

**CS Part 18. Fire Protection and Prevention
Detailed Comparison With
29 C.F.R. 1926 Subpart F – Fire Protection and Prevention**

- Scope
- Adoption of Standards
- Definitions
- Employer responsibility
- Employee Emergency Action Plans
- Training
- Transportation of flammable and combustible liquids
- Liquefied Petroleum Gas (L.P.G. or LP-Gas)
- Location of containers

The comparisons show only those provisions where MIOSHA rules are different than OSHA or where MIOSHA rules are not included in 29 C.F.R.

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<p>R 408.41841 Employer Responsibility. Rule 1841. (1)**** (2) The fire protection portion of the program shall include all of the following: (a) Establishing and maintaining a means of egress from all areas of the building occupied by employees to provide free and unobstructed egress from all parts of the building or structure at all times when the building or structure is occupied. A lock or fastening that prevents free escape from the inside of any building shall not be installed, except in mental, penal, or corrective institutions where supervisory personnel is continually on duty and effective provisions are made to remove occupants in case of fire or other emergency. (b) Posting fire rules or, by other means, informing the employees of the evacuation signal, escape routes, and emergency phone numbers. Exits shall be marked by a readily visible sign. Access to exits shall be marked by readily visible signs in all cases where the exit or way to reach the exit is not immediately visible to the occupants. (c) A requirement that means of egress shall be continually maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency. (3) The fire prevention portion of the program shall include both of the following: (a) A housekeeping policy designed to keep a means of egress free from the accumulation of stored materials and debris and to reduce the likelihood of fire. (b) A policy for the storage of combustible and flammable liquids and materials and for the use of proper heating equipment as prescribed in this part. (4)****</p>	<p>No comparable OSHA provision</p>

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<p>(5) The requirements of this rule may be satisfied by 1 employer who is designated by all of the employers on the job if an agreement to that effect is reduced to writing and posted for all employees, employers, and representatives of the department of consumer and industry services to see. The agreement shall include authority for the designated employer to comply with this rule.</p> <p>(6)****</p> <p>(7) An employer shall ensure that fire walls and exit stairways required for the completed buildings are given construction priority. Fire doors with automatic closing devices shall be hung on openings as soon as practicable.</p> <p>(8) An employer shall retain existing fire separations in buildings undergoing alterations or demolition until operations necessitate their removal.</p>	
<p>R 408.41842 Employee Emergency Action Plans.</p> <p>Rule 1842. (1) This rule applies to all emergency action plans required by a particular MIOSHA or OSHA safety or health standard. The emergency action plan shall be in writing, except as provided in subrule (8) of this rule, and shall cover the designated actions that employers and employees must take to ensure employee safety from fire and other emergencies.</p> <p>(2) All of the following elements, at a minimum, shall be included in an employee emergency action plan:</p> <ul style="list-style-type: none"> (a) Emergency escape procedures and emergency escape route assignments. (b) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate. (c) Procedures to account for all employees after emergency evacuation has been completed. (d) Rescue and medical duties for those employees who are to perform them. (e) The preferred means of reporting fires and other emergencies. (f) Names or regular job titles of persons of departments that can be contacted for further information or an explanation of duties under the plan. <p>(3) An employer shall establish, in the emergency action plan, the types of evacuation to be used in emergency circumstances.</p> <p>(4) Before implementing the emergency action plan, an employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees.</p> <p>(5) An employer shall review the plan at the following times with each employee who is covered by the plan:</p> <ul style="list-style-type: none"> (a) Initially when the plan is developed. (b) When the employee's responsibilities or designated actions under the plan change. (c) When the plan is changed. <p>(6) Upon initial assignment, an employer shall review, with each employee, the parts of the plan that an employee must know to protect the employee in the event of an emergency. The written plan shall be kept at the</p>	<p>No comparable OSHA provision</p>

