



SOIL VAPOR and INDOOR AIR MITIGATION FAQs

What is soil vapor?

Soil vapor is the air or gas that fills the spaces between soil particles. Just as groundwater can be stored in soil, when there is no groundwater present, these pore spaces are filled with air.

Why the concern over soil vapor?

If the soil vapor is impacted by the presence of a chemical other than air, these vapors could enter homes and buildings.

What is vapor intrusion?

Vapor intrusion is the movement of soil vapor into the home or building through cracks or openings in the foundation.

How do the soil vapors enter a building?

Soil vapor will migrate into a building due to the stack or chimney effect which is the movement of air into and out of a building. Because most buildings are not totally sealed, the stack effect will cause air from the outside (soil gas) to infiltrate into the home. Vapors in the soil around a building can enter by way of cracks in the foundation or slab, through holes cored in basement walls for utility lines, directly thru the soils if your basement is a dirt floor, through sumps and floor drains that are not equipped with appropriate water traps to block sewer gases, and through crawl spaces. Vapors can find preferential pathways which have conditions that allow the vapors to move more easily in the subsurface (ie. the gravel around a utility line or the utility line itself).

What can I do in the interim to reduce the potential for soil vapors to enter my home?

The options below are listed in order of effectiveness to reduce vapor intrusion in indoor air:

- 1) If your home has a basement:
 - a) Close the basement door;
 - b) If there is a window in the basement, open it and place a window fan in the window that blows into the basement;
 - c) If there is a floor drain or sump, attempt to seal these off; and
 - d) Limit your time spent in the basement.
- 2) Ventilate your home by opening windows;
- 3) If you have fans in the windows, have them blow outside air into your home
- 4) Create cross ventilation on lower floors by using fans (blowing into the house) and opening windows.
- 5) Seal cracks in your foundation or entry points for underground utilities such as sewer pipes, water pipes, electric, floor drains, etc.
- 6) Some air conditioners or HVAC units can be adjusted to allow for increased outdoor air intake and allow for air exchange rates within these units. These units have dampers that



allow fresh, outdoor air to mix with the cooled air. These dampers should be opened to allow outdoor air in and create a positive pressure indoors.

- 7) Avoid using indoor exhaust fans (ie. bathroom vents, stove vents), clothes dryers, and fireplaces. If you do need use these, be sure to have windows open.

Is there a filter I can use to treat the indoor air?

Activated carbon air filters may be effective in removing volatile organic compounds (VOCs), odors, and other household chemicals from the air. Activated carbon filters are different than HEPA filters.

Can I sample the indoor air myself?

A qualified environmental consulting firm should be hired to complete indoor air sampling. Indoor air sampling is not as simple as collecting a water sample from your faucet. There are numerous household products that can be off-gassing in your home and have the potential to cross-contaminate an indoor air sample. It is important that these chemical products are documented and removed from the sampling area. The Vermont DEC maintains a list of qualified environmental consulting firms that can complete this sampling and the list can be found on the following website:
http://dec.vermont.gov/sites/dec/files/wmp/Consult.lst_.pdf

Should I be concerned about the outdoor air?

No, ambient air samples collected to date for PCE and TCE have been below health standards.

Who can I contact if I have questions or concerns:

Waste Management and Prevention Division

1- 802-828-1138

Questions about the chemicals and their possible health effects can be directed to the Department of Health:

Environmental Health Division

1-800-439-8550

www.healthvermont.gov/dry-cleaning-chemicals