

WHAT IS SEWER GAS?

Sewer gas is a combination of non-toxic and toxic gases that are present in sanitary and combined sewer collection systems at varying levels depending on the source. Elements of sewer gases include hydrogen sulfide, methane, ammonia, carbon dioxide, sulfur dioxide and nitrogen oxides, as well as biological organisms (bacteria, viruses, etc.). Other components in sewer gas may include substances that are improperly disposed of in sanitary sewer systems, such as gasoline or solvents.

WHAT ARE THE POTENTIAL DANGERS ASSOCIATED WITH EXPOSURE TO SEWER GAS?

Sewer gases are of concern due to their odor, health effects and potential for explosion. Sewer gases in low quantities are typically identified by a “rotten egg” smell due to the presence of hydrogen sulfide.

Symptoms associated with minimal low-level exposure include:

- Irritation of the eyes, cough or sore throat, shortness of breath and fluid accumulation in the lungs.

Prolonged low-level exposure may cause:

- Fatigue, loss of appetite, headaches, irritability, poor memory and dizziness.

Inhalation of airborne biological agents (bacteria, viruses, etc.) can cause disease; however, these microbes are generally short-lived when suspended in air.

Typically, the levels of sewer gas that may enter your home through your plumbing system are relatively low and create more of a nuisance than a hazardous condition; however, if allowed to accumulate in a confined space, concentrations can potentially reach dangerous levels. Therefore, if you have a situation where you detect sewer gas entering your home, address the condition immediately.

HOW YOU CAN BE EXPOSED TO SEWER GASES AND HOW TO CORRECT THE PROBLEM

- **Dry Drain Traps.** The drainage trap on any plumbing fixture or drain, when filled with water, creates a seal that prevents gas and odors from seeping into the home through the plumbing lines (Figure 1). Traps can easily dry out from evaporation if fixtures aren't used for an extended period of time, such as an unused shower or toilet, or if a residence is left vacant for an extended period of time. The most common cause of odors from sewer gas comes from plumbing drain traps that have dried out.

- To correct this problem, simply add water to plumbing fixtures and floor drains to regain the water seal in the plumbing trap.

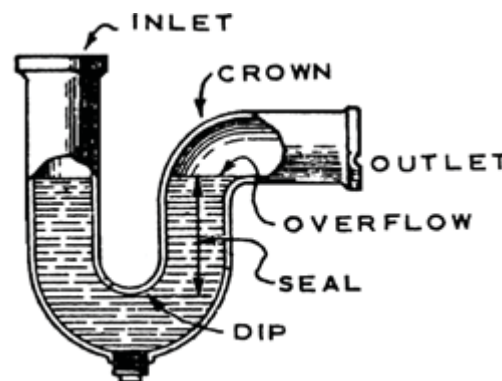


Figure 1. Typical plumbing drain trap showing the proper amount of water to create a seal.

- **Blocked or Inadequately Sized Roof Vents.** Blockages or inadequately sized roof vents do not allow replacement air to enter the plumbing system. This vacuum may cause water to be sucked from the trap of a nearby plumbing fixture, such as a bath tub or kitchen sink trap. This will immediately allow sewer gas to enter a room through the emptied fixture trap.

- To correct this problem, ensure that roof vents are clear of debris and blockage, such as leaf litter, bird or insect nests, or animals. Ask a licensed plumber if roof vents are adequately sized for your plumbing system.

- **Plumbing Line Cracks.** Cracks in plumbing drain lines or vent pipes are another source of sewer gas leaks. If the crack is in a drain line, you might see a water leak. Cracks in vent pipes can be harder to detect and could leak vast amounts of sewer gas that you can't locate easily without the use of specialized gas detection equipment. If you suspect that this may be your problem, contact a licensed plumber.

If you have exhausted the basic causes of sewer gas seepage into your home, you may need to contact a licensed plumber who can evaluate your plumbing system and perform smoke testing to visually identify the source of a leak.



STEPS TO TAKE IF YOU SUSPECT A PROBLEM WITH SEWER GAS ENTERING YOUR HOME

- If an odor is detected and is suspected to be sewer gases, try to find the source of the problem: check floor drains, showers, toilets, etc. You should be able to sense the origin by the strongest odor.

- Make sure that the drain “trap,” also called the “p-trap” is filled with water. If this water has evaporated or dried up, gases can come up through your piping and into your home. If it is empty, simply pour water down the drain or fixture to fill the trap.

- If filling the trap doesn’t solve the problem, check that the roof vents attached to your plumbing are unobstructed. Blockages in the vents could also lead to sewer gas back-ups into your home.

- If neither of these approaches work, you may have broken plumbing or an inadequately sized roof venting system and you should call a licensed plumber.

- If you suspect that high concentrations of sewer gas have accumulated in a small, enclosed space, you should evacuate the area and contact the proper authorities (call 911) for assistance. Avoid creating an ignition source such as a spark from an electrical appliance, match or cigarette lighter.

For more information, please
contact the WRC Sewer and
Drain Maintenance Team at:
248-858-0958

To report a water or sewer
emergency, please call
248-624-6366,
24-hours a day

HOW TO PREVENT SEWER GAS FROM ENTERING YOUR HOME



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