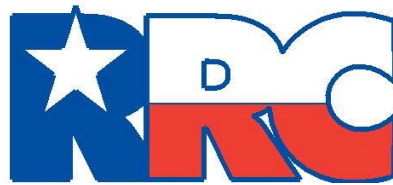


TEXAS LP-GAS EXAMINATION STUDY GUIDE

Category P
**Portable Cylinder Exchange
Management Level**



RAILROAD COMMISSION OF TEXAS

Rev 1.0

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LP-GAS EXAMINATION STUDY GUIDE

Management-LEVEL

Category P

Who should use this guide?

You should use this guide to prepare for the Railroad Commission’s management-level qualifying examination to apply for any of the following:

Category P (Portable Cylinder Exchange Operator) license for portable cylinder exchange authorizes the operation of a portable cylinder exchange service, where the sale of LP-gas is within a portable cylinder with an LP-gas capacity not to exceed 21 pounds, where the portable cylinders are not filled on site, and where no other LP-gas activity requiring a license is conducted.

SR-9.6(b)(18)

What books do I need?



This examination tests your knowledge of the laws and standards that apply to motor fuel and mobile fuel container filling operations in Texas. These laws and standards are found in three books:

LP-Gas Safety Rules (Texas Railroad Commission)

NFPA 58 Liquefied Petroleum Gas Code (National Fire Protection Association, 2017)

Where do I get these books?

PDF Version of LP-Gas Safety Rules: <https://www.rrc.texas.gov/media/nibc4gtu/lpg-rules.pdf>

NFPA 58: [Liquefied Petroleum Gas Code](#), (RRC adopted 2017 Edition on September 1, 2020)

NOTE: To [view online \(read-only\) documents NFPA requires users to REGISTER](#). Read-only access allows users to view all editions.

To purchase a hard copy of a publication, contact the Railroad Commission of Texas' Central Records section at ims@rrc.texas.gov or 512-463-6882.

Sections and Topics

Before you take this examination, you should know the definitions found in this study guide and the contents of the sections of the codes and standards listed below. The actual examination questions may not cover all of the listed sections and topics.

NOTE: Section (§) 9.402(c) of the *LP-Gas Safety Rules* states, "The Commission does not adopt language in any NFPA rule, chart, figure, or table pertaining to any LP-gas container having a water capacity of one gallon (4.2 pounds LP-gas capacity) or less."

Terms and Definitions

NOTE: The list below is not exhaustive. You are responsible for knowing all the terms and definitions that apply to the LP-gas activities you will perform, as well as the rules and standards highlighted in this guide.

NOTE: Informal terms that are sometimes used in the propane industry instead of formal technical terms are given in brackets.

Railroad Commission LP-Gas Safety Rules

Alternative Fuel Safety (AFS). The RRC department responsible for LP-Gas training and inspection.
LP-Gas Safety Rules, §9.2(1)

Company Representative. The individual designated to the Commission by a license applicant or a licensee as the principal individual in authority.
LP-Gas Safety Rules, §9.2(12)

LP Gas Safety Rules. The rules adopted by the Railroad Commission in the Texas Administrative Code, Title 16, Part 1, Chapter 9, including any NFPA or other documents adopted by reference. The official text of the Commission's rules is that which is on file with the Secretary of State's office and available at www.sos.state.tx.us or through the Commission's web site
LP-Gas Safety Rules, §9.2(22)

Operations Supervisor. The individual who is certified by the Commission to actively supervise a licensee's LP-gas operations and is authorized by the licensee to implement operational changes.
LP-Gas Safety Rules, §9.2(31)

Outlet. A site operated by an LP-gas licensee from which any regulated LP-gas activity is performed.
LP-Gas Safety Rules, §9.2(32)

Rules examination. The Commission’s written examination that measures an examinee’s working knowledge of Chapter 113 of the Texas Natural Resources Code and/or the current LP-Gas Safety Rules.
LP-Gas Safety Rules, §9.2(41)

NFPA 58 (2017)

