1301:7-7-60 Highly toxic and toxic materials.

Section 6001 General

6001.1 Scope. The storage and use of highly toxic and toxic materials shall comply with this chapter. Compressed gases shall also comply with Chapter 53.

Exceptions:

1. Display and storage in Group M and storage in Group S occupancies complying with Section 5003.11.

2. Conditions involving pesticides or agricultural products as follows:

   2.1 Application and release of pesticide, agricultural products and materials intended for use in weed abatement, erosion control, soil amendment or similar applications when applied in accordance with the manufacturer's instruction and label directions.

   2.2 Transportation of pesticides in compliance with the Federal Hazardous Materials Transportation Act and regulations thereunder.

   2.3 Storage in dwellings or private garages of pesticides registered by the US Environmental Protection Agency to be utilized in and around the home, garden, pool, spa and patio.

6001.2 Permits. Permits shall be required as set forth in *Chapter 1*.

Section 6002 Definitions

6002.1 Definitions. The following terms are defined in Chapter 2.

Containment system.

Containment vessel.

Excess flow valve.

Highly toxic.

Ozone-gas generator.

Physiological warning threshold ~~level~~.

Reduced flow valve.

Toxic.

Section 6003 Highly toxic and toxic solids and liquids

6003.1 Indoor storage and use. The indoor storage and use of highly toxic and toxic materials shall comply with Sections 6003.1.1 ~~to~~ through 6003.1.5.3.

6003.1.1 Quantities not exceeding the maximum allowable quantity per control area. The indoor storage or use of highly toxic and toxic solids or liquids in amounts not exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(2) shall be in accordance with Sections 5001, 5003 and 6001.

6003.1.2 Quantities exceeding the maximum allowable quantity per control area. The indoor storage or use of highly toxic and toxic solids or liquids in amounts exceeding the maximum allowable quantity per control area set forth in Table 5003.1.1(2) shall be in accordance with Section 6001, Sections 6003.1.3 ~~to~~ through 6003.1.5.3 and Chapter 50.

6003.1.3 Treatment system-highly toxic liquids. Exhaust scrubbers or other systems for processing vapors of highly toxic liquids shall be provided where a spill or accidental release of such liquids can be expected to release highly toxic vapors at normal temperature and pressure (NTP). Treatment systems and other processing systems shall be installed in accordance with the *mechanical code*.

6003.1.4 Indoor storage. Indoor storage of highly toxic and toxic solids and liquids shall comply with Sections 6003.1.4.1 and 6003.1.4.2.

6003.1.4.1 Floors. In addition to the requirements set forth in Section 5004.12, floors of storage areas where highly toxic and toxic liquids are stored shall be of liquid-tight construction.

6003.1.4.2 Separation-highly toxic solids and liquids. In addition to the requirements set forth in Section 5003.9.8, highly toxic solids and liquids in storage shall be located in approved hazardous material storage cabinets or isolated from other hazardous material storage by construction in accordance with the *building code*.

6003.1.5 Indoor use. Indoor use of highly toxic and toxic solids and liquids shall comply with Sections 6003.1.5.1 ~~to~~ through 6003.1.5.3.

6003.1.5.1 Liquid transfer. Highly toxic and toxic liquids shall be transferred in accordance with Section 5005.1.10.

6003.1.5.2 Exhaust ventilation for open systems. Mechanical exhaust ventilation shall be provided for highly toxic and toxic liquids used in open systems in accordance with Section 5005.2.1.1.

Exception: Liquids that do not generate highly toxic or toxic fumes, mists or vapors.

6003.1.5.3 Exhaust ventilation for closed systems. Mechanical exhaust ventilation shall be provided for highly toxic and toxic liquids used in closed systems in accordance with Section 5005.2.2.1.

Exception: Liquids that do not generate highly toxic or toxic fumes, mists or vapors.

6003.2 Outdoor storage and use. Outdoor storage and use of highly toxic and toxic materials shall comply with Sections 6003.2.1 ~~to~~ through 6003.2.6.

6003.2.1 Quantities not exceeding the maximum allowable quantity per control area. The outdoor storage or use of highly toxic and toxic solids or liquids in amounts not exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(4) shall be in accordance with Sections 5001, 5003 and 6001.

6003.2.2 Quantities exceeding the maximum allowable quantity per control area. The outdoor storage or use of highly toxic and toxic solids or liquids in amounts exceeding the maximum allowable quantity per control area set forth in Table 5003.1.1(4) shall be in accordance with Sections 6001 and, 6003.2 and Chapter 50.

6003.2.3 General outdoor requirements. The general requirements applicable to the outdoor storage of highly toxic or toxic solids and liquids shall be in accordance with Sections 6003.2.3.1 and 6003.2.3.2.

6003.2.3.1 Location. Outdoor storage or use of highly toxic or toxic solids and liquids shall not be located within 20 feet (6096 mm) of lot lines, public streets, public alleys, public ways, exit discharges or exterior wall openings. A 2-hour fire barrier ~~wall~~ without openings or penetrations extending not less than 30 inches (762 mm) above and to the sides of the storage is allowed in lieu of such distance. The wall shall either be an independent structure, or the exterior wall of the building adjacent to the storage area.

6003.2.3.2 Treatment system-highly toxic liquids. Exhaust scrubbers or other systems for processing vapors of highly toxic liquid shall be provided where a spill or accidental release of such liquids can be expected to release highly toxic vapors at normal temperature and pressure (NTP). Treatment systems and other processing systems shall be installed in accordance with the *mechanical code*.

6003.2.4 Outdoor storage piles. Outdoor storage piles of highly toxic and toxic solids and liquids shall be separated into piles not larger than 2,500 cubic feet (71 m^3). Aisle widths between piles shall be not less than one-half the height of the pile or 10 feet (3048 mm), whichever is greater.

6003.2.5 Weather protection for highly toxic liquids and solids-outdoor storage or use. Where overhead weather protection is provided for outdoor storage or use of highly toxic liquids or solids, and the weather protection is attached to a building, the storage or use area shall either be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, or storage or use vessels shall be fire resistive. Weather protection shall be provided in accordance with Section 5004.13 for storage and Section 5005.3.9 for use.

6003.2.6 Outdoor liquid transfer. Highly toxic and toxic liquids shall be transferred in accordance with Section 5005.1.10.

Section 6004 Highly toxic and toxic compressed gases

6004.1 General. The storage and use of highly toxic and toxic compressed gases shall comply with this section.

6004.1.1 Special limitations for indoor storage and use by occupancy. The indoor storage and use of highly toxic and toxic compressed gases in certain occupancies shall be subject to the limitations contained in Sections 6004.1.1.1 ~~to~~ through 6004.1.1.3.

6004.1.1.1 Group A, E, I or U occupancies. Toxic and highly toxic compressed gases shall not be stored or used within Group A, E, I or U occupancies.

Exception: Cylinders not exceeding 20 cubic feet (0.566 m^3) at normal temperature and pressure (NTP) are allowed within gas cabinets or fume hoods.

6004.1.1.2 Group R occupancies. Toxic and highly toxic compressed gases shall not be stored or used in Group R occupancies.

6004.1.1.3 Offices, retail sales and classrooms. Toxic and highly toxic compressed gases shall not be stored or used in offices, retail sales or classroom portions of Group B, F, M or S occupancies.

Exception: In classrooms of Group B occupancies, cylinders with a capacity not exceeding 20 cubic feet (0.566 m^3) at NTP are allowed in gas cabinets or fume hoods.

6004.1.2 Gas cabinets. Gas cabinets containing highly toxic or toxic compressed gases shall comply with Section 5003.8.6 and the following requirements:

1. The average ventilation velocity at the face of gas cabinet access ports or windows shall be not less than 200 feet per minute (1.02 m/s) with not less than 150 feet per minute (0.76 m/s) at any point of the access port or window.

2. Gas cabinets shall be connected to an exhaust system.

3. Gas cabinets shall not be used as the sole means of exhaust for any room or area.

4. The maximum number of cylinders located in a single gas cabinet shall not exceed three, except that cabinets containing cylinders not exceeding 1 pound (0.454 kg) net contents are allowed to contain up to 100 cylinders.

5. Gas cabinets required by Section 6004.2 or 6004.3 shall be equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Alternative fire-extinguishing systems shall not be used.

6004.1.3 Exhausted enclosures. Exhausted enclosures containing highly toxic or toxic compressed gases shall comply with Section 5003.8.5 and the following requirements:

1. The average ventilation velocity at the face of the enclosure shall be not less than 200 feet per minute (1.02 m/s) with not less than 150 feet per minute (0.76 m/s).

2. Exhausted enclosures shall be connected to an exhaust system.

3. Exhausted enclosures shall not be used as the sole means of exhaust for any room or area.

4. Exhausted enclosures required by Section 6004.2 or 6004.3 shall be equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Alternative fire-extinguishing systems shall not be used.

6004.2 Indoor storage and use. The indoor storage and use of highly toxic or toxic compressed gases shall be in accordance with Sections 6004.2.1 ~~to~~ through ~~6004.2.2.10.4~~ 6004.2.2.10.3.

6004.2.1 Applicability. The applicability of regulations governing the indoor storage and use of highly toxic and toxic compressed gases shall be as set forth in Sections 6004.2.1.1 ~~to~~ through 6004.2.1.3.

6004.2.1.1 Quantities not exceeding the maximum allowable quantity per control area. The indoor storage or use of highly toxic and toxic gases in amounts not exceeding the maximum allowable quantity per control area set forth in Table 5003.1.1(2) shall be in accordance with Sections 5001, 5003, 6001 and 6004.1.

6004.2.1.2 Quantities exceeding the maximum allowable quantity per control area. The indoor storage or use of highly toxic and toxic gases in amounts exceeding the maximum allowable quantity per control area set forth in Table 5003.1.1(2) shall be in accordance with Sections 6001, 6004.1, 6004.2 and Chapter 50.

6004.2.1.3 Ozone gas generators. The indoor use of ozone gas-generating equipment shall be in accordance with Section 6005.

6004.2.2 General indoor requirements. The general requirements applicable to the indoor storage and use of highly toxic and toxic compressed gases shall be in accordance with Sections 6004.2.2.1 ~~to~~ through ~~6004.2.2.10.4~~ 6004.2.2.10.3.

6004.2.2.1 Cylinder and tank location. Cylinders shall be located within gas cabinets, exhausted enclosures or gas rooms. Portable and stationary tanks shall be located within gas rooms or exhausted enclosures.

6004.2.2.2 Ventilated areas. The room or area in which gas cabinets or exhausted enclosures are located shall be provided with exhaust ventilation. Gas cabinets or exhausted enclosures shall not be used as the sole means of exhaust for any room or area.

6004.2.2.3 Leaking cylinders and tanks. One or more gas cabinets or exhausted enclosures shall be provided to handle leaking cylinders, containers or tanks.

Exceptions:

1. Where cylinders, containers or tanks are located within gas cabinets or exhausted enclosures.

2. Where approved containment vessels or containment systems are provided in accordance with all of the following:

2.1 Containment vessels or containment systems shall be capable of fully containing or terminating a release.

2.2 Trained personnel shall be available at an approved location.

2.3 Containment vessels or containment systems shall be capable of being transported to the leaking cylinder, container or tank.

6004.2.2.3.1 Location. Gas cabinets and exhausted enclosures shall be located in gas rooms and connected to an exhaust system.

6004.2.2.4 Local exhaust for portable tanks. A means of local exhaust shall be provided to capture leaks from portable tanks. The local exhaust shall consist of portable ducts or collection systems designed to be applied to the site of a leak in a valve or fitting on the tank. The local exhaust system shall be located in a gas room. Exhaust shall be directed to a treatment system in accordance with Section 6004.2.2.7.

6004.2.2.5 Piping and controls-stationary tanks. In addition to the requirements of Section 5003.2.2, piping and controls on stationary tanks shall comply with the following requirements:

1. Pressure relief devices shall be vented to a treatment system designed in accordance with Section 6004.2.2.7.

   Exception: Pressure relief devices on outdoor tanks provided exclusively for relieving pressure due to fire exposure are not required to be vented to a treatment system provided that:

   1. The material in the tank is not flammable.

   2. The tank is not located in a diked area with other tanks containing combustible materials.

   3. The tank is located not less than 30 feet (9144 mm) from combustible materials or structures or is shielded by a fire barrier complying with Section 6004.3.2.1.1.

2. Filling or dispensing connections shall be provided with a means of local exhaust. Such exhaust shall be designed to capture fumes and vapors. The exhaust shall be directed to a treatment system in accordance with Section 6004.2.2.7.

