A material which is composed predominately of the following hydrocarbons or mixtures of them: propane, propylene, butane (normal butane or isobutane) and butylenes having a vapor pressure not exceeding that of commercial propane.

“LP-gas container.” Any vessel, including cylinders, tanks, portable tanks and cargo tanks, used for transporting or storing LP-gases.

A material which is composed predominately of the following hydrocarbons or mixtures of them: propane, propylene, butane (normal butane or isobutane) and butylenes having a vapor pressure not exceeding that of commercial propane.

Exception: Use with self-contained torch assemblies in accordance with paragraph (C)(2)(a)(vi)(3803.2.1.6) of this rule.
shall not exceed 735 pounds (334 kg) per manifold. Where multiple manifolds of such containers are present in the same room, each manifold shall be separated from other manifolds by a distance of not less than 20 feet (6096 mm).

(iv) **3803.2.1.4 Group E and I occupancies.** In Group E and I occupancies, portable LP-gas containers are allowed to be used for research and experimentation. Such containers shall not be used in classrooms. Such containers shall not exceed a 50-pound (23 kg) water capacity in occupancies used for educational purposes and shall not exceed a 12-pound (5 kg) water capacity in occupancies used for institutional purposes. Where more than one such container is present in the same room, each container shall be separated from other containers by a distance of not less than 20 feet (6096 mm).

(a) **3803.2.1.4.1 Cylinders not connected for use shall be stored in accordance with paragraph (I)(38096109) of this rule.**

*Exception: Cylinders shall not be stored in a laboratory room.*

(v) **3803.2.1.5 Demonstration uses.** Portable LP-gas containers are allowed to be used temporarily for demonstrations and public exhibitions. Such containers shall not exceed a water capacity of 12 pounds (5 kg). Where more than one such container is present in the same room, each container shall be separated from other containers by a distance of not less than 20 feet (6096 mm).

(vi) **3803.2.1.6 Use with self-contained torch assemblies.** Portable LP-gas containers are allowed to be used to supply approved self-contained torch assemblies or similar appliances. Such containers shall not exceed a water capacity of 2½ pounds (1 kg).

(vii) **3803.2.1.7 Use for food preparation.** Where approved, listed LP-gas commercial food service appliances are allowed to be used for food-preparation within restaurants in attended commercial food-catering operations in accordance with the International Fuel Gas Code, the mechanical code and NFPA 58 as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code.

(a) **3803.2.1.7.1 Cylinders used with commercial food service appliances shall be used inside restaurants and in attended commercial food catering operations in accordance with the following:**

(i) Cylinders and appliances shall be listed.

(ii) Commercial food service appliances shall not have more than two 10-ounce (296 ml) nonrefillable butane gas cylinders, each having a maximum capacity of 1.08 lb (0.490 kg).

(iii) Cylinders shall comply with UL 147B as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code.

(iv) Cylinders shall be connected directly to the appliance and shall not be manifolded.

(v) Cylinders shall be an integral part of the listed, approved, commercial food service device and shall be connected without the use of a rubber hose.

(vi) **Storage of cylinders shall be in accordance with paragraph (I)(38096109) of this rule.**

(b) **3803.2.2.2 Industrial vehicles and floor maintenance machines.** LP-gas containers on industrial vehicles and floor maintenance machines shall comply with sections 11.1211.13 and 11.1311.14 of NFPA 58 as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code.

(3) **3803.26103.3 Location of equipment and piping.** Equipment and piping shall not be installed in locations where such equipment and piping is prohibited by the International Fuel Gas Code as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code.

(D) Section 28046104 Location of LP-gas containers

(1) **3804.16104.1 General.** The storage and handling of LP-gas and the installation and maintenance of related equipment shall comply with NFPA 58 as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code and be subject to the approval of the fire code official, except as provided in this rule.

(2) **3804.26104.2 Maximum capacity within established limits.** Within the limits established by law restricting the storage of liquefied petroleum gas for the protection of heavily populated or congested areas, the aggregate capacity of any one installation shall not

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one such installation is made, each installation shall be separated from other installations by at least not less than 25 feet. Minimum distances between LP-gas containers need not be applied.

e. The following shall apply to above-ground containers installed alongside buildings:

1. LP-gas containers of less than a 125-gallon water capacity are allowed next to the building they serve when where in compliance with items 2, 3 and 4.

