
Vapor Intrusion

What You Need to Know



What is vapor intrusion?

Vapor intrusion occurs when vapors (gases) from volatile organic chemicals (VOCs) in contaminated soil and/or groundwater move through soil and into outdoor air and homes/buildings through cracks in floors, walls, and gaps around pipes. In outdoor air, these vapors are diluted to harmless levels. When trapped in an enclosed space like a home or building, these vapors can collect and impact the indoor air quality and pose a risk to health.

What are the symptoms of vapor intrusion exposure?

Symptoms of exposure to chemical vapors may include:

- Eye irritation
- Respiratory irritation
- Headaches
- Nausea

What are the health effects of vapor intrusion?

Having VOCs in your air does not mean adverse health effects will occur. Virtually everyone is exposed to VOCs on a regular basis. Health effects of vapor intrusion will vary based on the type of chemicals, the levels of the chemicals found, the length of exposure and the health of exposed individuals. Chemicals affect people in different ways. Low-level chemical exposures over many years may raise the long-term risk of cancer or chronic disease. Environmental cleanup guidelines are set at very low levels to protect even the most sensitive people from potential future health effects.

How do I know if there is vapor intrusion in my home?

Homes/buildings built on land that may have been contaminated by hazardous substances or pollutants are more at risk for vapor intrusion. Professional sampling of soil, groundwater, soil gas, and indoor air at and around your home can identify the extent of vapor intrusion occurring.

Can vapors in my home come from household sources?

Some examples of products containing VOCs include: paints and lacquers, paint strippers, cleaning supplies, pesticides, gasoline and other fuels, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions. VOCs are also present in cigarette smoke and motor vehicle exhaust. Common sources of VOCs found at environmental cleanup sites include gasoline and other petroleum compounds, dry-cleaning chemicals, and industrial solvents used for degreasing.

What can I do about vapor intrusion?

- Apply an impermeable barrier to dirt floors in basements/crawlspaces
- Seal cracks and openings in foundation walls/floors and around gaps for pipes
- Install a mitigation system (radon mitigation systems work to reduce vapor intrusion)
- Building over-pressurization (adjusting HVAC system to increase indoor air pressure)

Where can I find more information about vapor intrusion?

Visit the Michigan Department of Environmental Quality (MDEQ) website at

http://www.michigan.gov/deq/0,4561,7-135-3311_4109_66336---,00.html for more information.



NURSE ON CALL PUBLIC HEALTH INFORMATION HOTLINE
800.848.5533 NOC@OAKGOV.COM
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