3. Stationary tanks shall be provided with a means of excess flow control on all tank inlet or outlet connections.

   Exceptions:

   1. Inlet connections designed to prevent backflow.

   2. Pressure relief devices.

6004.2.2.6 Gas rooms. Gas rooms shall comply with Section 5003.8.4 and both of the following requirements:

1. The exhaust ventilation from gas rooms shall be directed to an exhaust system.

2. Gas rooms shall be equipped with an approved automatic sprinkler system. Alternative fire-extinguishing systems shall not be used.

6004.2.2.7 Treatment systems. The exhaust ventilation from gas cabinets, exhausted enclosures and gas rooms, and local exhaust systems required in Sections 6004.2.2.4 and 6004.2.2.5 shall be directed to a treatment system. The treatment system shall be utilized to handle the accidental release of gas and to process exhaust ventilation. The treatment system shall be designed in accordance with Sections 6004.2.2.7.1 ~~to~~ through 6004.2.2.7.5 and Section 510 of the *mechanical code*.

Exceptions:

1. Highly toxic and toxic gases-storage. A treatment system is not required for cylinders, containers and tanks in storage where all of the following controls are provided:

   1.1 Valve outlets are equipped with ~~gas-tight~~ gastight outlet plugs or caps.

   1.2 Handwheel-operated valves have handles secured to prevent movement.

   1.3 Approved containment vessels or containment systems are provided in accordance with Section 6004.2.2.3.

2. Toxic gases-use. Treatment systems are not required for toxic gases supplied by cylinders or portable tanks not exceeding 1,700 pounds (772 kg) water capacity where ~~the following are provided:~~a gas detection system complying with Section 6004.2.2.10 and listed or approved automatic-closing fail-safe valves are provided. The gas detection system shall have a sensing interval not exceeding 5 minutes. Automatic-closing fail-safe valves shall be located immediately adjacent to cylinder valves and shall close when gas is detected at the permissible exposure limit (PEL) by a gas sensor monitoring the exhaust system at the point of discharge from the gas cabinet, exhausted enclosure, ventilated enclosure or gas room.

   ~~2. 1 A listed or approved gas detection system with a sensing interval not exceeding 5 minutes.~~

   ~~2.2 A listed or approved automatic-closing fail-safe valve located immediately adjacent to cylinder valves. The fail-safe valve shall close when gas is detected at the permissible exposure limit (PEL) by a gas detection system monitoring the exhaust system at the point of discharge from the gas cabinet, exhausted enclosure, ventilated enclosure or gas room. The gas detection system shall comply with *paragraph* (D)(2)(b)(x)(6004.2.2.10) *of this rule*.~~

6004.2.2.7.1 Design. Treatment systems shall be capable of diluting, adsorbing, absorbing, containing, neutralizing, burning or otherwise processing the contents of the largest single vessel of compressed gas. Where a total containment system is used, the system shall be designed to handle the maximum anticipated pressure of release to the system when it reaches equilibrium.

6004.2.2.7.2 Performance. Treatment systems shall be designed to reduce the maximum allowable discharge concentrations of the gas to one-half immediate by dangerous to life and health (IDLH) at the point of discharge to the atmosphere. Where more than one gas is emitted to the treatment system, the treatment system shall be designed to handle the worst-case release based on the release rate, the quantity and the IDLH for all compressed gases stored or used.

6004.2.2.7.3 Sizing. Treatment systems shall be sized to process the maximum worst-case release of gas based on the maximum flow rate of release from the largest vessel utilized. The entire contents of the largest compressed gas vessel shall be considered.

6004.2.2.7.4 Stationary tanks. Stationary tanks shall be labeled with the maximum rate of release for the compressed gas contained based on valves or fittings that are inserted directly into the tank. Where multiple valves or fittings are provided, the maximum flow rate of release for valves or fittings with the highest flow rate shall be indicated. Where liquefied compressed gases are in contact with valves or fittings, the liquid flow rate shall be utilized for computation purposes. Flow rates indicated on the label shall be converted to cubic feet per minute (cfm/min) (m^3/s) of gas at normal temperature and pressure (NTP).

6004.2.2.7.5 Portable tanks and cylinders. The maximum flow rate of release for portable tanks and cylinders shall be calculated based on the total release from the cylinder or tank within the time specified in Table 6004.2.2.7.5. Where portable tanks or cylinders are equipped with approved excess flow or reduced flow valves, the worst-case release shall be determined by the maximum achievable flow from the valve as determined by the valve manufacturer or compressed gas supplier. Reduced flow and excess flow valves shall be permanently marked by the valve manufacturer to indicate the maximum design flow rate. Such markings shall indicate the flow rate for air under normal temperature and pressure (NTP).

Table 6004.2.2.7.5
Rate of release for cylinders and portable tanks

Vessel type	Nonliquefied (minutes)	Liquefied (minutes)
Containers	5	30
Portable tanks	40	240

6004.2.2.8 Emergency power. Emergency power shall be provided for the following systems in accordance with Section ~~604~~ *1203*:

1. Exhaust ventilation system.
2. Treatment system.
3. Gas detection system.
4. Smoke detection system.
5. Temperature control system.

6. Fire alarm system.

7. Emergency alarm system.

6004.2.2.8.1 Fail-safe engineered systems. Emergency power shall not be required for mechanical exhaust ventilation, treatment systems and temperature control systems where approved fail-safe engineered systems are installed.

6004.2.2.9 Automatic fire detection system-highly toxic compressed gases. An approved automatic fire detection system shall be installed in rooms or areas where highly toxic compressed gases are stored or used. Activation of the detection system shall sound a local alarm. The fire detection system shall comply with Section 907.

6004.2.2.10 Gas detection system. A gas detection system complying with Section 916 shall be provided to detect the presence of gas at or below the PEL or ceiling limit of the gas for which detection is provided. The system shall be capable of monitoring the discharge from the treatment system at or below one-half the IDLH limit and shall initiate a response in accordance with Sections 6004.2.2.10.1 through 6004.2.2.10.3 if the gas detection alarm is activated.

Exception: A gas detection system is not required for toxic gases when the physiological warning threshold level for the gas is at a level below the accepted PEL for the gas.

~~(a) **6004.2.2.10.1 Gas detection system components.** Gas detection system control units shall be listed and labeled in accordance with UL 864 or UL 2017 *as listed in rule 1301:7-7-80 of the Administrative Code*, or approved. Gas detectors shall be listed and labeled in accordance with UL 2075 *as listed in rule 1301:7-7-80 of the Administrative Code* for use with the gases and vapors being detected, or approved.~~

~~**6004.2.2.10.2**~~**6004.2.2.10.1 Alarms.** The gas detection system shall initiate a local alarm and transmit a signal to a constantly attended control station when a short-term hazard condition is detected. The alarm shall be both audible and visible ~~and audible~~ and shall provide warning both inside and outside the area where gas is detected. The audible alarm shall be distinct from all other alarms.

Exception: Signal transmission to a constantly attended control station is not required where not more than one cylinder of highly toxic or toxic gas is stored.

~~**6004.2.2.10.3**~~**6004.2.2.10.2 Shut off of gas supply.** The gas-detection system shall automatically close the shutoff valve at the source on gas supply piping and tubing related to the system being monitored for whichever gas is detected.

Exception: Automatic shutdown is not required for reactors utilized for the production of highly toxic or toxic compressed gases where such reactors are:

1. Operated at pressures less than 15 pounds per square inch gauge (psig) (103.4 kPa).

2. Constantly attended.

3. Provided with ~~readily accessible~~ emergency shutoff valves that have ready access.

~~d~~ ~~6004.2.2.10.4~~6004.2.2.10.3 **Valve closure.** Automatic closure of shutoff valves shall be in accordance with the following:

1. Where the gas-detection sampling point initiating the gas detection system alarm is within a gas cabinet or exhausted enclosure, the shutoff valve in the gas cabinet or exhausted enclosure for the specific gas detected shall automatically close.

2. Where the gas-detection sampling point initiating the gas detection system alarm is within a gas room and compressed gas containers are not in gas cabinets or exhausted enclosures, the shutoff valves on all gas lines for the specific gas detected shall automatically close.

3. Where the gas-detection sampling point initiating the gas detection system alarm is within a piping distribution manifold enclosure, the shutoff valve for the compressed container of specific gas detected supplying the manifold shall automatically close.

Exception: Where the gas-detection sampling point initiating the gas-detection system alarm is at a use location or within a gas valve enclosure of a branch line downstream of a piping distribution manifold, the shutoff valve in the gas valve enclosure for the branch line located in the piping distribution manifold enclosure shall automatically close.

6004.3 Outdoor storage and use. The outdoor storage and use of highly toxic and toxic compressed gases shall be in accordance with Sections 6004.3.1 ~~to~~ through 6004.3.4.

6004.3.1 Applicability. The applicability of regulations governing the outdoor storage and use of highly toxic and toxic compressed gases shall be as set forth in Sections 6004.3.1.1 ~~to~~ through 6004.3.1.3.

6004.3.1.1 Quantities not exceeding the maximum allowable quantity per control area. The outdoor storage or use of highly toxic and toxic gases in amounts not exceeding the maximum allowable quantity per control area set forth in Table 5003.1.1(4) shall be in accordance with Sections 5001, 5003 and 6001.

6004.3.1.2 Quantities exceeding the maximum allowable quantity per control area. The outdoor storage or use of highly toxic and toxic gases in amounts exceeding the maximum allowable quantity per control area set forth in Table 5003.1.1(4) shall be in accordance with Sections 6001 and, 6004.3 and Chapter 50.

6004.3.1.3 Ozone gas generators. The outdoor use of ozone gas-generating equipment shall be in accordance with Section 6005.

6004.3.2 General outdoor requirements. The general requirements applicable to the outdoor storage and use of highly toxic and toxic compressed gases shall be in accordance with Sections 6004.3.2.1 ~~to~~ through 6004.3.2.4.

6004.3.2.1 Location. Outdoor storage or use of highly toxic or toxic compressed gases shall be located in accordance with Sections 6004.3.2.1.1 ~~to~~ through 6004.3.2.1.3.

Exception: Compressed gases located in gas cabinets complying with Sections 5003.8.6 and 6004.1.2 and located 5 feet (1524 mm) or more from buildings and 25 feet (7620 mm) or more from an exit discharge.

6004.3.2.1.1 Distance limitation to exposures. Outdoor storage or use of highly toxic or toxic compressed gases shall not be located within 75 feet (22 860 mm) of a lot line, public street, public alley, public way, exit discharge or building not associated with the manufacture or distribution of such gases, unless all of the following conditions are met:

1. Storage is shielded by a 2-hour fire barrier that interrupts the line of sight between the storage and the exposure.

2. The 2-hour fire barrier shall be located not less than 5 feet (1524 mm) from any exposure.

3. The 2-hour fire barrier shall not have more than two sides at approximately 90-degree (1.57 rad) directions, or three sides with connecting angles of approximately 135 degrees (2.36 rad).

6004.3.2.1.2 Openings in exposed buildings. Where the storage or use area is located closer than 75 feet (22 860 mm) to a building not associated with the manufacture or distribution of highly toxic or toxic compressed gases, openings into a building other than for piping are not allowed above the height of the top of the 2-hour fire barrier or within 50 feet (15 240 mm) horizontally from the storage area whether or not shielded by a fire barrier.

6004.3.2.1.3 Air intakes. The storage or use area shall not be located within 75 feet (22 860 mm) of air intakes.

6004.3.2.2 Leaking cylinders and tanks. The requirements of Section 6004.2.2.3 shall apply to outdoor cylinders and tanks. Gas cabinets and exhausted enclosures shall be located within or immediately adjacent to outdoor storage or use areas.

6004.3.2.3 Local exhaust for portable tanks. Local exhaust for outdoor portable tanks shall be provided in accordance with the requirements set forth in Section 6004.2.2.4.

6004.3.2.4 Piping and controls-stationary tanks. Piping and controls for outdoor stationary tanks shall be in accordance with the requirements set forth in Section 6004.2.2.5.

6004.3.3 Outdoor storage weather protection for portable tanks and cylinders. Weather protection in accordance with Section 5004.13 shall be provided for portable tanks and cylinders located outdoors and not within gas cabinets or exhausted enclosures. The storage area shall be equipped with an approved automatic sprinkler system in accordance with Section 903.3.1.1.

Exception: An automatic sprinkler system is not required ~~when~~where:

1. All materials under the weather protection structure, including hazardous materials and the containers in which they are stored, are ~~non-combustible~~ noncombustible.

2. The weather protection structure is located not less than 30 feet (9144 mm) from combustible materials or structures or is separated from such materials or structures using a fire barrier complying with Section 6004.3.2.1.1.

