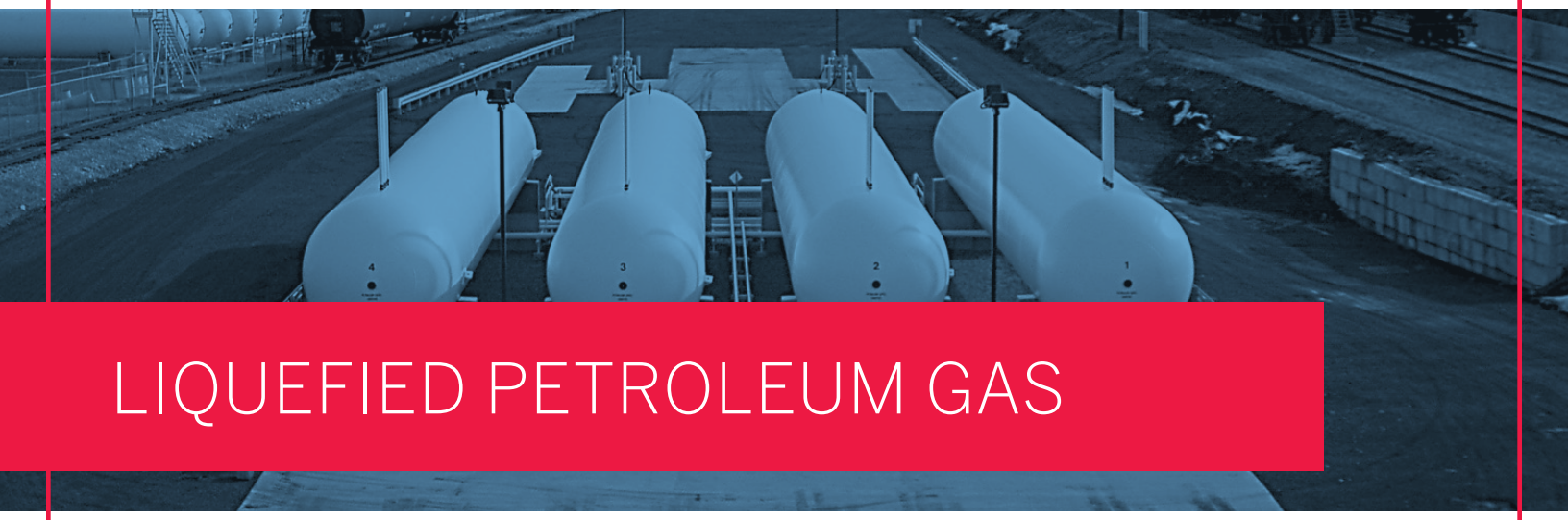
FACT SHEET



LIQUEFIED PETROLEUM GAS

Thinkstock

WHAT IS LP-GAS? Liquefied petroleum gas (LP-Gas) is a colorless, odorless liquid that readily evaporates into a gas. LP-Gas is composed predominantly of the following hydrocarbons, either by themselves (except propylene) or as mixtures: propane, propylene, butane (normal butane or isobutane), and butylenes.

NFPA LP-Gas Hazard Controls

NFPA 54, NFPA 58, and NFPA 59 include engineering, work practice, and administrative controls, and all are applicable to U.S. and international markets.

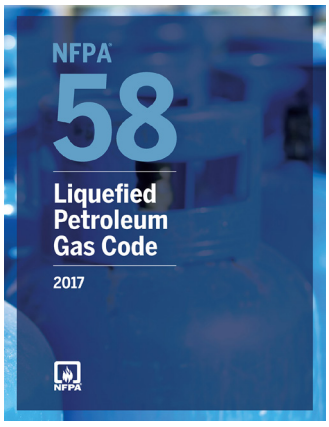
- NFPA 54, *National Fuel Gas Code*, 2018 edition.
- NFPA 58, *Liquefied Petroleum Gas Code*, 2017 edition
- NFPA 59, *Utility LP-Gas Plant Code*, 2018 edition

Highlights from NFPA 58, Liquefied Petroleum Gas Code

- General information on fire extinguishers, training, and odorization *(Chapter 4, General Requirements)*
- Construction of various LP-Gas applications including containers, valves, and appliances *(Chapter 5, LP-Gas Equipment and Appliances)*
- Location of LP-Gas applications including piping, valves, and appliances *(Chapter 6, Installation of LP-Gas Systems)*
- How to transfer LP-Gas liquid from container to container *(Chapter 7, LP-Gas Liquid Transfer)*
- Storing cylinders including cabinets for selling cylinders *(Chapter 8, Storage of Cylinders Awaiting Use, Resale, or Exchange)*

DID YOU KNOW?

NFPA 58 was developed to cover the storage, handling, transportation, and use of LP-Gas.



