

Landfill Gas

Answers to Frequently Asked Questions



Where does landfill gas come from?

Mostly from the decomposition of organic material. The organic material in solid waste naturally decomposes when disposed of in municipal solid waste (MSW) landfills. The decomposition process produces gases that may cause a nuisance due to odor. Wet landfill conditions produce more gas than dry conditions. Some liquid wastes may also evaporate adding to generated landfill gas.

What gases are generated in MSW landfills?

Mostly carbon dioxide and methane. These gases make up nearly all of the gas generated by a typical MSW landfill. Both gases are colorless and odorless. Many other gaseous compounds comprise a small percentage of landfill gas including sulfides, ammonia, and various volatile organic compounds. Sulfides and ammonia produce unpleasant odors that people can smell, even at very low concentrations.



How can I be exposed to landfill gases?

Unlikely in open areas, but possible in confined spaces. Landfill gas is generated below the surface and it can migrate or move through the landfill cover or other underground pathways. Uncollected gas can also be directly released to the air within the landfill property. Through underground migration, gas can enter basements, buildings, sewers, or other below ground areas. If landfill gas is released to outside air, it is quickly diluted, especially as the gases travel greater distances from the landfill. Off-site public exposure to landfill gas is typically at very low concentrations; however, odors may still be noticeable for certain compounds such as hydrogen sulfide. Inside exposure to migrating landfill gas can result in higher exposures because dilution with ambient air is minimal.



How can landfill gases affect my health?

Effects can vary based upon exposure and sensitivity. Because public exposure to landfill gas is almost always at very low concentrations, most people will not experience health effects. However, some people are sensitive to low concentrations and may exhibit certain exposure-related symptoms. Such reactions are more common in people with conditions such as asthma. Other people may experience temporary symptoms like nausea and headache when exposed to odorous gas, but these symptoms should end when the odor disappears. Public exposure to low concentrations of landfill gases is not likely to cause any long-term health effects. Extended periods of exposure to higher concentrations of landfill gas could result in health impacts.