2. Department of transportation (DOTn) specification LP-gas containers shall be located and installed so that the discharge from the container pressure relief device is at least not less than 3 feet horizontally from building openings below the level of such discharge and shall not be beneath buildings unless the space is well ventilated to the outside and is not enclosed for more than 50 per cent of its perimeter. The discharge from LP-gas container pressure relief devices shall be located not less than 5 feet from exterior sources of ignition, openings into direct-vent (sealed combustion system) appliances or mechanical ventilation air intakes.

3. ASME LP-gas containers of less than a 125-gallon water capacity shall be located and installed such that the discharge from pressure relief devices shall not terminate in or beneath buildings and shall be located at least not less than 5 feet horizontally from building openings below the level of such discharge and not less than 5 feet from exterior sources of ignition, openings into direct vent (sealed combustion system) appliances or mechanical ventilation air intakes.

4. The filling connection and the vent from liquid-level gauges on either DOTn or ASME LP-gas containers filled at the point of installation shall not be less than 10 feet from exterior sources of ignition, openings into direct vent (sealed combustion system) appliances or mechanical ventilation air intakes.

f. This distance is allowed to be reduced to not less than 10 feet for a single LP-gas container of 1,200-gallon water capacity or less, provided such container is at least not less than 25 feet from other LP-gas containers of more than 125-gallon water capacity.

(a) **Installation on roof prohibited.** LP-gas containers used in stationary installations shall not be located on the roofs of buildings.

(b) **Special hazards.** LP-gas containers shall also be located with respect to special hazards including, but not limited to, above-ground flammable or combustible liquid tanks, oxygen or gaseous hydrogen containers, flooding or electric power lines as specified in section 6.4.5 of NFPA 58 as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code.

(4) **Multiple LP-gas container installations.** Multiple LP-gas container installations with a total water storage capacity of more than 180,000 gallons (681,300 L) [150,000-gallon (567,750 L) LP-gas capacity] shall be subdivided into groups containing not more than 180,000 gallons (681,300 L) in each group. Such groups shall be separated by a distance of not less than 50 feet (15,240 mm), unless the containers are protected in accordance with one of the following:

(a) Mounded in an approved manner.

(b) Protected with approved insulation on areas that are subject to impingement of ignited gas from pipelines or other leakage.

(c) Protected by firewalls of approved construction.

(d) Protected by an approved system for application of water as specified in Table 6.4.2 of NFPA 58 as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code.

(e) Protected by other approved means.

(f) Where the provisions of sections 6.26.3 and 6.26.4 of NFPA 58 as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code are met, the minimum separation distance between groups of ASME containers protected by hose stream only shall be one-half the distances in Table 6.5.3 of NFPA 58 as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code.

Where one of these forms of protection is provided, the separation shall not be less than 25 feet (7620 mm) between LP-gas container groups.

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(E) Section 3806105 Prohibited use of LP-gas

(1) 3805.16105.1 Nonapproved equipment. LP-gas shall not be used for the purpose of operating devices or equipment unless such device or equipment is approved for use with LP-gas in accordance with Chapter 5 of NFPA 58 as listed in rule 1301:7.7.471301:7-7-80 of the Administrative Code.

(2) 3805.26105.2 Release to the atmosphere. LP-gas shall not be released to the atmosphere, except through an approved liquid level gauge or other approved device in accordance with section 7.3 of NFPA 58 as listed in rule 1301:7.7.471301:7-7-80 of the Administrative Code.

(F) Section 38066106 Dispensing and overfilling

(1) 3806.16106.1 Attendants. Dispensing of LP-gas shall be performed by a qualified attendant in accordance with section 4.4 of NFPA 58 as listed in rule 1301:7.7.471301:7-7-80 of the Administrative Code.

