

For more information:

- For health-related questions regarding vapor intrusion, contact your local health department or the Agency for Toxic Substances and Disease Registry at: 1-888-422-8737 or visit their website at www.atsdr.cdc.gov.
- For more detailed information on EPA's vapor intrusion sampling, visit the EPA's website at: www.epa.gov/correctiveaction/eis/vapor/guidance.pdf.
- For more information on indoor air quality, visit EPA's website at: www.epa.gov/air/topics/comortia.html or call the Indoor Air Quality Information hotline at 1-800-438-4318.

Community Involvement Section

3HS43

U.S. EPA Region III

1650 Arch Street

Philadelphia, PA 19103



Hazardous Sites Cleanup Division
1650 Arch Street, Philadelphia, PA 19103

What You Should Know About Vapor Intrusion

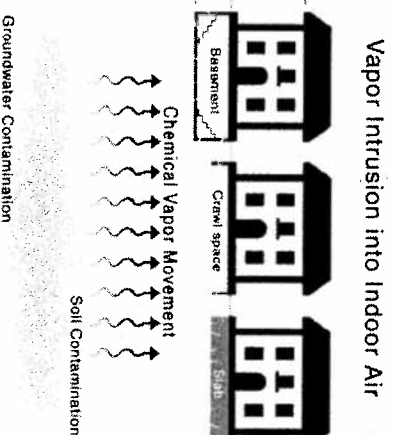
1-800-553-2509
www.epa.gov/region03

Why the need for this fact sheet?

The issue of vapor intrusion is being raised more and more in communities located near hazardous waste cleanup sites across the country. In response to this interest, EPA has developed this fact sheet to answer some of the most commonly asked questions.

What is vapor intrusion?

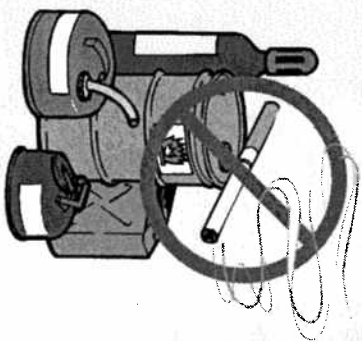
When chemicals or petroleum products are spilled on the ground or leak from underground storage tanks, they can give off gases, or vapors, that can seep inside buildings. The vapors move through the soil and seep through cracks in basements, foundations, sewer lines and other openings. Vapor intrusion is a concern because vapors can build up to a point where the health of residents or workers in those buildings could be at risk.



What vapors might be entering my home, and how would they get there?

- Common examples of vapors are from gasoline or diesel fuel, dry cleaning solvents and industrial de-greasers.
- Common sources are petroleum leaks from underground storage tanks.
- This type is usually associated with a gasoline odor.
- Solvents from other commercial and industrial sites are usually odor-free.
- Vapors also are given off by common household products, which are a more likely source of indoor air problems than leaks or spills. Examples include:
 - paints, paint strippers or thinners
 - moth balls
 - new carpeting and furniture
 - stored fuel
 - cigarette smoke
 - air fresheners
 - solvents
 - dry-cleaned clothing

Vapor intrusion: Some common household items, such as stored fuel and paint cans, can give off vapors. You should tightly seal these items after use and store them in an area that is well ventilated.



What are the health concerns with vapor intrusion?

- The incidence of vapor intrusion is low at most cleanup sites.
- When vapor intrusion does occur, the health risk is often lower than the risk posed by radon or by household chemicals.
- Health effects vary, based on person, exposure and chemical type.
- Some may experience eye and respiratory irritation, headaches and/or nausea.
- These symptoms are temporary and should go away when moved to fresh air.
- Low-level chemical exposures over many years may raise lifetime risk of cancer or chronic disease.

How is vapor intrusion discovered?

- Soil gas or groundwater samples are collected near a contaminated site first.
- If no contamination is found near a site, we know there is no possibility of vapors moving outward.
- If contamination *is* found near a site, depending on the type, the search may be widened to include samples closer to, or on your property.
- EPA does not recommend indoor air sampling first, because indoor air quality varies widely day to day.
- Also, household products may interfere with sampling results.
- Instead, soil vapor samples are taken from under the home's foundation; these are called slab, or sub-slab samples.
- If sub-slab samples show contamination, then indoor air samples may be taken.

What happens if a problem is found?

- The most common solution is to install a radon mitigation (reduction) system.
- This system removes soil vapors from below the basement or foundation before they enter the home.

- Vapors are vented outside.
- It uses minimal electricity.
- There is no noticeable effect on heating or cooling efficiency.
- It also prevents radon from entering the home – an added health benefit.
- Once vapors are eliminated, the system should no longer be needed.
- For radon, these systems are permanent.
- Individual homeowners may have to pay for installing these systems.

What can I do to improve indoor air quality?

Consider these tips to improve indoor air quality in your home:

- Don't buy more chemicals than you need.
- Store unused chemicals in appropriate containers in well-ventilated areas.
- Don't make your home too air tight. Fresh air helps prevent chemical build-up and mold growth.
- Fix all leaks promptly, as well as other moisture problems that encourage mold.
- Check all appliances and fireplaces annually.
- Test your home for radon. Test kits are available at hardware and home improvement stores.
- Install carbon monoxide detectors in your home, also available at hardware and home improvement stores.

Still have questions?

Information links are on the back of this fact sheet.



Radon reduction system: This system draws radon and other vapors out of the soil and vents them outside.