6004.3.4 Outdoor use of cylinders, containers and portable tanks. Cylinders, containers and portable tanks in outdoor use shall be located in gas cabinets or exhausted enclosures and shall comply with Sections 6004.3.4.1 ~~to~~ through 6004.3.4.3.

6004.3.4.1 Treatment systems. The treatment system requirements set forth in Section 6004.2.2.7 shall apply to highly toxic or toxic gases located outdoors.

6004.3.4.2 Emergency power. The requirements for emergency power set forth in Section 6004.2.2.8 shall apply to highly toxic or toxic gases located outdoors.

6004.3.4.3 Gas detection system. The gas detection system requirements set forth in Section 6004.2.2.10 shall apply to highly toxic or toxic gases located outdoors.

Section 6005 Ozone gas generators

6005.1 Scope. Ozone gas generators having a maximum ozone-generating capacity of 0.5 pound (0.23 kg) or more over a 24-hour period shall be in accordance with Sections 6005.2 ~~to~~ through 6005.6.

Exceptions:

1. Ozone-generating equipment used in Group R-3 occupancies.

2. Ozone-generating equipment where used in Group H-5 occupancies where in compliance with Chapters 27 and 50 and the other provisions in this chapter for highly toxic gases.

6005.2 Design. Ozone gas generators shall be designed, fabricated and tested in accordance with NEMA 250.

6005.3 Location. Ozone generators shall be located in approved cabinets or ozone generator rooms in accordance with Section 6005.3.1 or 6005.3.2.

Exception: An ozone gas generator within an approved pressure vessel where located outside of buildings.

6005.3.1 Cabinets. Ozone cabinets shall be constructed of approved materials and compatible with ozone. Cabinets shall display an approved sign stating: “OZONE GAS GENERATOR-HIGHLY TOXIC-OXIDIZER.”

Cabinets shall be braced for seismic activity in accordance with the *building code*.

Cabinets shall be mechanically ventilated in accordance with the *mechanical code* with not less than six air changes per hour.

The average velocity of ventilation at makeup air openings with cabinet doors closed shall ~~not~~ be not less than 200 feet per minute (1.02 m/s).

6005.3.2 Ozone gas generator rooms. Ozone gas generator rooms shall be mechanically ventilated in accordance with the *mechanical code* with not less than six air changes per hour. Ozone gas generator rooms shall be equipped with a ~~continuous~~ gas detection system complying with Section 916 that will shut off the generator and sound a local alarm when concentrations above the permissible exposure limit (PEL) occur.

Ozone gas generator rooms shall not be normally occupied, and such rooms shall be kept free of combustible and hazardous material storage. Room access doors shall display an approved sign stating: "OZONE GAS GENERATOR-HIGHLY TOXIC-OXIDIZER."

6005.4 Piping, valves and fittings. Piping, valves, fittings and related components used to convey ozone shall be in accordance with Sections 6005.4.1 ~~to~~ through 6005.4.3.

6005.4.1 Piping. Piping shall be welded stainless steel piping or tubing.

Exceptions:

1. Double-walled piping.
2. Piping, valves, fittings and related components located in exhausted enclosures.

6005.4.2 Materials. Materials shall be compatible with ozone and shall be rated for the design operating pressures.

6005.4.3 Identification. Piping shall be identified with the following: "OZONE GAS-HIGHLY TOXIC-OXIDIZER."

6005.5 Automatic shutdown. Ozone gas generators shall be designed to shut down automatically under the following conditions:

1. When the dissolved ozone concentration in the water being treated is above saturation when measured at the point where the water is exposed to the atmosphere.
2. When the process using generated ozone is shut down.

~~(c) When the gas detection system detects ozone.~~

~~d~~3. Failure of the ventilation system for the cabinet or ozone-generator room.

~~e~~4. Failure of the gas detection system in an ozone gas generator room.

6005.6 Manual shutdown. Manual shutdown controls shall be provided at the generator and, where in a room, within 10 feet (3048 mm) of the main exit or exit access door.

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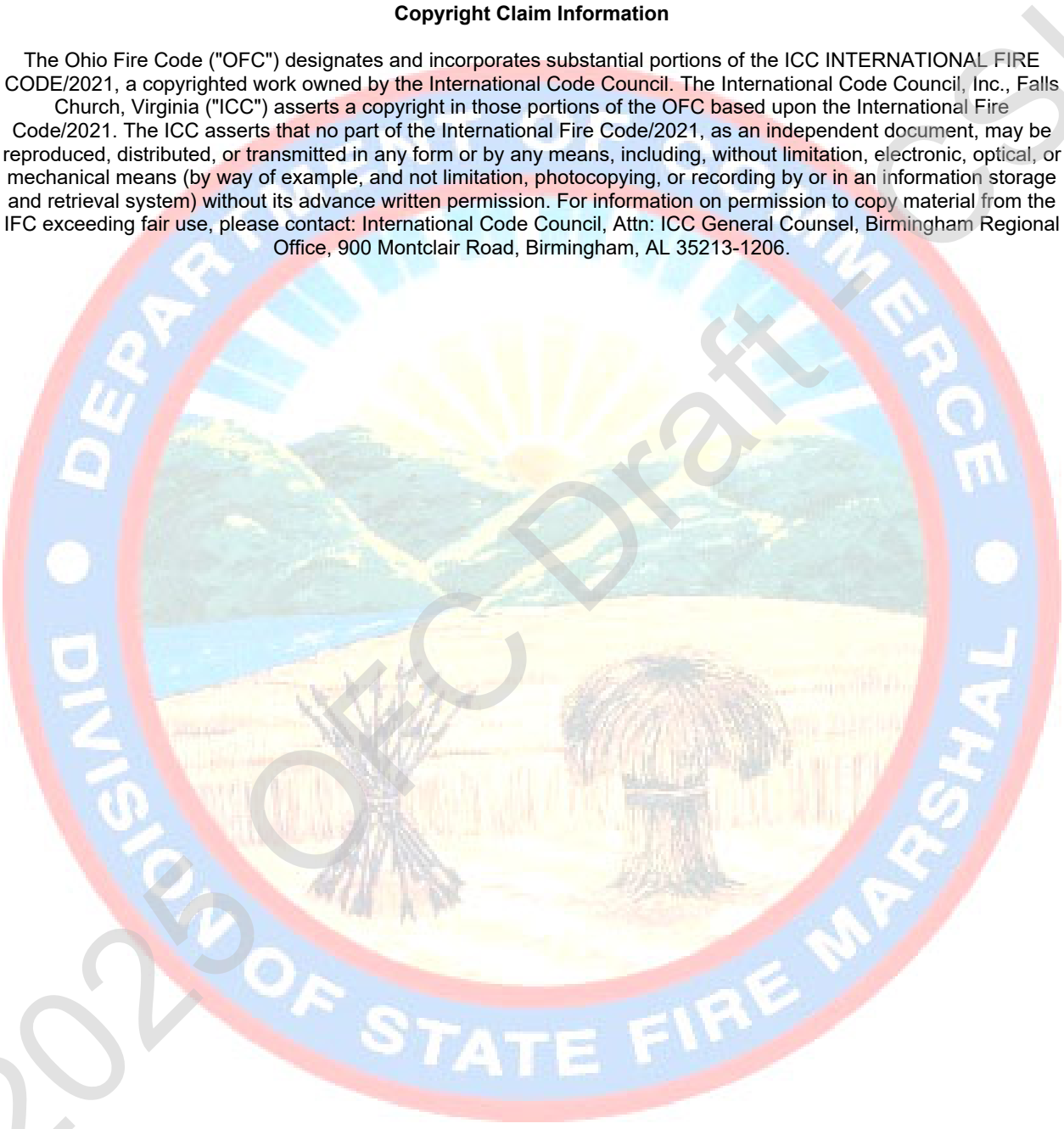

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1301:7-7-61 Liquefied petroleum gases.

Section 6101 General

6101.1 Scope. Storage, handling and transportation of liquefied petroleum gas (LP-gas) and the installation of LP-gas equipment pertinent to systems for such uses shall comply with this chapter and NFPA 58. Properties of LP-gases shall be determined in accordance with Appendix B of NFPA 58.

6101.2 Permits. Permits shall be required as set forth in *Chapter 1 for stationary installations utilizing storage containers over 2,000 gallons individual water capacity; or, for all rooftop installations of ASME containers; or, for multiple containers exceeding 4,000 gallons water capacity aggregate.*

Distributors shall not fill an LP-gas container for which a permit is required unless a permit for installation has been issued for that location by the fire code official.

6101.3 Construction documents. Where a single LP-gas container is more than 2,000 gallons (7570 L) in water capacity or the aggregate water capacity of LP-gas containers is more than 4,000 gallons (15 140 L), the installer shall submit construction documents for such installation.

Section 6102 Definitions

6102.1 Definitions. The following terms are defined in Chapter 2.

Liquefied petroleum gas (LP-gas).

LP-gas container.

Section 6103 Installation of equipment

6103.1 General. LP-gas equipment shall be installed in accordance with the International Fuel Gas Code and NFPA 58, except as otherwise provided in this chapter.

6103.2 Use of LP-gas containers in buildings. The use of LP-gas containers in buildings shall be in accordance with Sections 6103.2.1 ~~to~~ through 6103.2.2.

6103.2.1 Portable containers. Portable LP-gas containers, as defined in NFPA 58, shall not be used in buildings except as specified in NFPA 58 and Sections 6103.2.1.1 ~~to~~ through Section 6103.2.1.7.

6103.2.1.1 Use in basement, pit or similar location. *Unless otherwise permitted by NFPA 58,* LP-gas containers shall not be used in a basement, pit ~~or~~, above-grade underfloor space or similar location where heavier-than-air gas might collect ~~*unless otherwise permitted by NFPA 58*~~. ~~LP-gas containers shall not be used in an above-grade underfloor space or basement~~ unless such location is provided with an approved means of ventilation.

Exception: Use with self-contained torch assemblies in accordance with Section 6103.2.1.6.

6103.2.1.2 Construction and temporary heating. Portable LP-gas containers are allowed to be used in buildings or areas of buildings undergoing construction or for temporary heating as set forth in Sections ~~6.20.4, 6.20.5 and 6.20.8~~6.22.4, 6.22.5 and 6.22.8 of NFPA 58.

6103.2.1.3 Group F occupancies. In Group F occupancies, portable LP-gas containers are allowed to be used to supply quantities necessary for processing, research or experimentation. Where manifolded, the aggregate water capacity of such containers 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).

6103.2.1.4 ~~Group E and I occupancies~~Research and experimentation. In Group ~~E and~~ I occupancies~~,~~ and laboratories for educational use in Group B and E 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).

6103.2.1.4.1. *Cylinders not connected for use shall be stored in accordance with Section 6109.*

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

6103.2.1.5 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).

6103.2.1.6 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~~2.7 pounds (~~1~~1.2 kg).

6103.2.1.7 Use for food preparation. Where approved, listed LP-gas commercial food service appliances are allowed to be used for food-preparation within restaurants and in attended commercial food-catering operations in accordance with the International Fuel Gas Code, the *mechanical code* and NFPA 58.

6103.2.1.7.1. *Cylinders used with commercial food service appliances shall be used inside restaurants and in attended commercial food catering operations in accordance with the following:*

1. *Cylinders and appliances shall be listed.*
2. *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).*

3. *Cylinders shall comply with UL 147B.*

4. *Cylinders shall be connected directly to the appliance and shall not be manifolded.*

5. *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.*

6. *Storage of cylinders shall be in accordance with Section 6109.*

6103.2.2 Industrial vehicles and floor maintenance machines. LP-gas containers on industrial vehicles and floor maintenance machines shall comply with Sections ~~11.13~~ 11.11 and ~~11.14~~ 11.12 of NFPA 58.

6103.3 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.

Section 6104 Location of LP-gas containers

6104.1 General. The storage and handling of LP-gas and the installation and maintenance of related equipment shall comply with NFPA 58 and be subject to the approval of the fire code official, except as provided in this chapter.

6104.2 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 exceed a water capacity of 2,000 gallons (7570 L).

Exceptions:

1. In particular installations, this capacity limit shall be determined by the fire code official, after consideration of special features such as topographical conditions, nature of occupancy, and proximity to buildings, capacity of proposed LP-gas containers, degree of fire protection to be provided and capabilities of the local fire department.

2. *Where LP-gas storage containers having an aggregate water capacity of more than 4,000 gallons (15.1 m^3) are located in heavily populated or congested areas, the citing provisions of Section 6104 shall be permitted to be modified as indicated by the fire safety analysis described in section 6.29.3 of NFPA 58.*

6104.3 Container location. LP-gas containers shall be located with respect to buildings~~, public ways~~ and lot lines of adjoining property that can be built ~~upon~~on, in accordance with Table 6104.3.