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<p>workplace and made available for employee review. For employers that have 10 or fewer employees, the plan may be communicated orally to employees and the employer need not maintain a written plan.</p> <p>(7) An employer shall provide, as warranted by the project, a trained and equipped fire fighting organization (fire brigade) to assure adequate protection to life.</p>	
<p>R 408.41850 Training.</p> <p>Rule 1850. (1) If an employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an education program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.</p> <p>(2) An employer shall provide the education required in this rule upon initial employment and at least annually thereafter.</p>	<p>No comparable OSHA provision</p>
<p>R 408.41851 Portable Fire Extinguishing Equipment; Selection and Installation.</p> <p>Rule 1851. (1) All portable fire extinguishers shall bear an approved label of a nationally recognized testing laboratory. A fire extinguisher or extinguishing device that contains an active agent or propellant which has thermal decomposition products that have a level of vapor toxicity equal to or greater than any of the following listed materials shall not be used, installed for use, or allowed to remain installed for use:</p> <ul style="list-style-type: none"> (a) Carbon tetrachloride, CCL4. (b) Chlorobromomethane, CH2 BrCL. (c) Azeotropic chlormethane, CM7. (d) Dibromodifluoromethane, CBr2F2. (e) 1, 2-dibromo-2-chloro-1, 1, 2-trifluoroethane, CbrF2, CBrCLf. (f) 1, 2-dibromo-2, 2-difluoroethane, CH2BrCbrF2. (g) Methylbromide, CH3Br. (h) Ethylene dibromide, CH2BrCH2Br. (i) Hydrogen bromide, HBr. (j) Methylene bromide, CH2Br2. (k) Bromodifluoromethane, CHBrF2. <p>(2)****</p> <p>(3) Fire fighting equipment shall be located where it will be readily seen and accessible along normal paths of travel in the protected area.</p> <p>(4)****</p> <p>(5) A 1/2 inch or larger interior diameter garden hose which is not more than 100 feet in length and which is equipped with a nozzle may be substituted for a 2A fire extinguisher if it is capable of reaching all points in the area that would be covered by the replaced extinguisher and is capable of discharging not less than 5 gallons per minute with a horizontal hose stream of not less than 30 feet. The hose line shall be mounted on a rack or reel. Not more than 1/2 of the total number of required fire extinguishers may be replaced by the hose.</p>	<p>No comparable OSHA provisions except: 1926.150(c)</p> <p>Portable firefighting equipment-</p> <p>1926.150(c)(1)(iii) A 1/2-inch diameter garden-type hose line, not to exceed 100 feet in length and equipped with a nozzle, may be substituted for a 2A-rated fire extinguisher, providing it is capable of discharging a minimum of 5 gallons per minute with a minimum hose stream range of 30 feet horizontally. The garden-type hose lines shall be mounted on conventional racks or reels. The number and location of hose racks or reels shall be such that at least one hose stream can be applied to all points in the area.</p>