ASME. American Society of Mechanical Engineers.
NFPA 58, §3.3.6

Container. Any vessel, including cylinders, tanks, portable tanks, and cargo tanks, used for the transporting or storing of LP-Gases.
NFPA 58, §3.3.14

Container Appurtenances. Devices installed in container openings for safety, control, or operating purposes. [Examples include pressure-relief devices; shutoff valves, backflow check valves, excess-flow valves and internal valves; liquid level gauges; pressure gauges; and plugs].
NFPA 58, §3.3.15

Fixed Maximum Liquid Level Gauge [“bleeder valve,” “outage gauge,” “spitter valve,” “spew gauge”]. A fixed liquid level gauge that indicates the liquid level at which the container is filled to its maximum permitted filling limit.
NFPA 58, §3.3.34.2

Maximum Allowable Working Pressure (MAWP). The maximum pressure at which a pressure vessel is to operate as described by the ASME Boiler and Pressure Vessel Code
NFPA 58, § 3.3.47

Leak Check. An operation performed on a gas piping system to verify that the system does not leak.
NFPA 58, § 3.3.42

Liquefied Petroleum Gas (LP-Gas). Any material having a vapor pressure not exceeding that allowed for commercial propane that 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 58, §3.3.43

NFPA. National Fire Protection Association.
NFPA 58, §3.3.53

Portable Container. Portable containers, designed for transportation, include cylinders, cargo tanks, and portable tanks, which are defined separately in this code. Containers that are designed to be readily moved from one location of use to another but that are substantially empty of product are portable storage containers and are also defined separately in this code.
NFPA 58, § A.3.3.61

Portable Container. A container designed to transport LP-Gas.
NFPA 58, §3.3.61

Pressure Relief Device [“popoff valve”]. A device designed to open to prevent a rise of internal pressure in excess of a specified value.
NFPA 58, §3.3.65

Sources of Ignition. Devices or equipment that, because of their modes of use or operation, are capable of providing sufficient thermal energy to ignite flammable LP-Gas vapor–air mixtures when introduced into such a mixture or when such a mixture comes into contact with them, and that will permit propagation of flame away from them.
NFPA 58, §3.3.78

Water Capacity [“WC”]. The amount of water at 60°F (16°C) required to fill a container.
NFPA 58, §3.3.90

Sample Question 1

A cylinder that can be connected for service in the _____ position so that the fixed maximum liquid level gauge, pressure relief device, and filling and withdrawal appurtenances function properly

- A. Vertical
- B. Horizontal
- C. Full
- D. Both A and B

Answer on last page

Key Topics

NOTE: The list below is not exhaustive. You are responsible for knowing all the facts, rules, standards and procedures that apply to the LP-gas activities you will perform, as well as the rules and standards highlighted in this guide.

As you study the applicable codes and standards, pay special attention to the facts, rules and procedures related to the following key topics. When you take the examination, read each question very carefully.

ADMINISTRATIVE RULES - GENERAL REQUIREMENTS

Company License

No person may engage in any LP-gas activity until that person has obtained a license from the Commission authorizing the LP-gas activities.

LP-Gas Safety Rules, §9.7(a)

Licensees, registered manufacturers, company representatives, and operations supervisors at each outlet shall have copies of all current licenses and/or manufacturer registrations and certificates for employees at that location available for inspection during regular business hours.

LP-Gas Safety Rules, §9.7(c)

Licenses and manufacturer registrations issued under this chapter expire one year after issuance at midnight on the last day of the month prior to the month in which they are issued.

LP-Gas Safety Rules, §9.7(d)

A properly completed LPG Form 1 listing all names under which LP-gas related activities requiring licensing are to be conducted and the applicant's properly qualified company representative and the following forms or documents as applicable:

- (A) LPG Form 1A for outlets
- (B) LPG Form 7 for delivery units
- (C) LPG Form 19 for transferring ownership

LP-Gas Safety Rules, §9.7(f)

Rules of Examination

§9.10. Rules Examination

(a) An individual who passes the applicable rules examination with a score of at least 75% will become a certificate holder. AFS will send a certificate to the licensee listed on LPG Form 16. If a licensee is not listed on the form, AFS will send the certificate to the individual's personal address.