Table 6104.3
Location of LP-gas containers

LP-gas container capacity (water gallons)	Minimum separation between LP-gas containers and buildings, public ways[g] or lot lines of adjoining property that can be built upon		Minimum separation between LP-gas containers[b,c] (feet)
	Mounded or	Above-ground LP-	

	underground LP-gas containers[a] (feet)	gas containers[b] (feet)	
Less than 125[c,d]	10	5[e]	None
125 to 250	10	10	None
251 to 500	10	10	3
501 to 2,000	10	25[e,f]	3
2,001 to 30,000	50	50	5
30,001 to 70,000	50	75	(0.25 of sum of diameters of adjacent LP-gas containers)
70,001 to 90,000	50	100	
90,001 to 120,000	50	125	

For SI: 1 foot = 304.8 mm, 1 gallon = 3.785 L.

a. Minimum distance for underground LP-gas containers shall be measured from the pressure relief device and the filling or liquid-level gauge vent connection at the container, except that all parts of an underground LP-gas container shall be not less than 10 feet from a building or lot line of adjoining property that can be built ~~upon~~ on.

b. For other than installations in which the overhanging structure is 50 feet or more above the relief-valve discharge outlet. In applying the distance between buildings and ASME LP-gas containers with a water capacity of 125 gallons or more, not less than 50 ~~per cent~~percent of this horizontal distance shall also apply to all portions of the building that project more than 5 feet from the building wall and that are higher than the relief valve discharge outlet. This horizontal distance shall be measured from a point determined by projecting the outside edge of such overhanging structure vertically downward to grade or other level ~~upon~~on which the LP-gas container is installed. Distances to the building wall shall be not less than those prescribed in this table.

c. Where underground multicontainer installations are ~~comprised~~composed of individual LP-gas containers having a water capacity of 125 gallons or more, such containers shall be installed so as to provide access at their ends or sides to facilitate working with cranes or hoists.

d. At a consumer site, if the aggregate water capacity of a ~~multicontainer~~multiple-container installation, comprised of individual LP-gas containers having a water capacity of less than 125 gallons, is 500 gallons or more, the minimum distance shall comply with the appropriate portion of ~~Table 6104.3~~ this table, applying the aggregate capacity rather than the capacity per LP-gas container. If more than one such installation is made, each installation shall be separated from other installations by 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~~without a separation distance 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 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 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 not 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 that such container is not less than 25 feet from other LP-gas containers of more than 125-gallon water capacity.

g. Above-ground LP-gas containers with a water capacity of 2,000 gallons or less shall be separated from public ways by a distance of not less than 5 feet. Containers with a water capacity greater than 2,000 gallons shall be separated from public ways in accordance with this table.

6104.3.1 Installation on roof prohibited. LP-gas containers used in stationary installations shall not be located on the roofs of buildings.

6104.3.2 Special hazards. LP-gas containers shall 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 ~~6.4.4~~6.5.3 of NFPA 58.

6104.4 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~~681.3 kL) [150,000-gallon (~~567 750 L~~567.8 kL) LP-gas capacity] shall be subdivided into groups containing not more than 180,000 gallons (~~681 300 L~~681.3 kL) 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:

1. Mounded in an approved manner.
2. Protected with approved insulation on areas that are subject to impingement of ignited gas from pipelines or other leakage.
3. Protected by ~~firewalls~~ fire walls of approved construction.
4. Protected by an approved system for application of water as specified in Table ~~6.4.1.2~~6.5.1.2 of NFPA 58.
5. Protected by other approved means.
6. *Where the provisions of sections 6.30.3 and 6.30.4 of NFPA 58 are met, the minimum separation distance between groups of ASME containers protected by hose stream only shall be one-half the distances in Table 6.7.2.1 of NFPA 58.*

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

Section 6105 Prohibited use of LP-gas

6105.1 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*.

6105.2 Release to the atmosphere. LP-gas shall not be released to the atmosphere, except in accordance with Section 7.3 of NFPA 58.

Section 6106 Dispensing and overfilling

6106.1 Attendants. Dispensing of LP-gas shall be performed by a qualified attendant *in accordance with Section 4.4 of NFPA 58*.

6106.2 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 in accordance with the manufacturer's specifications and in accordance with Section ~~5.75~~5.9.5 of NFPA 58 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) where required by Section ~~5.7.3~~5.9.3 of NFPA 58.

6106.3 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.

Section 6107 Safety precautions and devices

6107.1 Safety devices. Safety devices on LP-gas containers, equipment and systems shall not be tampered with or made ineffective.

6107.2 Smoking and other sources of ignition. "No Smoking" signs complying with Section 310 shall be posted where 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 Chapter 3 of this code and Section ~~6.23~~6.25 of NFPA 58.

6107.3 Clearance to combustibles. Weeds, grass, brush, trash and other combustible materials shall be kept not less than 10 feet (3048 mm) from LP-gas tanks or containers.

6107.4 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 NFPA 58.

6107.5 Transfer. *Transfer of LP-gas to and from an LP-gas container shall be conducted with permission of the owner of the container.*

Section 6108 Fire protection

6108.1 General. Fire protection shall be provided for installations having LP-gas storage containers with a water capacity of more than 4,000 gallons (15 140 L), as required by Section ~~6.27~~6.29 of NFPA 58.

6108.2 Portable fire extinguishers. Portable fire extinguishers complying with Section 906 shall be provided as specified in NFPA 58.

Section 6109 Storage of portable LP-gas containers awaiting use or resale

6109.1 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 distribution points, and for resale by dealers or resellers shall comply with Sections 6109.2 ~~to~~ through 6109.15.1.

Exceptions:

1. LP-gas containers that have not previously been in LP-gas service.
2. LP-gas containers at distribution plants.

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

6109.2 Exposure hazards. LP-gas containers in storage shall be located in a manner that minimizes exposure to excessive temperature rise, physical damage or tampering.

6109.3 Position. LP-gas containers in storage having individual water capacity greater than ~~2½~~2.7 pounds (~~1~~1.2 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.

6109.4 Separation from means of egress. LP-gas containers stored in buildings in accordance with Sections 6109.9 and 6109.11 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.

6109.5 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 Sections 6109.9 and 6109.11.

6109.6 Storage on roofs. LP-gas containers that are not connected for use shall not be stored on roofs.

6109.7 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*. 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~~2.7 pounds (~~1~~1.2 kg) for use in completely self-contained hand torches and similar applications. The quantity of LP-gas shall not exceed 20 pounds (9 kg).

6109.8 Protection of valves on LP-gas containers in storage. LP-gas ~~container~~DOTn cylinder valves shall be protected by screw-on-type caps or collars that shall be securely in place on all containers stored regardless of whether they are full, partially full or empty. Container and tank outlet valves shall be closed or plugged.

6109.9 Storage within buildings ~~accessible~~ open to the public. Department of Transportation (DOTn) specification cylinders with maximum water capacity of ~~2½~~2.7 pounds (~~1~~1.2 kg) used in completely self-contained hand torches and similar applications are allowed to be stored or displayed in a building ~~accessible~~open to the public. The quantity of LP-gas shall not exceed 200 pounds (91 kg) except as provided in Section 6109.11.

6109.9.1. *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.*

6109.10 Storage within buildings not ~~accessible~~open to the public. The maximum quantity allowed in one storage location in buildings not ~~accessible~~open 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 separated by not less than 300 feet (91 440 mm). Storage beyond these

limitations shall comply with Section 6109.11.

6109.10.1 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 Section 6109.10, provided that 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.

6109.10.2 Storage within residential buildings. *Storage of cylinders within a residential building, 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.*

6109.11 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 Sections 6109.11.1 and 6109.11.2.

6109.11.1 Quantity limits. The maximum quantity of LP-gas shall be 10,000 pounds (4540 kg).

6109.11.2 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 and both of the following:

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

2. The entire area shall be classified for the purposes of ignition source control in accordance with Section ~~6.23~~6.25 of NFPA 58.

6109.12 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 6109.12.

Table 6109.12
Separation from exposures of LP-gas containers awaiting use, resale or exchange stored outside of buildings

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

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

6109.13 Protection of containers. LP-gas containers shall be stored within a suitable enclosure or otherwise protected against tampering. Vehicle impact protection shall be provided as required by Section 6107.4.

Exception: Vehicle impact protection shall not be required for protection of LP-gas containers where the containers are kept in lockable, ventilated cabinets of metal construction.

6109.13.1. *Cylinders at a location open to the public shall be protected by either of the following:*

1. *An enclosure in accordance with Section 6.21.4 of NFPA 58.*
2. *A lockable ventilated metal locker or rack that prevents tampering with valves and pilferage of the cylinder.*

6109.13.1.1 *Protection against vehicle impact shall be provided in accordance with good engineering practice where vehicle traffic normally is expected at that location.*

6109.14 Alternative location and protection of storage. Where the provisions of Sections 6109.12 and 6109.13 are impractical at construction sites, or at buildings or structures undergoing major renovation or repairs, the storage of containers shall be as required by the fire code official.

6109.15 LP-gas cylinder exchange for resale. In addition to other applicable requirements of this chapter, facilities operating LP-gas cylinder exchange stations that are ~~accessible~~open to the

public shall comply with the following requirements.

1. Cylinders shall be secured in a lockable, ventilated metal cabinet or other approved enclosure.

2. Cylinders shall be ~~accessible~~available only by authorized personnel or by use of an automated exchange system in accordance with Section 6109.15.1.

3. A sign shall be posted on the entry door of the business operating the cylinder exchange stating “DO NOT BRING LP-GAS CYLINDERS INTO THE BUILDING” or similar approved wording.

4. An emergency contact information sign shall be posted within 10 feet (3048 mm) of the cylinder storage cabinet. The content, lettering, size, color and location of the required sign shall be as required by the fire code official.

6109.15.1 Automated cylinder exchange stations. Cylinder exchange stations that include an automated vending system for exchanging cylinders shall comply with the following additional requirements:

1. The vending system shall only permit access to a single cylinder per individual transaction.

2. Cabinets storing cylinders shall be designed such that cylinders can only be placed inside when they are oriented in the upright position.

3. Devices operating door releases for access to stored cylinders shall be permitted to be pneumatic, mechanical or electrically powered.

4. Electrical equipment inside of or within 5 feet (1524 mm) of a cabinet storing cylinders, including but not limited to electronics associated with vending operations, shall comply with the requirements for Class I, Division 2 equipment in accordance with NFPA 70.

5. A manual override control shall be permitted for use by authorized personnel. On newly installed cylinder exchange stations, the vending system shall not be capable of returning to automatic operation after a manual override until the system has been inspected and reset by authorized personnel.

6. Inspections shall be conducted by authorized personnel to verify that all cylinders are secured, access doors are closed and the 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.

Section 6110 LP-gas containers not in service

6110.1 ~~Temporarily out of~~ Removed from service. LP-gas containers whose use has been ~~temporarily~~ discontinued shall comply with all of the following:

1. Be disconnected from appliance piping.

2. Have LP-gas container outlets, except relief valves, closed or plugged.

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

6110.2 ~~Permanently out of service~~ Removal from site. LP-gas containers ~~to be placed permanently out of~~ discontinued from service shall be removed from the site.

Section 6111 Parking and garaging of LP-gas tank vehicles

6111.1 General. Parking of LP-gas tank vehicles shall comply with Sections 6111.2 and 6111.3.

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.

6111.2 Unattended parking. The unattended parking of LP-gas tank vehicles shall be in accordance with Sections 6111.2.1 and 6111.2.2.

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.

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:

1. Off public streets, highways, public avenues or public alleys.

2. Inside of a bulk plant.

3. 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.

6111.3 Garaging. Garaging of LP-gas tank vehicles shall be as specified in NFPA 58. Vehicles with LP-gas fuel systems are allowed to be stored or serviced in garages as specified in Section 11.14 of NFPA 58.

Section 6112 Inspection of DOTn cylinders

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 and 5.2.3 of NFPA 58, no later than September 1, 2008.*

Copyright Claim Information

1301:7-7-62 Organic peroxides.

Section 6201 General

6201.1 Scope. The storage and use of organic peroxides shall be in accordance with this chapter and Chapter 50.

Unclassified detonable organic peroxides that are capable of detonation in their normal shipping containers under conditions of fire exposure shall be stored in accordance with Chapter 56.

6201.2 Permits. Permits shall be required for organic peroxides as set forth in *Chapter 1*.

Section 6202 Definition

6202.1 Definition. The following term is defined in Chapter 2.

Organic peroxide.

Class I.

Class II.

Class III.

Class IV.

Class V.

Unclassified detonable.