(2) 3806.26106.2 Overfilling. LP-gas containers shall not be filled or maintained with LP-gas in excess of either the volume determined using the fixed liquid-level gauge installed by the manufacturer in accordance with the manufacturer’s specifications and in accordance with section 5.75 of NFPA 58 as listed in rule 1301:7.7.80 of the Administrative Code or the weight determined by the required percentage of the water capacity marked on the container. Portable LP-gas containers shall not be refilled unless equipped with an overfilling prevention device (OPD) wherever required by section 5.7.3 of NFPA 58 as listed in rule 1301:7.7.471301:7-7-80 of the Administrative Code.

(3) 3806.36106.3 Dispensing locations. The point of transfer of LP-gas from one LP-gas container to another shall be separated from exposures as specified in NFPA 58 as listed in rule 1301:7.7.471301:7-7-80 of the Administrative Code.

(G) Section 38076107 Safety precautions and devices

(1) 3807.16107.1 Safety devices. Safety devices on LP-gas containers, equipment and systems shall not be tampered with or made ineffective.

(2) 3807.26107.2 Smoking and other sources of ignition. "No Smoking" signs complying with paragraph (J)(310) of rule 1301:7-7-03 of the Administrative Code shall be posted wherever required by the fire code official. Smoking within 25 feet (7620 mm) of a point of transfer, while filling operations are in progress at LP-gas containers or vehicles, shall be prohibited.

Control of other sources of ignition shall comply with rule 1301:7-7-03 of the Administrative Code and section 6.22 of NFPA 58 as listed in rule 1301:7.7.471301:7-7-80 of the Administrative Code.

(3) 3807.36107.3 Clearance to combustibles. Weeds, grass, brush, trash and other combustible materials shall be kept a minimum of not less than 10 feet (3048 mm) from LP-gas tanks or containers.

(4) 3807.46107.4 Protecting containers from vehicles. Where exposed to vehicular damage due to proximity to alleys, driveways or parking areas, LP-gas containers, regulators and piping shall be protected in accordance with paragraph (L)(312) of rule 1301:7-7-03 of the Administrative Code NFPA 58 as listed in rule 1301:7.7-80 of the Administrative Code.

(5) 3807.56107.5 Transfer. Transfer of LP-gas to and from an LP-gas container shall be conducted with permission of the owner of the container.

(H) Section 38086108 Fire protection

(1) 3808.16108.1 General. Fire protection shall be provided for installations having storage LP-gas storage containers with a water capacity of more than 4,000 gallons (15 140 L), as required by section 6.25 of NFPA 58 as listed in rule 1301:7.7.471301:7-7-80 of the Administrative Code.

(2) 3808.26108.2 Portable fire extinguishers. Portable fire extinguishers complying with paragraph (F)(906) of rule 1301:7-7-09 of the Administrative Code shall be provided as specified in NFPA 58 as listed in rule 1301:7.7.471301:7-7-80 of the Administrative Code.

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Section 3809.6109 Storage of portable LP-gas containers awaiting use or resale

(1) General. Storage of portable LP-gas containers of 1,000 pounds (454 kg) or less, whether filled, partially filled or empty, at consumer sites or distributing points, and for resale by dealers or resellers shall comply with paragraphs (I)(2)(3809.26109.2) to (I)(14)(3809.14)(I)(15)(a)(6109.15.1) of this rule.

Exceptions:

1. LP-gas containers that have not previously been in LP-gas service.

2. LP-gas containers at distributing plants.

3. LP-gas containers at consumer sites or distribution points, which are connected for use.

(2) Exposure hazards. LP-gas containers in storage shall be located in a manner that minimizes exposure to excessive temperature rise, physical damage or tampering.

(3) Position. LP-gas containers in storage having individual water capacity greater than 2½ pounds (1 kg) [nominal 1-pound (0.454 kg) LP-gas capacity] shall be positioned with the pressure relief valve in direct communication with the vapor space of the container.

(4) Separation from means of egress. LP-gas containers stored in buildings in accordance with paragraphs (I)(9)(3809.96109.9) and (I)(11)(3809.116109.11) of this rule shall not be located near exit access doors, exits, stairways or in areas normally used, or intended to be used, as a means of egress.

(5) Quantity. Empty LP-gas containers that have been in LP-gas service shall be considered as full containers for the purpose of determining the maximum quantities of LP-gas allowed in paragraphs (I)(9)(3809.96109.9) and (I)(11)(3809.116109.11) of this rule.

