Gas Explosion Hazards

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NATURAL GAS AND PROPANE are highly flammable: if gas leaks out of the appliance or tank, it can easily ignite. Ignition sources include electrical switches, telephones and appliances. Each year, over 3000 fire department calls are related to residential gas issues, including natural gas and propane. (http://lpguerra.com) Helping clients understand the dangers of gas explosions, and how to prevent them, is another value-added service of the professional insurance agent.

Common causes of gas explosions include improper installation of appliances, leaking hoses, or defective valves. Aging pipelines are another area of concern, as some transmission lines, especially in the Northeast United States, are over 100 years old. New Jersey is home to the most miles of cast iron pipes. New York has the most service line cast iron pipes. Outdoor gas leaks may be due to corrosion of pipes, or damage done by digging in the area. Before digging, have power and gas lines marked to avoid tragedy.

Gas is odorless and colorless, making it extremely difficult to detect. For this reason, chemical odorants are added to natural gas to make gas leaks easier to detect. The practice started in 1947 after a very deadly school explosion In Texas where 297 people died. When the odor, similar to that of rotten eggs, is detected, it is essential to get everyone out of the area immediately. Ignition sources should be avoided, including using the phone, turning on a light switch or using a garage door opener.

Explosions and fires are not the only hazard of gas leaks, as carbon monoxide is a dangerous and deadly byproduct of gas leaks and faulty equipment. Carbon monoxide is colorless and odorless. Residential units are usually required to have carbon monoxide detectors. Appliances, especially gas appliances, should be installed and serviced by qualified professionals. Regular inspections are recommended, preferably on an annual basis.

Underground gas leaks pose additional problems, and may be more difficult to detect. Contact with certain soil types can remove the telltale odor. (http://carselaw.com/natural-gas-dangers) Outdoors, gas leaks may also be detected by the presence of dead areas of vegetation in otherwise healthy vegetation, commonly a circular "burn" pattern on a lawn. Gas leaks in the open pose little hazard, as explosions occur only when the gas concentration reaches 5-15%.

Gas detectors and monitoring systems can help avoid a tragedy. Gas detectors sound an alarm if there is a leak. Sophisticated gas monitoring systems can alert people to the presence of a gas leak as well as take steps, such as automatically shutting off valves, turning on a ventilation fan and providing visual and audio alarms.

Gas is a popular source of energy and electricity due to its combustibility. It is estimated that over half of American households use natural gas as their primary heat source. According to the United States Energy Information Agency (EIA), approximately 33% of electricity generated in the United States in 2015 was provided by natural gas. (https://www.eia.gov)

Propane is heavier than air, and tends to settle. It is important to keep grills and tanks away from buildings where the gas can settle into the basement. National Fire Protection Agency (NFPA) requires minimum distance of 3 feet from buildings. If a grill needs to be relit, it is essential to allow adequate time for the gas to dissipate, generally five minutes. Explosions commonly happen when someone tries to relight the grill shortly after it goes out.

In 2012 Hannah Storm, a sports anchor for ESPN, was severely injured in a gas grill explosion. The grill flame had been blown out by the wind. She relit the grill, but even though the lid had been open, the gas pooled in the bottom of the grill, causing an explosion. The explosion left Hannah with first and second degree burns on her face, hands and chest, and the loss of a good deal of hair and her eyebrows. (http://www.usatoday.com)

Propane tanks should be checked for leaks prior to their first use at the beginning of the season, and also when replacing an empty tank with a full one. Rub a simple solution of water and dish detergent on the hose. Escaping bubbles will reveal the presence of a leak. If this occurs, shut off the valve, and call the fire department immediately.

Gas explosions occur all too frequently, and can often be prevented. Helping clients, both businesses and individuals, understand the hazards and methods to enhance the safety of their employees and families, is another sign of the true insurance professional.

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