Section 6203 General requirements

6203.1 Quantities not exceeding the maximum allowable quantity per control area. The storage and use of organic peroxides in amounts not exceeding the maximum allowable quantity per control area indicated in Section 5003.1 shall be in accordance with Sections 5001, 5003, 6201 and 6203.

6203.1.1 Special limitations for indoor storage and use by occupancy. The indoor storage and use of organic peroxides shall be in accordance with Sections 6203.1.1.1 ~~to~~ through 6203.1.1.4.

6203.1.1.1 Group A, E, I or U occupancies. In Group A, E, I or U occupancies, any amount of unclassified detonable and Class I organic peroxides shall be stored in accordance with the following:

1. Unclassified detonable and Class I organic peroxides shall be stored in hazardous materials storage cabinets complying with Section 5003.8.7.

2. The hazardous materials storage cabinets shall not contain other storage.

6203.1.1.2 Group R occupancies. Unclassified detonable and Class I organic peroxides shall not be stored or used within Group R occupancies.

6203.1.1.3 Group B, F, M or S occupancies. Unclassified detonable and Class I organic peroxides shall not be stored or used in offices, or retail sales areas of Group B, F, M or S occupancies.

6203.1.1.4 Classrooms. In classrooms in Group B, F or M occupancies, any amount of unclassified detonable and Class I organic peroxides shall be stored in accordance with the following:

1. Unclassified detonable and Class I organic peroxides shall be stored in hazardous materials storage cabinets complying with Section 5003.8.7.

2. The hazardous materials storage cabinets shall not contain other storage.

6203.2 Quantities exceeding the maximum allowable quantity per control area. The storage and use of organic peroxides in amounts exceeding the maximum allowable quantity per control area indicated in Section 5003.1 shall be in accordance with Chapter 50 and this chapter.

Section 6204 Storage

6204.1 Indoor storage. Indoor storage of organic peroxides in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) shall be in accordance with Sections 5001, 5003, 5004 and this chapter.

Indoor storage of unclassified detonable organic peroxides that are capable of detonation in their normal shipping containers under conditions of fire exposure shall be stored in accordance with Chapter 56.

6204.1.1 Detached storage. Storage of organic peroxides shall be in detached buildings where required by Section 5003.8.2.

6204.1.2 Distance from detached buildings to exposures. In addition to the requirements of the *building code*, detached storage buildings for Class I, II, III, IV and V organic peroxides shall be located in accordance with Table 6204.1.2. Detached buildings containing quantities of unclassified detonable organic peroxides in excess of those set forth in Table 5003.8.2 shall be located in accordance with Table 5604.5.2(1).

Table 6204.1.2
Organic peroxides – distance to exposures from detached storage buildings or outdoor storage areas

Organic peroxide class	Maximum storage quantity (pounds) at minimum separation distance					
	Distance to buildings, lot lines, public streets, public alleys, public ways or means of egress			Distance between individual detached storage buildings or individual outdoor storage areas		
	50 feet	100 feet	150 feet	20 feet	75 feet	100 feet
I	2,000	20,000	175,000	2,000	20,000	175,000
II	100,000	200,000	No limit	100,000[a]	No limit	No limit

III	200,000	No limit	No limit	200,000[a]	No limit	No limit
IV	No limit	No limit	No limit	No limit	No limit	No limit
V	No limit	No limit	No limit	No limit	No limit	No limit

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

a. Where the amount of organic peroxide stored exceeds this amount, the minimum separation shall be 50 feet.

6204.1.3 Liquid-tight floor. In addition to the requirements of Section 5004.12, floors of storage areas shall be of liquid-tight construction.

6204.1.4 Electrical wiring and equipment. In addition to the requirements of Section 5003.9.4, electrical wiring and equipment in storage areas for Class I or II organic peroxides shall comply with the requirements for electrical Class I, Division 2 locations.

6204.1.5 Smoke detection. An approved supervised smoke detection system in accordance with Section 907 shall be provided in rooms or areas where Class I, II or III organic peroxides are stored. Activation of the smoke detection system shall sound a local alarm.

Exception: A smoke detection system shall not be required in detached storage buildings equipped throughout with an approved automatic fire-extinguishing system complying with Chapter 9.

6204.1.6 Maximum quantities. Maximum allowable quantities per building in a mixed occupancy building shall not exceed the amounts set forth in Table 5003.8.2. Maximum allowable quantities per building in a detached storage building shall not exceed the amounts specified in Table 6204.1.2.

6204.1.7 Storage arrangement. Storage arrangements for organic peroxides shall be in accordance with Table 6204.1.7 and shall comply with all of the following:

1. Containers and packages in storage areas shall be closed.
2. Bulk storage shall not be in piles or bins.
3. A minimum 2-foot (610 mm) clear space shall be maintained between storage and uninsulated metal walls.
4. Fifty-five-gallon (208 L) drums shall not be stored more than one drum high.

Table 6204.1.7
Storage of organic peroxides

Organic peroxide class	Pile configuration				Maximum quantity per building
	Maximum width (feet)	Maximum height (feet)	Minimum distance to next pile (feet)	Minimum distance to walls (feet)	

I	6	8	4[a]	4[b]	Note c
II	10	8	4[a]	4[b]	Note c
III	10	8	4[a]	4[b]	Note c
IV	16	10	3[a,d]	4[b]	No requirement
V	No requirement	No requirement	No requirement	No requirement	No requirement

For SI: 1 foot = 304.8 mm.

a. Not less than one main aisle with a minimum width of 8 feet shall divide the storage area.
b. Distance to noncombustible walls is allowed to be reduced to 2 feet.
c. See Table 6204.1.2 for maximum quantities.
d. The distance shall be not less than one-half the pile height.

6204.1.8 Location in building. The storage of Class I or II organic peroxides shall be on the ground floor. Class III organic peroxides shall not be stored in basements.

6204.1.9 Contamination. Organic peroxides shall be stored in their original DOTn shipping containers. Organic peroxides shall be stored in a manner to prevent contamination.

6204.1.10 Explosion control. Indoor storage rooms, areas and buildings containing unclassified detonable and Class I organic peroxides shall be provided with explosion control in accordance with Section 911.

6204.1.11 Standby power. Standby power shall be provided in accordance with Section ~~604~~ 1203 for the following systems used to protect Class I and unclassified detonable organic peroxides.

1. Exhaust ventilation system.
2. Treatment system.
3. ~~Gas detection system.~~
4~~3~~. Smoke detection system.
5~~4~~. Temperature control system.
6~~5~~. Fire alarm system.
7~~6~~. Emergency alarm system.

6204.1.11.1 Fail-safe engineered systems. Standby power shall not be required for mechanical exhaust ventilation, treatment systems and temperature control systems where approved fail-safe engineered systems are installed.

6204.2 Outdoor storage. Outdoor storage of organic peroxides in amounts exceeding the maximum allowable quantities per control area indicated in Table 5003.1.1 (3) shall be in accordance with Sections 5001, 5003, 5004 and this chapter.

6204.2.1 Distance from storage to exposures. Outdoor storage areas for organic peroxides shall be located in accordance with Table 6204.1.2.

6204.2.2 Electrical wiring and equipment. In addition to the requirements of Section 5003.9.4, electrical wiring and equipment in outdoor storage areas containing unclassified detonable, Class I or Class II organic peroxides shall comply with the requirements for electrical Class I, Division 2 locations.

6204.2.3 Maximum quantities. Maximum quantities of organic peroxides in outdoor storage shall be in accordance with Table 6204.1.2.

6204.2.4 Storage arrangement. Storage arrangements shall be in accordance with Table 6204.1.7.

6204.2.5 Separation. In addition to the requirements of Section 5003.9.8, outdoor storage areas for organic peroxides in amounts exceeding those specified in Table 5003.8.2 shall be located a minimum distance of 50 feet (15 240 mm) from other hazardous material storage.

Section 6205 Use

6205.1 General. The use of organic peroxides in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) or 5003.1.1(3) shall be in accordance with Sections 5001, 5003, 5005 and this 9202.

1301:7-7-63 Oxidizers, oxidizing gases and oxidizing cryogenic fluids.

Section 6301 General

6301.1 Scope. The storage and use of oxidizing materials shall be in accordance with this chapter and Chapter 50. Oxidizing gases shall also comply with Chapter 53. Oxidizing cryogenic fluids shall also comply with Chapter 55.

Exceptions:

1. Display and storage in Group M and storage in Group S occupancies complying with Section 5003.11.
2. Bulk oxygen systems at industrial and institutional consumer sites shall be in accordance with NFPA 55.
3. Liquid oxygen stored or used in home health care in Group I-1, I-4 and R occupancies in accordance with Section 6306.

6301.2 Permits. Permits shall be required as set forth in *Chapter 1*.

Section 6302 Definitions

6302.1 Definitions. The following terms are defined in Chapter 2.

Bulk oxygen system.

Liquid oxygen ambulatory container.

Liquid oxygen home care container.

Oxidizer.

Class 4.

Class 3.

Class 2.

Class 1.

Oxidizing cryogenic fluid.

Oxidizing gas.

Section 6303 General requirements

6303.1 Quantities not exceeding the maximum allowable quantity per control area. The storage and use of oxidizing materials in amounts not exceeding the maximum allowable quantity per control area indicated in Section 5003.1 shall be in accordance with Sections 5001, 5003, 6301 and 6303. Oxidizing gases shall also comply with Chapter 53.

6303.1.1 Special limitations for indoor storage and use by occupancy. The indoor storage and use of oxidizing materials shall be in accordance with Sections 6303.1.1.1 through ~~6303.1.1.3~~ 6303.1.1.2.

6303.1.1.1 Class 4 liquid and solid oxidizers. The storage and use of Class 4 liquid and solid oxidizers shall comply with Sections 6303.1.1.1.1 through 6303.1.1.1.4.

6303.1.1.1.1 Group A, E, I or U occupancies. In Group A, E, I or U occupancies, any amount of Class 4 liquid and solid oxidizers shall be stored in accordance with the following:

1. Class 4 liquid and solid oxidizers shall be stored in hazardous materials storage cabinets complying with Section 5003.8.7.

2. The hazardous materials storage cabinets shall not contain other storage.

6303.1.1.1.2 Group R occupancies. Class 4 liquid and solid oxidizers shall not be stored or used within Group R occupancies.

6303.1.1.1.3 Offices~~,~~ and retail sales areas. Class 4 liquid and solid oxidizers shall not be stored or used in offices or retail sales areas of Group B, F, M or S occupancies.

6303.1.1.1.4 Classrooms. In classrooms of Group B, F or M occupancies, any amount of Class 4 liquid and solid oxidizers shall be stored in accordance with the following:

1. Class 4 liquid and solid oxidizers shall be stored in hazardous materials storage cabinets complying with Section 5003.8.7.

2. Hazardous materials storage cabinets shall not contain other storage.

6303.1.1.2 ~~Class 3 liquid and solid oxidizers.~~ ~~Not more than 200 pounds (91 kg) of solid or 2022 gallons (7683 L) of liquid Class 3 oxidizer is allowed in storage and use where such materials are necessary for maintenance purposes or operation of equipment. The oxidizers shall be stored in approved containers and in an approved manner.~~

~~(iii)~~ ~~6303.1.1.3~~ **Oxidizing gases.** Except for cylinders of nonliquefied compressed gases not exceeding a capacity of 250 cubic feet (7 m^3) or liquefied compressed gases not exceeding a capacity of 46 pounds (21 kg) each used for maintenance purposes, patient care or operation of equipment, oxidizing gases shall not be stored or used in Group A, E, I, or R occupancies or in offices in Group B occupancies.

The aggregate quantities of gases used for maintenance purposes and operation of equipment shall not exceed the maximum allowable quantity per control area listed in Table 5003.1.1(1).

Medical gas systems and medical gas supply cylinders shall also be in accordance with Section 5306.

6303.1.2 Emergency shutoff. Compressed gas systems conveying ~~oxidizer~~ oxidizing gases shall be provided with approved manual or automatic emergency shutoff valves that can be activated at each point of use and at each source.

6303.1.2.1 Shutoff at source. A manual or automatic fail-safe emergency shutoff valve shall be installed on supply piping at the cylinder or bulk source. Manual or automatic cylinder valves are allowed to be used as the required emergency shutoff valve where the source of supply is limited to unmanifolded cylinder sources.

6303.1.2.2 Shutoff at point of use. A manual or automatic emergency shutoff valve shall be installed on the supply piping at the point of use or at a point where the equipment using the gas is connected to the supply system.

6303.1.3 Ignition source control. Ignition sources in areas containing oxidizing gases shall be controlled in accordance with Section 5003.7.