(6) Storage on roofs. LP-gas containers that are not connected for use shall not be stored on roofs.

(7) Storage in basement, pit or similar location. LP-gas containers shall not be stored in a basement, pit or similar location where heavier-than-air gas might collect unless otherwise permitted by NFPA 58 as listed in rule 1301:7-7-471301:7-7-80 of the Administrative Code. LP-gas containers shall not be stored in above-grade underfloor spaces or basements unless such location is provided with an approved means of ventilation.

Exception: Department of transportation (DOTn) specification cylinders with a maximum water capacity of 2½ pounds (1 kg) for use in completely self-contained hand torches and similar applications. The quantity of LP-gas shall not exceed 20 pounds (9 kg).

(8) Protection of valves on LP-gas containers in storage. LP-gas container valves shall be protected by screw-on-type caps or collars which shall be securely in place on all containers stored regardless of whether they are full, partially full or empty. Container outlet valves shall be closed or plugged.

(9) Storage within buildings accessible to the public. Department of transportation (DOTn) specification cylinders with maximum water capacity of 2½ pounds (1 kg) used in completely self-contained hand torches and similar applications are allowed to be stored or displayed in a building accessible to the public. The quantity of LP-gas shall not exceed 200 pounds (91 kg) except as provided in paragraph (I)(11)(3809.116109.11) of this rule.

(a) Storage in restaurants and at food service locations of 10 ounces (283 g) butane nonrefillable containers shall be limited to no more than 24 containers, and an additional twenty-four 10 ounce (283 g) butane nonrefillable containers stored in another location within the building, where constructed with at least a 2-hour fire wall protection.

(10) Storage within buildings not accessible to the public. The maximum quantity allowed in one storage location in buildings not accessible to the public, such as industrial buildings, shall not exceed a water capacity of 735 pounds (334 kg) [nominal 300 pounds (136 kg) of LP-gas]. Where additional storage locations are required on the same floor within the same building, they shall be located at least 2½ hours fire wall protection.
be separated by a minimum of not less than 300 feet (91,440 mm). Storage beyond these limitations shall comply with paragraph (l)(11)(3809.11.10.11) of this rule.

(a) **3809.10.16109.10.1 Quantities on equipment and vehicles.** LP-gas containers carried as part of service equipment on highway mobile vehicles need not be considered in the total storage capacity in paragraph (l)(10)(3809.10.10.10) of this rule, provided such vehicles are stored in private garages and do not carry more than three LP-gas containers with a total aggregate LP-gas capacity not exceeding 100 pounds (45.4 kg) per vehicle. LP-gas container valves shall be closed.

(b) **3809.10.26109.10.2 Storage within residential buildings.** Storage of cylinders within a residential buildings, including the basement or any storage area in a common basement storage area in multiple-family buildings and attached garages, shall be limited to cylinders each with a maximum water capacity of 2.7 pounds (1.2 kg) and shall not exceed 5.4 pounds (2.4 kg) aggregate water capacity for smaller cylinders per each living space unit.

(11) **3809.11.16109.11 Storage within rooms used for gas manufacturing.** Storage within buildings or rooms used for gas manufacturing, gas storage, gas-air mixing and vaporization, and compressors not associated with liquid transfer shall comply with paragraphs (l)(11)(a)(3809.11.16109.11.1) and (l)(11)(b)(3809.11.26109.11.2) of this rule.

(a) **3809.11.16109.11.1 Quantity limits.** The maximum quantity of LP-gas shall be 10,000 pounds (4540 kg).

(b) **3809.11.26109.11.2 Construction.** The construction of such buildings and rooms shall comply with requirements for Group H occupancies in the building code, Chapter 10 of NFPA 58 as listed in rule 1301:7.7.471301.7.7-80 of the Administrative Code and both of the following:

(i) Adequate vents shall be provided to the outside at both top and bottom, located at least not less than 5 feet (1524 mm) from building openings.

(ii) The entire area shall be classified for the purposes of ignition source control in accordance with section 6.22 of NFPA 58 as listed in rule 1301:7.7.471301.7.7-80 of the Administrative Code.