(1) Successful completion of any examination shall be credited to and accrue to the individual.

(2) An individual who has been issued a certificate shall make the certificate readily available and shall present it to any Commission employee or agent who requests proof of certification.

Management-level examinations.

(R) The Category P examination qualifies an individual to operate a portable cylinder exchange service where LP-gas is sold in portable cylinders whose LP-gas capacity does not exceed 21 pounds, where the portable cylinders are not filled on site, and where no other LP-gas activity requiring a license is conducted.

(f) Failure of any examination shall immediately disqualify the individual from performing any LP-gas related activities covered by the examination, which is failed, except for activities covered by a separate examination which the individual has passed.

Certificate Renewal

Certificate holders shall remit the nonrefundable \$35 annual certificate renewal fee to AFS on or before May 31 of each year. Individuals who hold more than one certificate shall pay only one annual renewal fee.

(1) Failure to pay the nonrefundable annual renewal fee by the deadline shall result in a lapsed certificate

(A) To renew a lapsed certification, the individual must pay the nonrefundable \$35 annual renewal fee plus a nonrefundable \$20 late-filing fee.

(B) If an individual's certificate lapses or expires, that individual shall immediately cease performance of any LP-gas activities authorized by the certificate.

(C) If an individual's certificate has been expired for more than two years from May 31 of the year in which the certificate lapsed, that individual shall comply with the requirements in §9.8 of this title (relating to Requirements and Application for a New Certificate) or §9.13 of this title.

LP-Gas Safety Rules, §9.9(c)

Failure of any examination shall immediately disqualify the individual from performing any LP-gas related activities covered by the examination which is failed, except for activities covered by a separate examination which the individual has passed.

LP-Gas Safety Rules, §9.10(f)

Individuals who pass an employee level rules examination between March 1 and May 31 of any year shall have until May 31 of the next year to complete any required training. Individuals who pass an employee level rules examination at other times shall have until the next May 31 to complete any required training.
LP-Gas Safety Rules, §9.52(a)(3)

Trainees

A licensee or ultimate consumer may employ an individual as a trainee for a period not to exceed 45 calendar days without that individual having successfully completed the rules examination

The trainee shall be directly and individually supervised at all times by an individual who has successfully completed the Commission's rules examination for the areas of work being performed by the trainee.

LP-Gas Safety Rules, §9.12

No person shall perform work, directly supervise LP-gas activities, or be employed in any capacity requiring contact with LP-gas unless:

- (1) that individual is a certificate holder
- (2) that individual is a trainee

LP-Gas Safety Rules, §9.8(a)

Sample Question 2

A licensee or ultimate consumer may employ an individual as a trainee for a period not to exceed ____ calendar days without that individual having successfully completed the rules examination

- A. 20
- B. 31
- C. 45
- D. 75

Answer on last page

TRANSFER LOCATION RULES - GENERAL REQUIREMENTS

Designation and Responsibilities of Company Representatives and Operations Supervisors

Each licensee shall have at least one company representative for the license and at least one operations supervisor for each outlet.

LP-Gas Safety Rules, §9.12

A licensee maintaining one or more outlets shall file LPG Form 1 with AFS listing the physical location of the first outlet and designating the company representative for the license and LPG Form 1A designating the physical location and operations supervisor for each additional outlet.

LP-Gas Safety Rules, §9.17(a)(1)

A licensee may have more than one company representative.

LP-Gas Safety Rules, §9.17(a)(2)

An individual may be operations supervisor at more than one outlet provided that:

(A) each outlet has a designated LP-gas certified employee responsible for the LP-gas activities at that outlet; (B) the certified employee's and/or operations supervisor's telephone number is posted at the outlet on a sign with lettering at least 3/4-inch high, visible and legible during regular business hours; & (C) the certified employee and/or the operations supervisor monitors the telephone number and responds to calls during normal business hours.

LP-Gas Safety Rules, §9.17(a)(3)

The company representative may also serve as operations supervisor for one of the licensee's outlets provided that the individual meets both the company representative and the operations supervisor requirements in this section.