6303.1.4 Class 1 oxidizer storage configuration. The storage configuration of Class 1, 2 and 3 liquid and solid oxidizers shall be as set forth in Table 6303.1.4.

~~(2) **6303.2 Class I oxidizer storage configuration.** The storage configuration of Class I liquid and solid oxidizers shall be as set forth in Table 6303.2 *of this rule*.~~

Table ~~6303.2~~6303.1.4
Storage of Class 1, 2 and 3 oxidizer liquids and solids

~~Storage configuration~~	~~Limits (feet)~~
~~Piles~~	
~~Maximum width~~	~~24~~
~~Maximum height~~	~~20~~
~~Maximum distance to aisle~~	~~12~~
~~Minimum distance to next pile[a]~~	~~4~~
~~Minimum distance to walls[b]~~	~~2~~
~~Maximum quantity per pile~~	~~200 tons~~
~~Maximum quantity per building~~	~~No limit~~

STORAGE CONFIGURATION	LIMITS (feet)		
	Class 1	Class 2	Class 3
Piles			
Maximum width	24	16	12
Maximum height	20	Note c	Note c
Maximum distance to aisle	12	8	8
Minimum distance to next pile	4[a]	Note a	Note a
Minimum distance to walls	2[b]	2	4
Maximum quantity per pile	200 tons	MAQ	NA
Maximum quantity per building	No Limit	Note d	Note d

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 ton = 0.907185 metric ton.
MAQ = Maximum Allowable Quantity.
NA = Not Applicable.

a. The minimum aisle width shall be equal to the pile height, but not less than 4 feet and not greater than 8 feet.
b. There shall not be ~~no~~a minimum distance from the pile to a wall for amounts less than 9,000 pounds.
c. Maximum storage height in nonsprinklered buildings is limited to 6 feet. In sprinklered buildings, See NFPA 400 for storage heights based on ceiling sprinkler protection.
d. Maximum quantity per building varies. See Chapter 50 for control areas and MAQs.

6303.1.5 Class 3 liquid and solid oxidizers. Not more than 220 pounds (99 kg) of solid or 22 gallons (83 L) of liquid Class 3 oxidizer is allowed in storage and use where such materials are necessary for maintenance purposes or operation of equipment. The oxidizers shall be stored in approved containers and in an approved manner.

Section 6304 Storage

6304.1 Indoor storage. Indoor storage of oxidizing materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) shall be in accordance with Sections 5001, 5003, 5004 and this chapter.

6304.1.1 Explosion control. Indoor storage rooms, areas and buildings containing Class 4 liquid or solid oxidizers shall be provided with explosion control in accordance with Section 911.

6304.1.2 Automatic sprinkler system. The automatic sprinkler system for oxidizer storage shall be designed in accordance with NFPA 400.

6304.1.3 Liquid-tight floor. In addition to Section 5004.12, floors of storage areas for liquid and solid oxidizers shall be of liquid-tight construction.

6304.1.4 Smoke detection. An approved supervised smoke detection system in accordance with Section 907 shall be installed in liquid and solid oxidizer storage areas. Activation of the smoke detection system shall sound a local alarm.

Exception: Detached storage buildings protected by an approved automatic fire-extinguishing system.

6304.1.5 Storage conditions. The maximum quantity of oxidizers per building in storage buildings shall not exceed those quantities set forth in Tables 6304.1.5(1) ~~to~~ through 6304.1.5(3).

The storage configuration for liquid and solid oxidizers shall be as set forth in Table ~~6303.2~~ 6303.1.4 and Tables 6304.1.5(1) ~~to~~ through 6304.1.5(3).

Class 2 oxidizers shall not be stored in basements except ~~when~~where such storage is in stationary tanks.

Class 3 and 4 oxidizers in amounts exceeding the maximum allowable quantity per control area set forth in Section 5003.1 shall be stored on the ground floor only.

Table 6304.1.5(1)
Storage of Class 2 oxidizer liquids and solids

	Limits

Storage configuration	~~Control area storage~~	Group H occupancy storage	Detached storage
Piles			
Maximum width	~~16 feet~~	25 feet	25 feet
Maximum height	~~Note a~~	Note a	Note a
Maximum distance to aisle	~~8 feet~~	12 feet	12 feet
Minimum distance to next pile	~~Note b~~	Note b	Note b
Minimum distance to walls	~~2 feet~~	2 feet[c]	2 feet[c]
Maximum quantity per pile	~~MAQ~~	100 tons	100 tons
Maximum quantity per building	~~MAQ~~	2000 tons	No limit

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 ton = 0.907185 metric ton.

a. Maximum storage height in nonsprinklered buildings is limited to 6 feet. In sprinklered buildings see NFPA 400 for storage heights based on ceiling sprinkler protection.
b. The minimum aisle width shall be equal to the pile height, but not less than 4 feet and not greater than 8 feet.
c. For protection level and detached storage under 4,500 pounds, there shall not be ~~no~~ a minimum separation distance between the pile and any wall.

Table 6304.1.5(2)
Storage of Class 3 oxidizer liquids and solids

Storage configuration	Limits		
	~~Control area Storage~~	Group H occupancy storage	Detached storage
Piles			
Maximum width	~~12 feet~~	16 feet	20 feet
Maximum height	~~Note a~~	Note a	Note a
Maximum distance to aisle	~~8 feet~~	10 feet	10 feet
Minimum distance to next pile	~~Note b~~	Note b	Note b
Minimum distance to walls	~~4 feet~~	4 feet[c]	4 feet[c]
Maximum quantity per pile	~~NA~~	30 tons	100 tons
Maximum quantity per building	~~MAQ~~	1200 tons	No Limit

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 ton = 0.907185 metric ton.

a. Maximum storage height in nonsprinklered buildings is limited to 6 feet. In sprinklered buildings see NFPA 400 for storage heights based on ceiling sprinkler protection.
b. The minimum aisle width shall be equal to the pile height, but not less than 4 feet and not greater than 8 feet.
c. For protection level and detached storage under 2,300 pounds, there shall not be ~~no~~ a minimum separation distance between the pile and any wall.

Table 6304.1.5(3)
Storage of Class 4 oxidizer liquids and solids

Storage configuration	Limits (feet)
Piles	
Maximum length	10
Maximum width	4
Maximum height	8
Minimum distance to next pile	8
Maximum quantity per building	No limit

For SI: 1 foot = 304.8 mm.

6304.1.6 Separation of Class 4 oxidizers from other materials. In addition to the requirements in Section 5003.9.8, Class 4 oxidizer liquids and solids shall be separated from other hazardous materials by not less than a 1-hour fire barrier or stored in hazardous materials storage cabinets.

6304.1.7 Contamination. Liquid and solid oxidizers shall not be stored on or against combustible surfaces. Liquid and solid oxidizers shall be stored in a manner to prevent contamination.

6304.1.8 Detached storage. Storage of liquid and solid oxidizers shall be in detached buildings where required by Section 5003.8.2.

6304.1.8.1 Separation distance. Detached storage buildings for Class 4 oxidizer liquids and solids shall be located not less than 50 feet (15 240 mm) from other hazardous materials storage.

6304.2 Outdoor storage. Outdoor storage of oxidizing materials in amounts exceeding the maximum allowable quantities per control area set forth in Table 5003.1.1(3) shall be in accordance with Sections 5001, 5003, 5004 and this chapter. Oxidizing gases shall also comply with Chapter 53.

6304.2.1 Distance from storage to exposures for oxidizing gases. Outdoor storage areas for oxidizing gases shall be located in accordance with Table ~~6304.2.2~~ 6304.2.1.

6304.2.1.1 Oxidizing cryogenic fluids. Outdoor storage areas for oxidizing cryogenic fluids shall be located in accordance with Chapter 55.

6304.2.2 Storage configuration for liquid and solid oxidizers. Storage configuration for liquid and solid oxidizers shall be in accordance with Table ~~6303.2~~ 6303.1.4 and Tables 6304.1.5(1) through 6304.1.5(3).

Table ~~6304.2.2~~6304.2.1
Oxidizing gases-distance from storage to exposures[a]

Quantity of gas stored (cubic feet at NTP)	Distance to a building not associated with the manufacture or distribution of oxidizing gases or public way or lot line that can be built upon (feet)	Distance between storage areas (feet)
0-50,000	5	5
50,001 - 100,000	10	10
100,001 or greater	15	10

For SI: 1 foot = 304.8 mm, 1 cubic foot = 0.02832 m^3.

a. The minimum required distances shall not apply where fire barriers without openings or penetrations having a minimum fire-resistance rating of 2 hours interrupt the line of sight between the storage and the exposure. The configuration of the fire barrier shall be designed to allow natural ventilation to prevent the accumulation of hazardous gas concentrations.

6404.2.3 Storage configuration for oxidizing gases. Storage configuration for oxidizing gases shall be in accordance with Table ~~6304.2.2~~ 6304.2.1.

Section 6305 Use

6305.1 Scope. The use of oxidizers in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) or 5003.1.1(3) shall be in accordance with Sections 5001, 5003, 5005 and this chapter. Oxidizing gases shall also comply with Chapter 53.

Section 6306 Liquid oxygen in home health care

6306.1 General. The storage and use of liquid oxygen (LOX) in home health care in Group I-1, I-4 and R occupancies shall comply with Sections 6306.2 ~~to~~ through 6306.6, or shall be stored and used in accordance with Chapter 50.

6306.2 Information and instructions to be provided. The seller of liquid oxygen shall provide the user with information in written form that includes, but is not limited to, the following:

1. Manufacturer's instructions and labeling for safe storage and use of the containers.
2. Locating containers away from ignition sources, exits, electrical hazards and high-temperature devices in accordance with Section 6306.3.3.
3. Restraint of containers to prevent falling in accordance with Section 6306.3.4.
4. Requirements for handling containers in accordance with Section 6306.3.5.
5. Safeguards for refilling containers in accordance with Section 6306.3.6.
6. Signage requirements in accordance with Section 6306.6.

6306.3 Liquid oxygen home care containers. Containers of liquid oxygen in home health care shall be in accordance with Sections 6306.3.1 ~~to~~ through ~~6306.3.6~~ 6306.3.6.3.

6306.3.1 Maximum individual container capacity. Liquid oxygen home care containers shall not exceed an individual capacity of 15.8 gallons (60 ~~liters~~L) in Group I-1, I-4 and R occupancies. Liquid oxygen ambulatory containers are allowed in Group I-1, I-4 and R occupancies. Containers of liquid oxygen in home health care shall also be stored, used and filled in accordance with Section 6306 and Sections 5503.1 and 5503.2.

6306.3.2 Manufacturer's instructions and labeling. Containers shall be stored, used and operated in accordance with the manufacturer's instructions and labeling.

6306.3.3 Locating containers. Containers shall not be located in areas where any of the following conditions exist:

1. They can be overturned due to operation of a door.
2. They are in the direct path of egress.

3. They are subject to falling objects.

4. They can become part of an electrical circuit.

5. Open flames and high-temperature devices can cause a hazard.

6306.3.4 Restraining containers. Liquid oxygen home care containers shall be restrained while in storage or use to prevent falling caused by contact, vibration or seismic activity. Containers shall be restrained by one of the following methods:

1. Restraining containers to a fixed object with one or more restraints.

2. Restraining containers within a framework, stand or assembly designed to secure the container.

3. Restraining containers by locating a container against two points of contact such as the walls of a corner of a room or a wall and a secure furnishing or object such as a desk.

6306.3.5 Container handling. Containers shall be handled by use of a cart or hand truck designed for such use.

Exceptions:

1. Liquid oxygen home care containers equipped with a roller base.

2. Liquid oxygen ambulatory containers are allowed to be hand carried.

6306.3.6 Filling of containers. The filling of containers shall be in accordance with Sections 6306.3.6.1 ~~to~~ through 6306.3.6.3.

6306.3.6.1 Filling location. Liquid oxygen home care containers and ambulatory containers shall be filled outdoors.

Exception: Liquid oxygen ambulatory containers are allowed to be filled indoors where the supply container is specifically designed for filling such containers and written instructions are provided by the container manufacturer.

6306.3.6.2 Incompatible surfaces. A drip pan compatible with liquid oxygen shall be provided under home care container fill and vent connections during the filling process in order to protect against liquid oxygen spillage from coming into contact with combustible surfaces, including asphalt.

6306.3.6.3 Open flames and high-temperature devices. The use of open flames and high-temperature devices shall be in accordance with Section 5003.7.2.

6306.4 Maximum aggregate quantity. The maximum aggregate quantity of liquid oxygen allowed in storage and in use in each dwelling unit shall be 31.6 gallons (120 L).