(12) **3809.126109.12 Location of storage outside of buildings.** Storage outside of buildings of LP-gas containers awaiting use, resale or part of a cylinder exchange program shall be located in accordance with Table 3809.126109.12 of this rule.

<table>
<thead>
<tr>
<th>Table 3809.126109.12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separation from exposures of LP-gas containers awaiting use, resale or exchange stored outside of buildings</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quantity of LP-gas stored (pounds)</th>
<th>Nearest important building or group of buildings or line of adjoining property that may be built upon</th>
<th>Line of adjoining property occupied by schools, places of religious worship, hospitals, athletic fields or other points of public gathering; busy thoroughfares; or sidewalks</th>
<th>LP-gas dispensing station</th>
<th>Doorway or opening to a building with two or more means of egress</th>
<th>Doorway or opening to a building with one means of egress</th>
<th>Combustible materials</th>
<th>Motor vehicle fuel dispenser</th>
</tr>
</thead>
<tbody>
<tr>
<td>720 or less</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>721-2,500</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>2,501-6,000</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>20</td>
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<tr>
<td>6,001-10,000</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Over 10,000</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>10</td>
<td>20</td>
</tr>
</tbody>
</table>

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station has no visible damage or obvious defects that necessitate placing the station out of service. The frequency of inspections shall be as specified by the fire code official.

(J) Section 3810.6110 LP-gas containers not in service

(1) 3810.6110.1 Temporarily out of service. LP-gas containers whose use has been temporarily discontinued shall comply with all of the following:

(a) Be disconnected from appliance piping.

(b) Have LP-gas container outlets, except relief valves, closed or plugged.

(c) Be positioned with the relief valve in direct communication with the LP-gas container vapor space.

(2) 3810.6110.2 Permanently out of service. LP-gas containers to be placed permanently out of service shall be removed from the site.

(K) Section 3811.6111 Parking and garaging of LP-gas tank vehicles

(1) 3811.6111.1 General. Parking of LP-gas tank vehicles shall comply with paragraphs (K)(2)(3811.6111.2) and (K)(3)(3811.6111.3) of this rule.

Exception: In cases of accident, breakdown or other emergencies, LP-gas tank vehicles are allowed to be parked and left unattended at any location while the operator is obtaining assistance.

(2) 3811.6111.2 Unattended parking. The unattended parking of LP-gas tank vehicle shall be in accordance with paragraphs (K)(2)(a)(3811.6111.2.1) and (K)(2)(b)(3811.6111.2.2) of this rule.

(a) 3811.6111.2.1 Near residential, educational and institutional occupancies and other high-risk areas. LP-gas tank vehicles shall not be left unattended at any time on residential streets or within 500 feet (152 m) of a residential area, apartment or hotel complex, educational facility, hospital or care facility. Tank vehicles shall not be left unattended at any other place that would, in the opinion of the fire code official, pose an extreme life hazard.

(b) 3811.6111.2.2 Durations exceeding 1 hour. LP-gas tank vehicles parked at any one point for longer than 1 hour shall be located as follows:

(i) Off public streets, highways, public avenues or public alleys.

(ii) Inside of a bulk plant.

(iii) At other approved locations not less than 50 feet (15 240 mm) from buildings other than those approved for the storage or servicing of such vehicles.

(3) 3811.6111.3 Garaging. Garaging of LP-gas tank vehicles shall be as specified in NFPA 58 as listed in rule 1301:7-7.471301:7-7 of the Administrative Code. Vehicles with LP-gas fuel systems are allowed to be stored or serviced in garages as specified in section 5.1.16 of NFPA 58 as listed in rule 1301:7-7.471301:7-7 of the Administrative Code.

(L) Section 3812.6112 Inspection of DOTn cylinders

(1) 3812.6112.1. All DOTn cylinders in stationary service on the effective date of this rule, and which are not requalified according to DOTn standards, shall be inspected according to the criteria of sections 5.2.2.2 and 5.2.2.3 of NFPA 58 as listed in rule 1301:7-7.471301:7-7 of the Administrative Code, no later than September 1, 2008.

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