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<p>(6) In addition to the general requirements of this rule, fire extinguishers shall be supplied as follows:</p> <p>(a) Not less than 1 portable fire extinguisher that has a rating of not less than 20 BC units shall be located as follows:</p> <p>(i) Outside of, but not more than 10 feet from, a door opening to a room used for the storage of flammable or combustible liquids.</p> <p>(ii) Not less than 25 feet, nor more than 75 feet, from an outside storage area.</p> <p>(iii) On each tank truck or other vehicle used to transport or dispense flammable or combustible liquids.</p> <p>(b) Each service or fueling area shall have at least 1 portable fire extinguisher which has not less than a 20 BC unit rating and which is located within 75 feet of each pump, dispenser, underground fill opening, and lubricating or service area.</p> <p>(c) Storage locations for liquefied petroleum gas (L.P.G.) shall be provided with at least 1 approved portable fire extinguisher that has a rating of not less than 20 BC.</p> <p>(d) Each site of a hazardous process shall be provided with a portable fire extinguisher of an appropriate size and type. Other means for safety or control may be provided if approved or required by the process.</p> <p>(7) Table 1 may be used in selecting and providing an extinguisher.</p> <p>(8) Table 1 reads as follows:</p> <p>See Table 1</p>	<p>1926.150(c)(1)(iv) One or more fire extinguishers, rated not less than 2A, shall be provided on each floor. In multistory buildings, at least one fire extinguisher shall be located adjacent to stairway..</p> <p>1926.150(c)(1)(vi) A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the jobsite. This requirement does not apply to the integral fuel tanks of motor vehicles.</p> <p>1926.150(c)(1)(vii) Carbon tetrachloride and other toxic vaporizing liquid fire extinguishers are prohibited.</p> <p>1926.150(c)(1)(viii) Portable fire extinguishers shall be inspected periodically and maintained in accordance with Maintenance and Use of Portable Fire Extinguishers, NFPA No. 10A-1970.</p> <p>1926.150(c)(1)(ix) Fire extinguishers which have been listed or approved by a nationally recognized testing laboratory, shall be used to meet the requirements of this subpart.</p> <p>1926.150(c)(1)(x) Table F-1 may be used as a guide for selecting the appropriate portable fire extinguishers.</p> <p style="text-align: center;">TABLE F-1 FIRE EXTINGUISHERS DATA</p> <p>See Table F-1</p>
<p>R 408.41852 Portable Fire Extinguishing Equipment; Inspection, Testing, and Maintenance.</p> <p>Rule 1852. (1) An extinguisher shall be inspected monthly, or at more frequent intervals when circumstances require. Inspections shall check for all of the following:</p> <p>(a) That the extinguisher is in its designated place.</p> <p>(b) That the extinguisher has not been actuated or tampered with.</p> <p>(c) That the extinguisher does not have obvious damage, physical damage, external corrosion, or other impairment.</p> <p>(2) An extinguisher that shows defects which could possibly affect its operation shall be removed from service and given a complete check. An employer shall attach a tag to an extinguisher or keep a record documenting extinguisher maintenance or discharge dates and the initials or signature of the person who performed the service. Records shall be readable, kept on file or in an electronic system (for example, bar coding), and shall be available for inspection by a representative of the department of consumer and industry services. An employer shall keep a record of extinguisher maintenance or recharge dates and the initials or signature of the person who performed the service.</p>	<p>No comparable OSHA provisions except:</p> <p>1926.150(c) Portable firefighting equipment- 1926.150(c)(1)(viii) Portable fire extinguishers shall be inspected periodically and maintained in accordance with Maintenance and Use of Portable Fire Extinguishers, NFPA No. 10A-1970.</p> <p>1926.150(c)(1)(ix) Fire extinguishers which have been listed or approved by a nationally recognized testing laboratory, shall be used to meet the requirements of this subpart.</p> <p>1926.150(c)(1)(x) Table F-1 may be used as a guide for selecting the appropriate portable fire extinguishers.</p> <p style="text-align: center;">TABLE F-1 FIRE EXTINGUISHERS DATA</p> <p>See Table F-1</p>

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<p>(3) An extinguisher shall receive a thorough inspection at least once a year to ensure operability. An extinguisher that requires recharging or weighing shall be maintained at least annually.</p> <p>(4) An extinguisher that shows evidence of corrosion or mechanical damage shall be subjected to an approved hydrostatic test as prescribed in subrule (6) of this rule or shall be replaced.</p> <p>(5) An extinguisher shall be given an approved hydrostatic test every 5 years, except for the following extinguishers, which shall be tested every 12 year:</p> <p>(a) A dry chemical extinguisher that has a brazed brass, aluminum, or mild steel shell.</p> <p>(b) An extinguisher that used bromotrifluoromethane.</p> <p>(c) A dry powder extinguisher that is for metal fires.</p> <p>The hydrostatic test date shall be recorded on a suitable metallized decal or on an equally durable material which has been affixed by a heatless process to the shell of the extinguisher and which shows the date of the test, the test pressure, and the name of the person or agency making the test. An extinguisher tested after the effective date of this part shall have a label that will not retain its original condition when removal from an extinguisher is attempted. An extinguisher manufactured under the department of transportation specifications adopted by reference in subrule (7) of this rule may have the inspection date and serviceman's or firm's name, initials, or symbol stamped into the cylinder.</p> <p>(6) A nitrogen cylinder or other cylinder for inert gas, such as found on a wheeled extinguisher, shall be hydrostatically tested at not more than 5-year intervals.</p> <p>(7) An extinguisher, cylinder, or cartridge which is used for the storage of a compressed gas and which is manufactured as prescribed in department of transportation specifications shall be hydrostatically tested in accordance with the provisions of C.F.R. 49 Parts 186-199, which are adopted by reference in R 408.41802.</p> <p>(8) The hose and couplings on an extinguisher equipped with a shutoff nozzle at the outlet end of the hose shall have a hydrostatic test without the nozzle at the test intervals prescribed for the unit on which the hose is installed.</p> <p>(9) A dry chemical and dry powder hose assembly that requires a hydrostatic test shall be at a test pressure of 300 pounds per square inch for 1 minute.</p> <p>(10) An extinguisher subjected to an original factory test pressure of 350 pounds per square inch or more shall be tested at 75% of the factory test pressure, but not less than 300 pounds per square inch. See table 2.</p> <p>(11) An extinguisher shall be suitable for use within a temperature range from plus 40 degrees to plus 120 degrees Fahrenheit. An extinguisher installed at a location subject to temperature extremes shall be of a type listed for the temperature to which it will be exposed or shall be placed in an enclosure capable of maintaining the temperature.</p>	