Exceptions:

1. The maximum aggregate quantity of liquid oxygen allowed in Group I-4 occupancies shall be limited by the maximum allowable quantity set forth in Table 5003.1.1(1) .

2. Where individual sleeping rooms are separated from the remainder of the dwelling unit by fire barriers constructed in accordance with Section 707 of the *building code* and horizontal assemblies constructed in accordance with Section 711 of the *building code*, or both, having a minimum fire-resistance rating of 1 hour, the maximum aggregate quantity per dwelling unit shall be increased to allow not more than 31.6 gallons (120 L) of liquid oxygen per sleeping room.

6306.5 Smoking prohibited. Smoking shall be prohibited in rooms or areas where liquid oxygen is in use.

6306.6 Signs. Warning signs for occupancies using home health care liquid oxygen shall be in accordance with Sections 6306.6.1 and 6306.6.2.

6306.6.1 No smoking sign. A sign stating “OXYGEN-NO SMOKING” shall be posted in each room or area where liquid oxygen containers are stored, used or filled.

6306.6.2 Premises signage. Where required by the fire code official, each dwelling unit or sleeping unit shall have an approved sign indicating that the unit contains liquid oxygen home care containers.

6306.7 Fire department notification. Where required by the fire code official, the liquid oxygen seller shall notify the fire department of the locations of liquid oxygen home care containers.

1301:7-7-64 Pyrophoric materials.

Section 6401 General

6401.1 Scope. The storage and use of pyrophoric materials shall be in accordance with this chapter. Compressed gases shall also comply with ~~*rule 1301:7-7-53 of the Administrative Code*~~Chapter 53.

6401.2 Permits. Permits shall be required as set forth in ~~*rule 1301:7-7-01 of the Administrative Code*~~*Chapter 1*.

Section 6402 Definition

6402.1 Definition. The following term is defined in ~~rule 1301:7-7-02 of the Administrative Code~~Chapter 2.

Pyrophoric.

Section 6403 General requirements

6403.1 Quantities not exceeding the maximum allowable quantity per control area. The storage and use of pyrophoric materials in amounts not exceeding the maximum allowable quantity per control area indicated in ~~paragraph (C)(1)(5003.1) of rule 1301:7-7-50 of the Administrative Code shall be in accordance with paragraphs (A)(5001) and (C)(5003) of rule 1301:7-7-50 of the Ad-ministrative Code and paragraphs (A)(6401) and (C)(6403) of this rule~~Section 5003.1 shall be in accordance with Sections 5001, 5003. 6401 and 6403.

6403.1.1 Emergency shutoff. Compressed gas systems conveying pyrophoric gases shall be provided with approved manual or automatic emergency shutoff valves that can be activated at each point of use and at each source.

6403.1.1.1 Shutoff at source. An automatic emergency shutoff valve shall be installed on supply piping at the cylinder or bulk source. The shutoff valve shall be operated by a remotely located manually activated shutdown control located not less than 15 feet (4572 mm) from the source of supply. Manual or automatic cylinder valves are allowed to be used as the required emergency shutoff valve where the source of supply is limited to unmanifolded cylinder sources.

6403.1.1.2 Shutoff at point of use. A manual or automatic emergency shutoff valve shall be installed on the supply piping at the point of use or at a point where the equipment using the gas is connected to the supply system.

6403.2 Quantities exceeding the maximum allowable quantity per control area. The storage and use of pyrophoric materials in amounts exceeding the maximum allowable quantity per control area indicated in ~~paragraph (C)(1)(5003.1) of rule 1301:7-7-50 of the Administrative Code shall be in accordance with rule 1301:7-7-50 of the Administrative Code and this rule~~Section 5003.1 shall be in accordance with Chapter 50 and this chapter.

Section 6404 Storage

6404.1 Indoor storage. Indoor storage of pyrophoric materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) of rule 1301:7-7-50 of the Administrative Code, shall be in accordance with ~~paragraphs (A)(5001), (C)(5003) and (D)(5004) of rule 1301:7-7-50 of the Administrative Code and this rule~~ Sections 5001, 5003 and 5004 and this chapter..

The storage of silane gas, and gas mixtures with a silane concentration of 1.37 ~~per cent~~percent or more by volume, shall be in accordance with ANSI/CGA G-13 ~~as listed in rule 1301:7-7-80 of the Administrative Code~~.

6404.1.1 Liquid-tight floor. In addition to the requirements of ~~paragraph (D)(12)(5004.12) of rule 1301:7-7-50 of the Administrative Code~~Section 5004.12, floors of storage areas containing pyrophoric liquids shall be of liquid-tight construction.

6404.1.2 Pyrophoric solids and liquids. Storage of pyrophoric solids and liquids shall be limited to a maximum area of 100 square feet (9.3 m^2) per pile. Storage shall not exceed 5 feet (1524 mm) in height. Individual containers shall not be stacked.

Aisles between storage piles shall be not less than 10 feet (3048 mm) in width.

Individual tanks or containers shall not exceed 500 gallons (1893 L) in capacity.

6404.1.3 Pyrophoric gases. Storage of pyrophoric gases shall be in detached buildings where required by ~~paragraph (C)(8)(b)(5003.8.2) of rule 1301:7-7-50 of the Administrative Code~~Section 5003.8.2.

6404.1.4 Separation from incompatible materials. In addition to the requirements of ~~paragraph (C)(9)(h)(5003.9.8) of rule 1301:7-7-50 of the Administrative Code~~Section 5003.9.8, indoor storage of pyrophoric materials shall be isolated from incompatible hazardous materials by 1-hour fire barriers with openings protected in accordance with the *building code* ~~*as listed in rule 1301:7-7-80 of the Administrative Code*~~.

Exception: Storage in approved hazardous materials storage cabinets constructed in accordance with ~~paragraph (C)(8)(g)(5003.8.7) of rule 1301:7-7-50 of the Administrative Code~~Section 5003.8.7.

6404.2 Outdoor storage. Outdoor storage of pyrophoric materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(3) ~~of rule 1301:7-7-50 of the Administrative Code~~ shall be in accordance with ~~paragraphs (A)(5001), (C)(5003) and (D)(5004) of rule 1301:7-7-50 of the Administrative Code, and this rule~~Sections 5001, 5003 and 5004 and this chapter.

The storage of silane gas, and gas mixtures with a silane concentration of 1.37 ~~per cent~~percent or more by volume, shall be in accordance with ANSI/CGA G-13 ~~as listed in rule 1301:7-7-80 of the Administrative Code~~.

6404.2.1 Distance from storage to exposures. The separation of pyrophoric solids, liquids and gases from buildings, lot lines, public streets, public alleys, public ways or means of egress shall be in accordance with the following:

1. Solids and liquids. Two times the separation required by ~~rule 1301:7-7-57 of the Administrative Code~~Chapter 57 for Class IB flammable liquids.

2. Gases. The location and maximum amount of pyrophoric gas per storage area shall be in accordance with Table 6404.2.1~~ of this rule~~.

Table 6404.2.1
Pyrophoric gases-distance from storage to exposures[a]

Maximum amount per storage area (cubic feet)	Minimum distance between storage areas (feet)	Minimum distance to lot lines of property that can be built upon (feet)	Minimum distance to public streets, public alleys or public ways (feet)	Minimum distance to buildings on the same property		
				Nonrated construction or openings within 25 feet	Two-hour construction and no openings within 25 feet	Four-hour construction and no openings within 25 feet
250	5	25	5	5	0	0
2,500	10	50	10	10	5	0
7,500	20	100	20	20	10	0

For SI: 1 foot = 304.8 mm, 1 cubic foot = 0.02832 m^3.

a. The minimum required distances shall be reduced to 5 feet ~~when~~where protective structures having a minimum fire resistance of 2 hours interrupt the line of sight between the container and the exposure. The protective structure shall be ~~at least~~not less than 5 feet from the exposure. The configuration of the protective structure shall allow natural ventilation to prevent the accumulation of hazardous gas concentrations.

6404.2.2 Weather protection. Where overhead construction is provided for sheltering outdoor storage areas of pyrophoric materials, the storage areas shall be provided with approved automatic fire-extinguishing system protection.

Section 6405 Use

6405.1 General. The use of pyrophoric materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) or 5003.1.1(3) of rule 1301:7-7-50 of the Administrative Code shall be in accordance with ~~paragraphs (A)(5001), (C)(5003) and (E)(5005) of rule 1301:7-7-50 of the Administrative Code and this rule~~Sections 5001, 5003, 5005 and this chapter.

6405.2 Weather protection. Where overhead construction is provided for sheltering of outdoor use areas of pyrophoric materials, the use areas shall be provided with approved automatic fire-extinguishing system protection.

6405.3 Silane gas. The use of silane gas, and gas mixtures with a silane concentration of 1.37 ~~per cent~~percent or more by volume, shall be in accordance with ANSI/CGA G-13~~ as listed in rule 1301:7-7-80 of the Administrative Code~~.

Copyright Claim Information

1301:7-7-65 Pyroxylin (cellulose nitrate) plastics.

Section 6501 General

6501.1 Scope. This ~~rule~~ chapter shall apply to the storage and handling of plastic substances, materials or compounds with cellulose nitrate (pyroxylin) as a base, by whatever name known, in the form of blocks, sheets, tubes or fabricated shapes.

Cellulose nitrate (pyroxylin) motion picture film shall comply with the requirements of ~~*paragraph (F)(*~~Section 306~~*) of rule 1301:7-7-03 of the Administrative Code*~~.

6501.2 Permits. Permits shall be required as set forth in ~~*rule 1301:7-7-01 of the Administrative Code*~~*Chapter 1*.

Section 6502 Definitions

6502.1 Terms defined in ~~*rule 1301:7-7-02 of the Administrative Code*~~Chapter 2. Words and terms used in this ~~*rule*~~ chapter and defined in ~~*rule 1301:7-7-02 of the Administrative Code*~~Chapter 2 shall have the meanings ascribed to them as defined therein.

Section 6503 General requirements

6503.1 Displays. Cellulose nitrate (pyroxylin) plastic articles are allowed to be placed on tables not more than 3 feet (914 mm) wide and 10 feet (3048 mm) long. Tables shall be spaced ~~at least~~ not less than 3 feet (914 mm) apart. Where articles are displayed on counters, they shall be arranged in a like manner.

6503.2 Space under tables. Spaces underneath tables shall be kept free from storage of any kind and accumulation of paper, refuse and other combustible material.

6503.3 Location. Sales or display tables shall be so located that in the event of a fire at the table, the table will not interfere with free means of egress from the room in not less than one direction.

6503.4 Lighting. Lighting shall not be located directly above cellulose nitrate (pyroxylin) plastic material, unless provided with a suitable guard to prevent heated particles from falling.

Section 6504 Storage and handling

6504.1 Raw material. Raw cellulose nitrate (pyroxylin) plastic material in a Group F building shall be stored and handled in accordance with ~~paragraphs (D)(1)(a)(~~Sections 6504.1.1~~) to (D)(1)(g)(~~ through 6504.1.7~~) of this rule~~.

6504.1.1 Storage of incoming material. Where raw material in excess of 25 pounds (11 kg) is received in a building or fire area, an approved vented cabinet or approved vented vault equipped with an approved automatic sprinkler system shall be provided for the storage of material.

6504.1.2 Capacity limitations. Cabinets in any one workroom shall not contain more than 1,000 pounds (454 kg) of raw material. Each cabinet shall not contain more than 500 pounds (227 kg). Each compartment shall not contain more than 250 pounds (114 kg).

6504.1.3 Storage of additional material. Raw material in excess of that allowed by ~~paragraph (D)(1)(b)(~~Section 6504.1.2~~) of this rule~~ shall be kept in vented vaults not exceeding 1,500-cubic-foot capacity (43 m^3) of total vault space, and with approved construction, venting and sprinkler protection.

6504.1.4 Heat sources. Cellulose nitrate (pyroxylin) plastic shall not be stored within 2 feet (610 mm) of heat-producing appliances, steam pipes, radiators or chimneys.

6504.1.5 Accumulation of material. In factories manufacturing articles of cellulose nitrate (pyroxylin) plastics, approved sprinklered and vented cabinets, vaults or storage rooms shall be provided to prevent the accumulation in workrooms of raw stock in process or finished articles.

6504.1.6 Operators. In workrooms of cellulose nitrate (pyroxylin) plastic factories, operators shall not be stationed closer together than 3 feet (914 mm), and the amount of material per operator shall not exceed one ~~shift~~ shift's supply and shall be limited to the capacity of three tote boxes, including material awaiting removal or use.

6504.1.7 Waste material. Waste cellulose nitrate (pyroxylin) plastic materials such as shavings, chips, turnings, sawdust, edgings and trimmings shall be kept under water in metal receptacles until removed from the premises.

