

SCFA – Training Bulletin 24- 03

Flammable Gas Leaks



Propane/LP gas is 1.5 times heavier than air, it will sink and collect in low places. It can migrate through soil and into nearby structures. Explosion and fire is the primary hazard

Propane/LPG LFL/LEL is 2.1% and the UFL/UEL is 9.5%

Expansion ratio of propane/LP liquid to gas is 1 to 270

Propane/LP gas, like natural gas (methane), is naturally odorless. Mercaptan odorant is added so we can smell it at low concentration

Odorant fade can occur when leaking gas comes in contact with soil and concrete, or building materials such as drywall, to the point where we can't smell it

Natural gas is lighter than air, with a LFL/LEL of 5% and UFL/UEL of 15%

Compressed natural gas (CNG) tanks in stationary installations and on vehicles can explode under fire conditions. Recognition is critical for safety!

Gas detection equipment is necessary to detect the presence and concentration of flammable gases. At least 2 meters should be used, to verify they are working properly and readings are similar

Scan QR Code for more info



Fire Department Actions

Keep gas detection equipment calibrated and maintained for immediate use

Understand and train on the proper use of gas detection equipment as part of a response to flammable gas emergencies. Do not rely on sense of smell to determine presence of flammable gas. Use at least 2 meters for accuracy

Stay uphill and upwind. Size-up the hazard: Natural gas? LPG? CNG?

Close valves when possible. Request the assistance of the propane company as needed for LPG leaks

When surveying a structure for the presence of flammable gas, utilize the minimum number of members necessary. Wear full PPE. Members can be trapped, injured or killed in the event of explosion or fire

Consider disconnecting electrical power at a location where it is safe to do so, to minimize potential ignition sources. Request assistance from PSEGLI as needed

Assign members to firefighting and RIT tasks; sudden explosion and fire can occur

Consider use of a fog pattern from a handline(s) to disperse propane gas from an outdoor leak

Utilize gas detection to determine the exclusion/hot zone boundaries around an outside leak. Stage members a safe distance from the leak, or building if interior

Gas Emergencies training is available at the SCFA. Visit our website course catalog or call the academy for details. Stay safe!

[Click here for more info](#)

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