LP-Gas Safety Rules, §9.17(a)(4)

A licensee shall immediately notify AFS in writing upon conclusion of employment, for whatever reason, of its company representative or any operations supervisor and shall at the same time designate a replacement.

LP-Gas Safety Rules, §9.17(a)(5)

A licensee shall cease all LP-gas activities if it no longer employs a qualified company representative who complies with the Commission's requirements. A licensee shall not resume LP-gas activities until such time as it has a properly qualified company representative.

LP-Gas Safety Rules, §9.17(a)(6)

A licensee shall cease LP-gas activities at an outlet if it no longer employs a qualified operations supervisor at that outlet who complies with the Commission's requirements. A licensee shall not resume LP-gas activities at that outlet until such time as it has a properly qualified operations supervisor.

LP-Gas Safety Rules, §9.17(a)(7)

Qualified Personnel

Persons whose duties fall within the scope of this code shall be provided with training that is consistent with the scope of their job activities and that includes proper handling and emergency response procedures.

NFPA 58, §4.4.1

Refresher training shall be provided at least every 3 years.

NFPA 58, §4.4.3

Initial and subsequent refresher training shall be documented.

NFPA 58, §4.4.4

At least one qualified person shall remain in attendance at the transfer operation from the time connections are made until the transfer is completed, shutoff valves are closed, and lines are disconnected.

NFPA 58, §7.2.1.2

Public access to areas where LP-Gas is stored and transferred shall be prohibited except where necessary for the conduct of normal business activities.

NFPA 58, §7.2.3.1

Report of LP-Gas Incident/Accident

At the earliest practical moment or within **two** hours following discovery, a licensee owning, operating, or servicing equipment or an installation shall notify AFS by telephone of any event involving LP-gas which.

- (1) caused a death or any personal injury requiring hospitalization;
- (2) required taking an operating facility out of service;
- (3) resulted in unintentional gas ignition requiring an emergency response;
- (4) involved the LP-gas installation on any vehicle propelled by or transporting LP-gas;
- (5) caused an estimated damage to the property of the operator, others, or both totaling \$5,000 or more, including gas loss;
- (6) could reasonably be judged as significant because of rerouting of traffic, evacuation of buildings, or media interest even though it does not meet paragraphs (1) - (5) of this subsection; or
- (7) is required to be reported to any other state or federal agency (such as the Texas Department of Public Safety or the United States Department of Transportation).

LP-Gas Safety Rules, §9.36(a)

Each industrial plant, bulk plant, and distributing point shall be provided with at least one portable fire extinguisher having a minimum capacity of 18lb of dry chemical.

NFPA 58, §6.29.4.2

Have a minimum capacity of dry chemical with an A:B:C rating. (Required Fire Extinguishers)

NFPA 58, §4.7(2)

LP-Gas fires shall not be extinguished until the source of the burning gas has been shut off.

NFPA 58, §6.29.4.3

LP-Gas Safety Rules, §9.140(f)

(Partial chart shown below Full chart can be found in the 2020 LP- Gas Safety Rules)

Figure: 16 TAC §9.140(f) §9.140. Uniform Protection Standards -- Table 1 (Revised February 2008)

Requirements	Self-service Dispenser Area	Storage Racks for DOT Portable or Forklift Containers	Licensee or Non-Licensee ASME 4001+ Gal. 4001+ Gal. A.W.C.	Any Licensee Installation (DOT Container Filling and/or Service Station Only)
Red letters at least 2" high (or at least 1 1/4" high for storage racks for DOT portable or forklift cylinders) on white or aluminum background: NO SMOKING	*	*	*	*
Red letters at least 4" high on white or aluminum background: WARNING FLAMMABLE GAS			*	
Letters at least 4" high on container or 1 1/4" high on cylinder exchange or storage rack indicating contents: LP-GAS or BUTANE or PROPANE and FLAMMABLE		*	*	*
Letters at least 2" high on a background of contrasting color, readily visible to the public, stating: 24-Hour Emergency Number (not required at non-licensee installations)	*	*	*	*

Designation and Responsibilities of Company Representatives and Operations Supervisors

§9.17 (d) Category P licensees.

