



Department of Environmental Protection

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Fact Sheet: Indoor Air Sampling

Why is indoor air at your home or building being tested?

Your building is being sampled to find out whether chemicals are present in the indoor air from a waste site. Contaminants detected in nearby soil, soil gas or groundwater could produce vapors that enter buildings through a process called "vapor intrusion".

Why is indoor air quality a concern?

Exposure to chemicals by inhaling them in indoor air could pose a risk to human health. The potential for health effects depends on the length of exposure, the amount and toxicity of the chemical, and an individual's current health status and sensitivity to the chemical.

How is indoor air sampling done?

Indoor air can be tested in different ways. One common test uses a small stainless steel container or "canister" that is placed inside a building. The canister draws in air over a set period of time from the room. It is then brought to a laboratory where the air inside is analyzed.

What contaminants might be entering your home or building?

Most contaminants found in indoor air are volatile organic compounds (VOCs). These chemicals volatilize, or evaporate, from soil or groundwater into air. They are found in petroleum products such as gasoline and home heating oil and in the chemicals used for dry cleaning and industrial processes.

What will the results of the laboratory tests show?

The results of the tests will show the levels of VOCs present in the indoor air. It is important to realize that even homes and buildings that aren't affected by contaminants coming from the soil or groundwater nearby have VOCs in the indoor air, because many common household and office products stored and used in buildings contain VOCs. Because of this, products known to contain VOCs are usually removed from the building (to the extent possible) before indoor air sampling. Nevertheless, the sampling results are likely to show the presence of some non-waste site chemicals.

This information is available in alternate format. Contact Michelle Waters-Ekanem, Director of Diversity/Civil Rights at 617-292-5751.

TTY# MassRelay Service 1-800-439-2370

MassDEP Website: www.mass.gov/dep

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What common household and office products contain VOCs?

Products containing VOCs include solvent-based paints, paint thinners, glues, cigarette smoke, aerosol sprays, inks, mothballs, air fresheners, new carpeting or furniture, gasoline, other fuels, and recently dry-cleaned clothes.

How are the sources of chemicals in indoor air identified?

The indoor air test results are compared with VOC concentrations typically found in indoor air due to common household products. If the levels exceed those typically found in indoor air, further assessment is required. This may include the evaluation of nearby groundwater, soil, soil gas, and/or outdoor air data to identify the source of contamination in the indoor air.

How is the potential for health effects evaluated?

If there are VOC levels in indoor air above typical indoor air levels, a risk assessment is done to evaluate potential harm to health. The risk assessment considers the toxicity and concentration of chemicals present at the site. Only contaminants determined to be from the waste site are included in the risk assessment, because its purpose is to guide waste-site clean-up actions that protect human health. Risk assessments include sensitive individuals such as children and assume that people breathe the air 24 hours a day at a residence, or 8 hours a day at a school or workplace.

What happens if there is contamination at levels of concern to public health?

If site-related VOCs are present in the indoor air at levels that could be harmful to health, MassDEP guidance requires measures to stop the environmental contaminants from entering the building. These measures may include cleaning up VOCs in soil or groundwater, sealing cracks in the building foundation, covering sumps, adjusting the building heating system, and/or installing a ventilation system to reduce VOCs under the basement floor.

What can you do to protect yourself from possible contamination in indoor air?

While the contamination is being investigated, you should ventilate your building well, especially during the warmer months. It is also good practice to keep household products such as paints, solvents, and oven cleaners in your cellar or garage, away from daily living spaces, and to properly dispose of old or empty containers.

Where can I find more information?

The MassDEP website has more information about indoor air from environmental contamination in the Vapor Intrusion Fact Sheet and more information about proper disposal on the Household Hazardous Waste pages.