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<p>(12) Table 2 reads as follows:</p> <p>See Table 2</p>	
<p>R 408.41853 Fixed Fire Equipment. Rule 1853. (1)**** (2) During demolition or alterations, an existing sprinkler or standpipe system shall be maintained in service in any portion of a structure that is not subject to demolition or alteration. The operation of a sprinkler control valve shall be permitted only by a properly authorized person. Modification of a sprinkler system to permit alterations or additional demolition shall be expedited so that the automatic protection may be returned to service as quickly as possible. Sprinkler control valves shall be checked daily at the close of work to ascertain whether the protection is in service. When the sprinkler or standpipe system is out of service for other than routine maintenance, the local fire department and the building manager or designated representative shall be notified. A sign shall be posted on each fire department connection that is out of service and the balance of the service shall be tested and resealed in operable condition, where required, and both the fire department and the building manager or designated representative shall be advised that the system is again in service. (3) A standpipe and hose system shall have not less than 1 outlet per story. (4) An automatic sprinkler system shall be installed and maintained as prescribed in The National Fire Protection Association Standards NFPA 13 "Installation of Sprinkler Systems," 1991 edition; NFPA 14 "Standard For The Installation Of Standpipe, Private Hydrants And Hose Systems," 2000 edition; and NFPA 25 "Inspection, Testing, And Maintenance Of Water-Based Fire Protection Systems," 1998 edition. The standards are adopted by reference in R 408.41802.</p>	<p>1926.150(d) Fixed firefighting equipment- 1926.150(d)(1)(ii) During demolition or alterations, existing automatic sprinkler installations shall be retained in service as long as reasonable. The operation of sprinkler control valves shall be permitted only by properly authorized persons. Modification of sprinkler systems to permit alterations or additional demolition should be expedited so that the automatic protection may be returned to service as quickly as possible. Sprinkler control valves shall be checked daily at close of work to ascertain that the protection is in service.</p>
<p>R 408.41855 Fire Hose and Connections. Rule 1855. (1) One-hundred feet or less of 1-1/ 2 inch hose, with a nozzle capable of discharging water at 25 gallons or more per minute supplied from an approved standpipe system may be substituted for a fire extinguisher rated not more than 2A in the designated area provided that the hose line can reach all points in the area. (2) An approved hose valve shall be provided at each outlet for attachment of hose. (3) The employer shall contact the local firefighting organization to assure that fire hose connections on the jobsite are compatible with their firefighting equipment. If a connection is not compatible, the employer shall install an adapter, or equivalent, to permit connection of local firefighting equipment. (4) During demolition involving combustible materials, charged hose lines, supplied by hydrants, water tank trucks with pumps, or equivalent, shall be made available.</p>	<p>No comparable OSHA provisions</p>