(1) The company representative requirement for a Category P licensee may be satisfied by employing a Category E or J company representative if the Category E or J company representative is authorized by the Category P licensee to remove any employee who does not comply with the rules in this chapter or who performs unsafe LP-gas activities.

(2) In lieu of an operations supervisor requirement for a Category P license, the Category E or J licensee providing the Category P licensee with portable cylinders for exchange shall be required to:

(A) prepare a manual containing, at a minimum, the following:

- (i) a description of the basic characteristics and properties of LP-gas;
- (ii) an explanation of the various parts of an LP-gas cylinder, including what the purpose of each part is and how to operate the cylinder valve;
- (iii) complete instructions on how to properly transport cylinders in vehicles;
- (iv) prohibition against moving or installing cylinder cages at any store location;
- (v) a prohibition against taking or storing inside a building any cylinders that have or have had LP-gas in them;
- (vi) a requirement that all cylinders containing LP-gas be stored in a manner so that the relief valve is in the vapor space of the cylinder;
- (vii) a requirement that the employees who handle the cylinders know the location within the store of the manual and know the contents of the manual;
- (viii) instructions related to any potential hazards that may be specific to a location, including but not limited to the proper distancing of cylinders from combustible materials and sources of ignition;
- (ix) detailed emergency procedures regarding a leaking cylinder, including all applicable emergency contact numbers;
- (x) a requirement that any accidents be reported to the Category E or J licensee who prepares the manual, and detailed procedures for reporting any accidents;
- (xi) all Commission rules applicable to the Category P license, including the requirement that the Category P licensee is responsible for complying with all such rules;
- (xii) all provisions of Subchapter H (“Enforcement”) of Chapter 113 of the Texas Natural Resources Code;

(xiii) a detailed description of the training provided to each employee of the Category P licensee who may be engaged in any activities covered by the Category P license; and

(xiv) a page for the signatures, printed names and dates of training for each individual trained at each outlet on this manual.

(B) provide a manual in print or electronic format at each outlet or location of the Category P licensee; and

(C) provide training as to the contents of the manual to each employee who may be engaged in any activities covered by the Category P license at all outlets or locations of the Category P licensee and maintain records regarding the employees **of the Category P licensee who have been trained.**

Sample Question 3

Each industrial plant, bulk plant, and distributing point shall be provided with at least one portable fire extinguisher having a minimum capacity of _____ lbs. of dry chemical.

- A. 15
- B. 18
- C. 20
- D. 25

Answer on last page

DOT CYLINDER - GENERAL REQUIREMENTS

Cylinder Inspection

Containers shall be designed, fabricated, tested, and marked (or stamped) in accordance with the regulations of the U.S. Department of Transportation (DOT 49 CFR); Federal Aviation Administration (FAA 14 CFR); the ASME Code, Section VIII, "Rules for the Construction of Unfired Pressure Vessels".
NFPA 58, §5.2.1.1

Containers that have been involved in a fire and show no distortion shall be re-qualified for continued service before being used or reinstalled
NFPA 58, §5.2.1.2

DOT 4E specification (aluminum) cylinders and composite cylinders involved in a fire shall be permanently removed from service.
NFPA 58, §5.2.1.2(D)

Containers that show excessive denting, bulging, gouging, or corrosion shall be removed from service.
NFPA 58, §5.2.1.4

A cylinder with an expired requalification date shall not be refilled until it is requalified by the methods prescribed in DOT regulations.
NFPA 58, §5.2.2.3

The service pressure of cylinders shall be in accordance with regulations published under Title 49 Code of Federal Regulations, "Transportation."
NFPA 58, §5.2.4.1

Cylinders shall be designed and constructed for at least a 240 psig service pressure.
NFPA 58, §5.2.4.6

Cylinders shall incorporate protection against physical damage to cylinder appurtenances and immediate connections to such appurtenances when not in use by any of the following means:

- (1) A ventilated cap
- (2) A ventilated collar
- (3) A cylinder valve providing inherent protection as defined by DOT in 49 CFR 173.301(h)(3)

NFPA 58, §5.2.6.1

Container Marking

Cylinders shall be marked as provided in the regulations, rules, or code under which they are fabricated.

