

Natural gas leak behavior and flammability



Natural gas is lighter than air and extremely flammable. Understanding how natural gas behaves when it escapes and how to prevent ignition hazards in the vicinity of any natural gas leak will help you respond safely to gas leaks, fires and other emergencies.

Natural gas migration

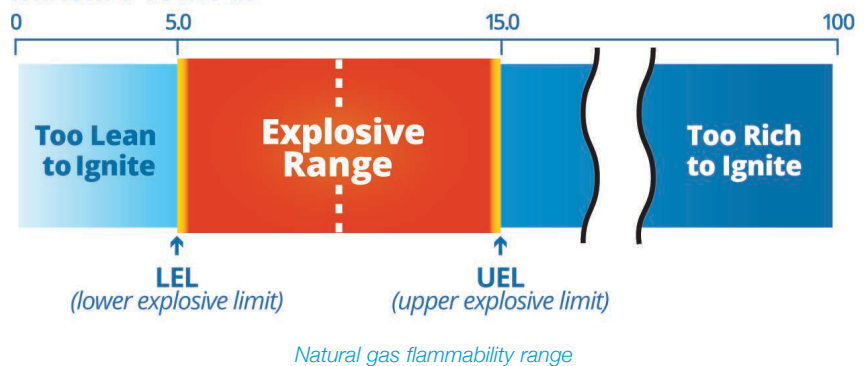
Because natural gas is lighter than air, leaking gas will rise. It will move upward through any available space: a stairwell, a crack in the road or even through soft ground. Leaking gas will flow out of open windows and doors naturally, making this an effective method of venting a room or building.

When underground or in enclosed spaces, leaking natural gas will migrate laterally along the path of least resistance – across ceilings, under roadways, through ducts – until it can rise again. If its path upward or laterally is blocked, the gas may accumulate in buildings and utility vaults. Be alert for accumulated natural gas, as it poses an explosion risk even after the gas supply has been shut off.

Threat of fire or explosion

Leaking natural gas will explode when the gas-to-air ratio is between 5 and 15 percent, and the ignition of accumulated gas can have devastating consequences. Take all reports of gas leaks seriously and take immediate action to evacuate the area at risk. Identify the source of the leak, shut off the fuel source (at the aboveground meter valve or appliance piping) and exercise extreme caution to prevent ignition hazards in the vicinity of any natural gas leak. It's much better to be excessively conservative than to underestimate the risk.

Mixture % in Air



Even the smallest electrical spark is enough to ignite leaking natural gas and trigger an explosion. If you suspect a gas leak, take these steps to minimize the possibility of ignition:

- **Create an isolation zone** and shut off all vehicles in the immediate hazard area.
- **Use intrinsically safe** radios and flashlights.
- **Do not ring doorbells**, use garage openers, or turn on or off any lights, electrical devices or appliances.
- **Do not step on doormats.** Friction from boots could create a spark of static electricity.
- **If gas has ignited, let it burn.** Extinguishing the fire may allow unburned gas to collect and lead to an explosion.
- **Coordinate your tactical actions with National Grid.**

For more first responder safety information, visit firstresponder.ngridsafety.com.
To report emergencies, call 911 and National Grid immediately.