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<p>R 408.41861 Ignition Hazards. Rule 1861. (1)**** (2) Smoking shall be prohibited within 25 feet of flammable material. The area shall be posted with a sign "No Smoking or Open Flame." The sign shall be as prescribed in the construction safety standard, Part 22 'Signals, Signs, Tags and Barricades,' being R 408.42201 et seq., which is referenced in R 408.41802.</p> <p>R 408.41862 Transportation of Flammable and Combustible Liquids. Rule 1862. (1) A container used for the transportation of a flammable and combustible liquid shall be of substantial construction or be substantially packed so they will not be readily broken or punctured during transportation or handling. (2) A container shall be of sound metal or nonmetallic construction, having a tight closure with a screwed or spring cover. (3)**** (5) A container used for the transportation of a flammable or combustible liquid shall be tightly closed to prevent the escape of liquid or vapor.</p>	<p>1926.151(a) Ignition hazards. 1926.151(a)(3) Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard, and shall be conspicuously posted: "No Smoking or Open Flame."</p>
<p>R 408.41864 Inside Storage Room. Rule 1864.(1)**** (2) Either an opening from an inside storage room to another room or building shall be provided with noncombustible liquid-tight raised sill or ramp not less than 6 inches in height or else the floor in the storage area shall be not less than 6 inches below the surrounding floor. The opening shall be provided with an approved self-closing fire door that is labeled with the words "Flammable ---- Keep Fire Away" in conspicuous lettering as prescribed in the construction safety standard, Part 22 'Signals, Signs, Tags, and Barricades,' being R 408.42201 et seq. which is referenced in R 408.41802.</p>	<p>No comparable OSHA provisions</p>
<p>R 408.41865 Flammables and Combustibles; Outside Storage. Rule 1865.(1)**** (8) An above ground tank or loading operation shall not be installed closer than 25 feet plus 1 inch per 1,000 volts, measured horizontally, from the center line of electric power lines, or under an electric power line, except that service entrance and service lines may be closer than 25 feet but not over the tanks or loading area. This prohibition shall not apply to a fuel oil tank with up to a 275-gallon individual capacity or a 550-gallon aggregate capacity that is used for heating purposes.</p>	<p>1926.152(b) "Indoor storage of flammable and combustible liquids." 1926.152(b)(4)(ii) Where an automatic extinguishing system is provided, the system shall be designed and installed in an approved manner. Openings to other rooms or buildings shall be provided with noncombustible liquid-tight raised sills or ramps at least 4 inches in height, or the floor in the storage area shall be at least 4 inches below the surrounding floor. Openings shall be provided with approved self-closing fire doors. The room shall be liquid-tight where the walls join the floor. A permissible alternate to the sill or ramp is an open-grated trench, inside of the room, which drains to a safe location.</p>

