard@state.mn.us](mailto:health.hazard@state.mn.us)

<https://www.health.state.mn.us/communities/environment/hazardous/topics/vaporintrusion.html>