LP-Gas Hazards

When LP-Gas is stored under pressure it changes phases to a liquid. If there is a loss in pressure it may leak temporarily as a liquid before converting to a heavier-than-air gas.

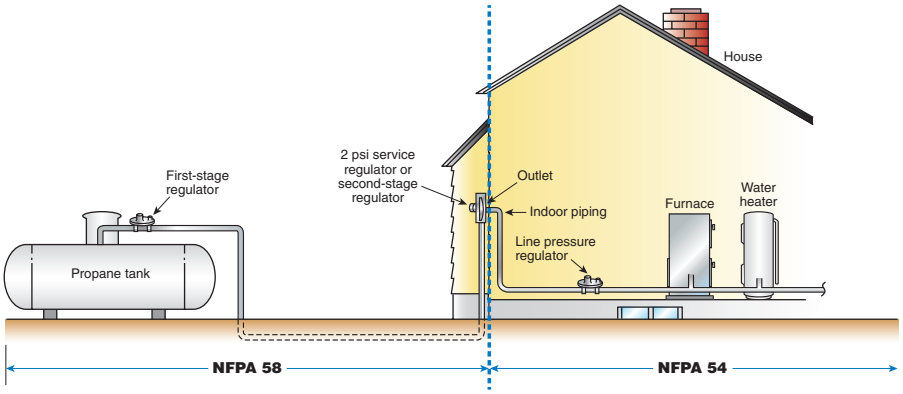
LP-Gas is flammable at a wide range of concentrations, and due to its physical properties it presents several unique hazards. First, it can cause a large decrease in temperature when converting from a liquid to a gas. This can cause hazards to personnel and materials. Second, it is colorless and odorless, making detection of leaks difficult. Finally, due to being heavier than air, it can accumulate in ditches and below grade confined spaces.

LP-Gas has been used in the United States and globally for over a hundred years safely through the use of proper regulations and application of safety standards.

LIQUEFIED PETROLEUM GAS *CONTINUED*

When To Use NFPA 58 or NFPA 54

"58 at the Gate, 54 under the Floor" is a common saying in the field.
NFPA 54 applies inside a home (or after point of delivery or meter).
NFPA 58 applies outside a home (or before the final pressure regulator).



Highlights from NFPA 54, National Fuel Gas Code

- Piping provisions, valves, expansion and flexibility *(Chapter 5, Gas Piping System Design, Materials, and|Components)*
- Sizing piping for applications via tables and equations *(Chapter 6, Pipe Sizing)*
- Installing pipes, outlets, and inside concealed spaces *(Chapter 7, Gas Piping Installation)*
- Requirements for process air, installation of appliances, and safety shutoffs *(Chapter 9, Gas Appliance, Equipment, and Accessory Installation)*
- Minimum safe performance, general requirements and specification for venting *(Chapter 12, Venting of Gas Appliances)*

When To Use NFPA 59

NFPA 59 only applies to Utility LP-Gas Plants. A plant that stores and vaporizes LP-Gas for distribution that supplies either LP-Gas or LP-Gas gas–air mixtures to a gas distribution system of 10 or more customers is a utility gas plant.

FAQs

What restrictions apply to the storage of propane cylinders in buildings?

In NFPA 58, buildings frequented by the public are limited to cylinders with a propane capacity of 1 pound. The total quantity stored is limited to 200 pounds of propane. Buildings not frequented by the public are limited to a maximum quantity of 300 pounds of propane. The cylinder size is not restricted.

- See more NFPA 58 FAQs at **nfpa.org/58**

What are the requirements for electrical area classification for areas where fuel gas piping is installed in buildings?

NFPA 54 has no requirements for electrical area classification. That means that there are no electrical area classification requirements for buildings in which fuel gas piping, both propane and natural gas are installed. See NFPA 70 and NFPA 497 for more information on classified areas for flammable liquids and gases.

- See more NFPA 54 FAQs at **nfpa.org/54**
- For the latest information on food truck safety, visit: www.nfpa.org/foodtrucksafety

Additional NFPA Resources

- *The National Fuel Gas Code Handbook* (NFPA 54)
- *The LP-Gas Code Handbook* (NFPA 58)
- Customized training classes (classroom, onsite, and online)
- NFPA 30A, *Motor Fuel Dispensing Facilities and Repair Garages*, 2016 edition
- *NFPA 70®, National Electrical Code (NEC®)*, 2017 edition
- NFPA 30, *Flammable and Combustible Liquids Code*, 2016 edition

Related Regulations

- Title 49, Code of Federal Regulations, Parts 173.301(h)(3), 173.315(n), and 192.283(b)
- Title 49, Code of Federal Regulations, Part 192, Appendix D
- Title 49, Code of Federal Regulations, Part 192.281(e), "Transportation"
- Title 49, Code of Federal Regulations, Parts 171–180, 393, 396, and 397
- Interstate Commerce Commission (ICC), Rules for Construction of Unfired Pressure Vessels