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<p>R 408.41867 Flammable and Combustible Liquids; Dispensing. Rule 1867. (1) An area where a flammable or combustible liquid is transferred at one time, in a quantity of more than 5 gallons from one tank or container to another tank or container, shall be separate from other operations or a building by a distance of 25 feet or by a wall not less than 5 feet high having a fire resistance of not less than 1 hour.</p>	<p>No comparable OSHA provisions</p>
<p>R 408.41868 Flammable and Combustible Liquids; Handling At Point Of Use. Rule 1868. (1) Not more than 1 day's supply, but not to exceed 25 gallons, of flammable or combustible liquid shall be permitted to stand outside a cabinet at a place of usage. (2)**** (4) An open container containing a flammable liquid shall be equipped with a cover that has a fused link which will automatically close if the liquid is ignited. (5) Natural or mechanical ventilation capable of maintaining the vapor below 10% of the lower explosive limit shall be provided and used when a flammable liquid is used or handled.</p>	<p>1926.152(e) "Dispensing liquids." 1926.152(e)(1) Areas in which flammable or combustible liquids are transferred at one time, in quantities greater than 5 gallons from one tank or container to another tank or container, shall be separated from other operations by 25-foot distance or by construction having a fire resistance of at least 1 hour.</p>
<p>R 408.41869 Flammable and Combustible Liquids; Service and Refueling Areas. Rule 1869.(1)**** (3) Sources of ignition, such as smoking, open flame, cutting and welding, frictional heat, sparks, and heating equipment, shall not be permitted within 25 feet in any direction of where an internal combustion engine is fueled or where a flammable or combustible liquid is dispensed. A warning sign shall be posted as prescribed in construction safety standard Part 22 'Signals, Signs, Tags, and Barricades,' being R 408.42201 et seq. which is referenced in R 408.41802. The motor of any equipment being fueled shall be shut off during the fueling operation.</p>	<p>No comparable OSHA provisions</p>
<p>R 408.41871 Liquefied Petroleum Gas. Rule 1871. (1) The storage and handling of L.P.G. shall be as prescribed in The National Fire Protection Association Standards, NFPA 58 "Storage and Handling of Liquefied Petroleum Gases," 1992 edition; NFPA 52 "The Compressed Natural Gas Vehicular Fuel Systems," 1992 edition; and NFPA 59A "Production, Storage and Handling of Liquefied Natural Gas," 1990 edition. The standards are adopted by reference in R 408.41802. (2) An employer shall also contact the Michigan Department Of Environmental Quality, Storage Tank Division, for additional rules concerning the installation, use, and storage of liquefied petroleum gases. The Storage Tank Division can be reached at The Town Center, 333 South Capital, Lansing, Michigan, 48909-7657 or via website: www.michigan.gov/deq</p>	<p>1926.152(g) "Service and refueling areas." 1926.152(g)(8) There shall be no smoking or open flames in the areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing of flammable or combustible liquids. 1926.152(g)(9) Conspicuous and legible signs prohibiting smoking shall be posted. 1926.152(g)(10) The motors of all equipment being fueled shall be shut off during the fueling operation.</p>

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<p>R 408.41872 L. P. Pipe, Fittings, and Hose.</p> <p>Rule 1872. (1) Piping, pipe and tubing fittings, and valves used to supply utilization equipment within the scope of this standard shall be acceptable for services as approved by the manufacture of the equipment.</p> <p>(2) Pipe shall be wrought iron, steel, brass, or copper.</p> <p>(3) Aluminum piping or tubing is prohibited.</p> <p>(4) Fittings shall be steel, brass, copper, malleable iron, or ductile iron. Cast iron fittings shall not be used.</p> <p>(5) Tubing shall be steel, brass, or copper.</p> <p>(6) Hose, hose connections, and flexible connections shall be fabricated of approved materials resistant to the action of L. P. gas, both as a liquid and vapor.</p> <p>(7) Hose, hose connections, and flexible connectors shall be designed for a working pressure of not less than 350 psig and shall be as short as practical.</p> <p>(8) Fittings at pressures higher than container pressures shall be suitable for a working pressure of 350 psig.</p> <p>(9) Fittings used at operating pressures over 125 psig shall be suitable for a working pressure of 250 psig.</p> <p>(10) Fittings used with vapor at pressure not exceeding 125 psig shall be suitable for a working pressure of 125 psig.</p>	<p>No comparable OSHA provision</p>
<p>R 408.41875 L.P. Containers and Equipment.</p> <p>Rule 1875.(1)****</p> <p>(a)****</p> <p>(f) Piping, fittings, and hose shall be in compliance with R 408.41872.</p> <p>(2) Containers may be used in unoccupied portions of a building during the hours of the day that the public normally is in the building in accordance with all of the following provisions:</p> <p>(a) The maximum water capacity of individual containers shall be 50 pounds (nominal 20 pounds L.P. gas capacity) and the number of containers in the building shall not exceed the number of workmen assigned to using L.P. gas.</p> <p>(b) Containers that have a water capacity of more than 2 1/2 pounds (nominal 1 pound L.P. gas capacity) shall not be left unattended.</p> <p>(c) During the hours of the day when the building is not open to the public, containers may be used as prescribed in subrule (1) of this rule; however, containers that have a water capacity of more than 2 1/2 pounds shall not be left unattended.</p>	
<p>R 408.41876 Piping Liquid or Vapor L.P. Gas Into Buildings and Structures.</p> <p>Rule 1876. The piping of liquid or vapor L.P. gas into buildings that are under construction or major renovation shall be in compliance with all of the following provisions:</p> <p>(a) Piping used at pressures higher than container pressure shall be suitable for a working pressure of not less than 350 psig.</p>	<p>1926.153 Liquefied petroleum gas (LP-Gas)</p> <p>(a)Approval of equipment and systems.</p> <p>1926.153(a)(1) Each system shall have containers, valves, connectors, manifold valve assemblies, and regulators of an approved type.</p> <p>1926.153(a)(2) All cylinders shall meet the Department of Transportation specification identification requirements published in 49 CFR Part 178, Shipping Container</p>