(A) Where LP-Gas and one or more other compressed gases are to be stored or used in the same area, the cylinders shall be marked “Flammable” and either “LP-Gas, Propane, or Butane, or shall be marked in accordance with the requirements of 49 CFR, Transportation.”

(B) When being transported, cylinders shall be marked and labeled in accordance with 49 CFR, “Transportation.”

NFPA 58, §5.2.8.1

(1) The water capacity of the cylinder in pounds

(2) The tare weight of the cylinder in pounds, fitted for service

NFPA 58, §5.2.8.2

Warning labels shall meet the following requirements:

(1) Warning labels shall be applied to all cylinders of 100 lb. propane capacity or less that are not filled onsite.

(2) Warning labels shall include information on the potential hazards of LP-Gas.

NFPA 58, §5.2.8.4

Cylinders with 4.2 lb through 40 lb propane capacity for vapor service shall be equipped or fitted with a listed Overfilling Prevention Device and a fixed maximum liquid level gauge.

NFPA 58, §5.9.3.1; (with changes per LP-Gas Safety Rules 9.402.(c))

An overfilling prevention device shall not be the primary means to determine when a cylinder is filled to the maximum allowable filling limit.

NFPA 58, §7.4.4.1

STORAGE, PROTECTION AND TRANSPORTATION OF CYLINDERS

Storing Cylinders

Cylinders in storage shall be located to minimize exposure to excessive temperature rises, physical damage, or tampering.

NFPA 58, §8.2.1.1

Cylinders in storage having individual water capacity greater than 2.7 lb [1 lb LP-Gas capacity] shall be positioned so that the pressure relief valve is in direct communication with the **vapor** space of the cylinder.

NFPA 58, §8.2.1.2

If empty cylinders that have been in LP-Gas service are stored indoors, they shall be considered as full cylinders for the purposes of determining the maximum quantities of LP-Gas permitted.

NFPA 58, §8.2.1.4

Cylinders shall not be stored on roofs.

NFPA 58, §8.2.1.5

Screw-on-type caps or collars shall be in place on all cylinders stored, whether they are full, partially full, or empty, and cylinder outlet valves shall be closed.

NFPA 58, §8.2.2.2

Valve outlets on cylinders less than 108 lb. water capacity [nominal 45 lb.(propane capacity)] shall be plugged, capped, or sealed.

NFPA 58, § 8.2.2.3

Storage outside of buildings for cylinders awaiting use or resale or that are part of a cylinder exchange point shall be located as follows:

(1) At least 5 ft (1.5 m) from any doorway or opening in a building frequented by the public where occupants have at least two means of egress

(2) At least 10 ft (3 m) from any doorway or opening in a building or sections of a building that has only one means of egress

(3) At least 20 ft (6.1 m) from any automotive service station fuel dispenser

NFPA 58, §8.4.1.1

Protection of Cylinders

Cylinders at a location open to the public shall be protected by either of the following:

- (1) An enclosure in accordance with 6.21.4.2
- (2) A lockable ventilated enclosure of metal exterior construction

NFPA 58, §8.4.2.1

8.4.2.2 Vehicular barrier protection (VBP) shall be provided where vehicle traffic is expected at the location, except where cylinders are protected in accordance with 8.4.2.1(2).

NFPA 58, §8.4.2.2

Alternate Location and Protection of Storage. Where the provisions of 8.4.1 and 8.4.2.1 are impractical at construction sites or at buildings or structures undergoing major renovation or repairs, alternative storage of cylinders shall be acceptable to the authority having jurisdiction.

NFPA 58, §8.4.3

Fire Protection and Electrical Area Classification

Retail cylinder exchange locations shall be provided with at least one portable fire extinguisher in accordance with Section 4.7 having a minimum capacity of 10 lb. dry chemical on the premises where retail cylinder exchange cabinets are storing more than 720 lb. of propane.