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<p>(b) Liquid piped at container pressure or lower shall be suitable for a working pressure of not less than 250 psig.</p> <p>(c) Vapor L.P. gas that has an operating pressure of more than 125 psig shall be suitable for a working pressure of not less than 250 psig.</p> <p>(d) Vapor piped at a pressure of not more than 125 psig shall be suitable for a working pressure of not less than 125 psig.</p> <p>(e) Metallic pipe joints may be threaded, flanged, welded, or brazed.</p> <p>(f) Joints shall be made with a material that has a melting point of 1,000 degrees Fahrenheit.</p> <p>(g) When joints are threaded or threaded and back welded for vapors of liquid at pressures of more than 125 psig, schedule 80 or heavier pipe shall be used; however, at pressures of less than 125 psig, schedule 40 or heavier pipe may be used.</p> <p>(h) Piping, if welded, shall be made with a suitable type of welding fittings and shall be at least schedule 40 pipe.</p> <p>(i) Piping shall not be more than 3/4-inch pipe interior diameter. Type K or L copper tubing which is in compliance with section 232 of The National Fire Protection Association Standard NFPA 58, "Storage And Handling Of Liquefied Petroleum Gases," 1992 edition, which is adopted by reference in R 408.41802, and which has a maximum 3/4-inch pipe outside diameter may be used.</p> <p>(j) Piping shall be securely fastened to walls or other surfaces, protected against physical damage, and located to avoid high temperatures.</p> <p>(k) A shutoff valve shall be located at each branch line where it leaves the main line. A second shutoff valve shall be located at the appliance end of the branch and upstream of any flexible appliance connector.</p> <p>(l) Excess flow valves shall be installed where pipe size is reduced.</p> <p>(m) Hydrostatic relief valves shall be installed in liquid lines between shutoff valves.</p> <p>(n) All piping and fittings shall be in compliance R 408.41872.</p>	<p>Specifications.</p> <p>1926.153(a)(3) "Definition." As used in this section, "Containers" - All vessels, such as tanks, cylinders, or drums, used for transportation or storing liquefied petroleum gases.</p> <p>1926.153(b) Welding on LP-Gas containers. Welding is prohibited on containers.</p> <p>1926.153(c) Container valves and container accessories.</p> <p>1926.153(c)(1) Valves, fittings, and accessories connected directly to the container, including primary shut off valves, shall have a rated working pressure of at least 250 p.s.i.g. and shall be of material and design suitable for LP-Gas service.</p> <p>1926.153(c)(2) Connections to containers, except safety relief connections, liquid level gauging devices, and plugged openings, shall have shutoff valves located as close to the container as practicable.</p>
<p>R 408.41878 Location of Containers.</p> <p>Rule 1878. (1) Located as to minimize exposure to excessive temperature rise, physical damage, or tampering.</p> <p>(2) Containers having greater than 2 1/ 2 pounds water capacity shall be positioned so that the safety relief valve is in direct communication with the vapor space of the container.</p> <p>(3) Containers not connected for use shall not be stored on roofs.</p> <p>(4) Provisions shall be made to prohibit containers from falling over the edge of openings or roofs.</p> <p>(5) Containers with a maximum water capacity of 2 1/ 2 pounds may be used in the buildings as a part of an approved self-contained torch assembly.</p>	<p>No comparable OSHA provisions</p>

MIOSHA	OSHA
R 408.41879 Container Valve Protection. Rule 1879. Screw-on-type caps or collars shall be securely in place on all stored containers regardless of whether they are full, partially full, or empty and container outlets shall be closed.	No comparable OSHA provisions

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