NFPA 58, §8.5.1

Storage locations, other than those complying with 8.5.1, where the aggregate quantity of propane stored is in excess of 720 lb (327 kg) shall be provided with at least one approved portable fire extinguisher in accordance with Section 4.7 having minimum capacity of 18 lb (8.2 kg) dry chemical.

NFPA 58, §8.5.2

The required fire extinguisher shall be located within 50 ft travel distance of the propane storage location.

NFPA 58, §8.5.3

The storage of cylinders awaiting resale shall be exempt from the electrical classification requirements of this code.

NFPA 58, §8.5.4

Transportation of Cylinders

The cargo space of the vehicle shall be isolated from the driver's compartment, the engine, and the engine's exhaust system.

NFPA 58, §9.3.2.5

Closed-bodied vehicles, such as passenger cars, vans, and station wagons, shall not be used for transporting more than 215 lb water capacity [nominal 90 lb propane capacity], but not more than 108 lb water capacity [nominal 45 lb propane capacity] per cylinder, unless the driver and engine compartments are separated from the cargo space by a vapor tight partition that contains no means of access to the cargo space.

NFPA 58, §9.3.2.5 (C)

Cylinders shall be fastened in position to minimize the possibility of movement, tipping, and physical damage.

NFPA 58, §9.3.2.8

Cylinders and their appurtenances shall be determined to be leak-free before being loaded into vehicles.

NFPA 58, §9.3.2.6

Portable containers shall be transported with pressure relief devices in communication with the vapor space.

NFPA 58, §9.3.3.6

Cylinders being transported by vehicles shall be positioned in accordance with Table 9.3.2.9

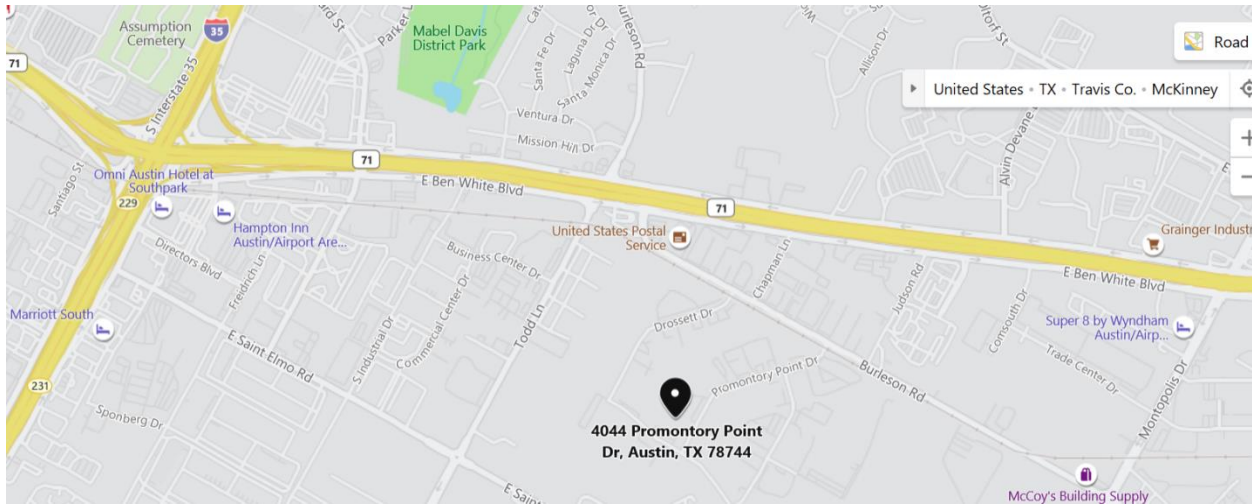
NFPA 58, §9.3.2.9

Table 9.3.2.9 Orientation of Cylinders on Vehicles

Propane Capacity of Cylinder		Open Vehicles	Enclosed Spaces of Vehicles
lb	m ³		
≤45	0.17	Any position	
>45	0.17	Relief valve in communication with the vapor space	
≤4.2	0.016		Any position
>4.2	0.016		Relief valve in communication with the vapor space

ALTERNATIVE FUELS TRAINING CENTER

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Sample Question Answers

1. D
2. C
3. B