6504.2 Fire protection. The manufacture or storage of articles of cellulose nitrate (pyroxylin) plastic in quantities exceeding 100 pounds (45 kg) shall be located in a building or portion thereof equipped throughout with an approved automatic sprinkler system in accordance with ~~paragraph (C)(3)(a)(i)(~~Section 903.3.1.1~~) of rule 1301:7-7-09 of the Administrative Code~~.

6504.3 Sources of ignition. Sources of ignition shall not be located in rooms in which cellulose nitrate (pyroxylin) plastic in excess of 25 pounds (11 kg) is handled or stored.

6504.4 Heating. Rooms in which cellulose nitrate (pyroxylin) plastic is handled or stored shall be heated by low-pressure steam or hot water radiators.

1301:7-7-66 Unstable (reactive) materials.

Section 6601 General

6601.1 Scope. The storage and use of unstable (reactive) materials shall be in accordance with this ~~rule~~chapter. Compressed gases shall also comply with ~~rule 1301:7-7-53 of the Administrative Code~~Chapter 53.

Exceptions:

1. Display and storage in Group M and storage in Group S occupancies complying with ~~paragraph (C)(11)(~~Section 5003.11~~) of rule 1301:7-7-50 of the Administrative Code~~.
2. Detonable unstable (reactive) materials shall be stored in accordance with ~~rule 1301:7-7-56 of the Administrative Code~~Chapter 56.

6601.2 Permits. Permits shall be required as set forth in ~~rule 1301:7-7-01 of the Administrative Code~~ Chapter 1.

Section 6602 Definition

6602.1 Definition. The following term is defined in ~~rule 1301:7-7-02 of the Administrative Code~~ Chapter 2.

"Unstable (reactive) material."

"Class 4."

"Class 3."

"Class 2."

"Class 1."

Section 6603 General requirements

6603.1 Quantities not exceeding the maximum allowable quantity per control area. Quantities of unstable (reactive) materials not exceeding the maximum allowable quantity per control area shall be in accordance with ~~paragraphs (C)(1)(a)(~~Sections 6603.1.1~~) to~~ through ~~(C)(1)(b)(v)(~~6603.1.2.5~~) of this rule~~.

6603.1.1 General. The storage and use of unstable (reactive) materials in amounts not exceeding the maximum allowable quantity per control area indicated in ~~paragraph (C)(1)(~~Section 5003.1~~) of rule 1301:7-7-50 of the Administrative Code~~ shall be in accordance with ~~paragraphs (A)(~~Sections 5001~~)~~ and ~~(C)(~~5003~~) of rule 1301:7-7-50 of the Administrative Code~~ and ~~paragraphs~~ ~~(A)(~~Sections 6601~~)~~ and ~~(C)(~~6603~~) of this rule~~.

6603.1.2 Limitations for indoor storage and use by occupancy. The indoor storage of unstable (reactive) materials shall be in accordance with ~~paragraphs (C)(1)(b)(i)(~~Sections 6603.1.2.1 ~~) to~~through ~~(C)(1)(b)(v)(~~6603.1.2.5~~) of this rule~~.

6603.1.2.1 Group A, E, I or U occupancies. In Group A, E, I or U occupancies, any amount of Class 3 and 4 unstable (reactive) materials shall be stored in accordance with the following:

1. Class 3 and 4 unstable (reactive) materials shall be stored in hazardous material storage cabinets complying with ~~*paragraph* (C)(8)(g)(~~Section 5003.8.7~~) of rule 1301:7-7-50 of the Administrative Code~~.

2. The hazardous material storage cabinets shall not contain other storage.

6603.1.2.2 Group R occupancies. Class 3 and 4 unstable (reactive) materials shall not be stored or used within Group R occupancies.

6603.1.2.3 Group M occupancies. Class 4 unstable (reactive) materials shall not be stored or used in retail sales portions of Group M occupancies.

6603.1.2.4 Offices. Class 3 and 4 unstable (reactive) materials shall not be stored or used in offices of Group B, F, M or S occupancies.

6603.1.2.5 Classrooms. In classrooms in Group B, F or M occupancies, any amount of Class 3 and 4 unstable (reactive) materials shall be stored in accordance with the following:

1. Class 3 and 4 unstable (reactive) materials shall be stored in hazardous material storage cabinets complying with ~~paragraph (C)(8)(g)(~~Section 5003.8.7~~) of rule 1301:7-7-50 of the Administrative Code~~.

2. The hazardous material storage cabinets shall not contain other storage.

6603.2 Quantities exceeding the maximum allowable quantity per control area. The storage and use of unstable (reactive) materials in amounts exceeding the maximum allowable quantity per control area indicated in ~~*paragraph* (C)(1)(~~Section 5003.1~~) of rule 1301:7-7-50 of the Administrative Code~~ shall be in accordance with ~~*rule 1301:7-7-50 of the Administrative Code*~~ Chapter 50 and this ~~*rule*~~chapter.

Section 6604 Storage

6604.1 Indoor storage. Indoor storage of unstable (reactive) materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) ~~*of rule 1301:7-7-50 of the Administrative Code*~~ shall be in accordance with ~~*paragraphs* (A)(~~Sections 5001~~)~~, ~~(C)(~~5003~~)~~ and ~~(D)(~~5004~~) of rule 1301:7-7-50 of the Administrative Code~~ and this ~~*rule*~~chapter.

In addition, Class 3 and 4 unstable (reactive) detonable materials shall be stored in accordance with the *building code* ~~*as listed in rule 1301:7-7-80 of the Administrative Code*~~ requirements for explosives.

6604.1.1 Detached storage. Storage of unstable (reactive) materials shall be in detached buildings ~~when~~where required in ~~*paragraph* (C)(8)(b)(~~Section 5003.8.2~~) of rule 1301:7-7-50 of the Administrative Code~~.

6604.1.2 Explosion control. Indoor storage rooms, areas and buildings containing Class 3 or 4 unstable (reactive) materials shall be provided with explosion control in accordance with ~~paragraph (K)(~~Section 911~~) of rule 1301:7-7-09 of the Administrative Code~~.

6604.1.3 Liquid-tight floor. In addition to ~~paragraph (D)(12)(~~Section 5004.12~~) of rule 1301:7-7-50 of the Administrative Code~~, floors of storage areas for liquids and solids shall be of liquid-tight construction.

6604.1.4 Storage configuration. Unstable (reactive) materials stored in quantities greater than 500 cubic feet (14 m^3) shall be separated into piles, each not larger than 500 cubic feet (14 m^3). Aisle width shall ~~not~~ be not less than the height of the piles or 4 feet (1219 mm), whichever is greater.

Exception: Materials stored in tanks.

6604.1.5 Location in building. Unstable (reactive) materials shall not be stored in basements.

6604.2 Outdoor storage. Outdoor storage of unstable (reactive) materials in amounts exceeding the maximum allowable quantities per control area indicated in Table 5003.1.1(3) ~~of rule 1301:7-7-50 of the Administrative Code~~ shall be in accordance with ~~paragraphs (A)(~~Sections 5001~~)~~, ~~(C)(~~5003~~)~~ and ~~(D)(~~5004~~) of rule 1301:7-7-50 of the Administrative Code~~ and this ~~rule~~chapter.

6604.2.1 Distance from storage to exposures Class 4 and 3 (detonable) materials. Outdoor storage of Class 4 or 3 (detonable) unstable (reactive) material shall be in accordance with Table 5604.5.2(2) ~~of rule 1301:7-7-56 of the Administrative Code~~. The number of pounds of material listed in the table shall be the net weight of the material present. Alternatively, the number of pounds of material shall be based on a trinitrotoluene (TNT) equivalent weight.

6604.2.2 Distance from storage to exposures Class 3 (deflagratable) materials. Outdoor storage of deflagratable Class 3 unstable (reactive) materials shall be in accordance with Table 5604.5.2(3) ~~of rule 1301:7-7-56 of the Administrative Code~~. The number of pounds of material listed shall be the net weight of the material present.

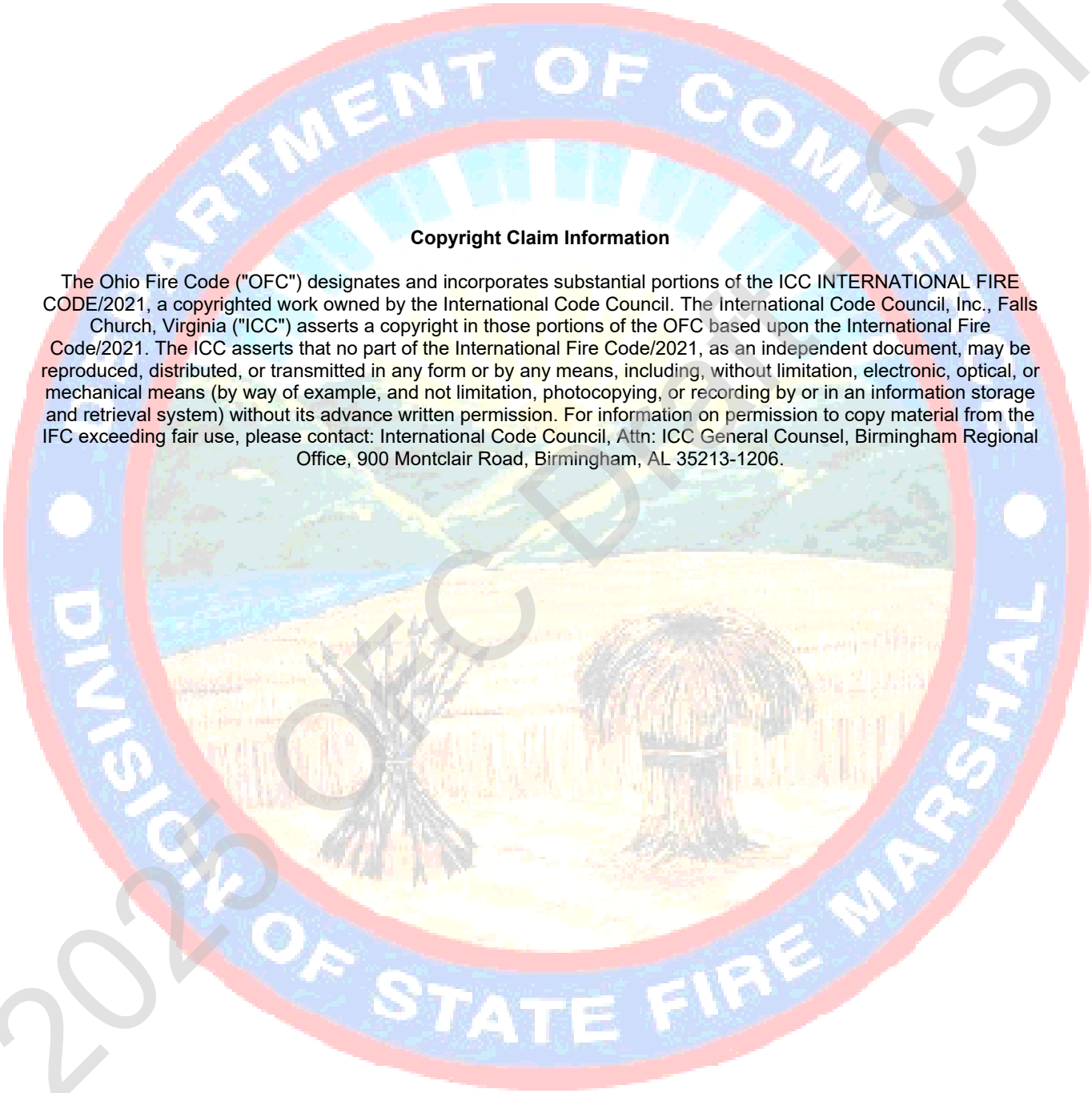
6604.2.3 Distance from storage to exposures Class 2 and 1 materials. Outdoor storage of Class 2 or 1 unstable (reactive) materials shall not be located within 20 feet (6096 mm) of buildings not associated with the manufacture or distribution of such materials, lot lines, public streets, public alleys, public ways or means of egress. The minimum required distance shall not apply ~~when~~where fire barriers without openings or penetrations having a minimum fire-resistance rating of 2 hours interrupt the line of sight between the storage and the exposure. The fire barrier shall either be an independent structure or the exterior wall of the building adjacent to the storage area.

6604.2.4 Storage configuration. Piles of unstable (reactive) materials shall not exceed 1,000 cubic feet (28 m^3).

6604.2.5 Aisle widths. Aisle widths between piles shall ~~not~~ be not less than one-half the height of the pile or 10 feet (3048 mm), whichever is greater.

Section 6605 Use

6605.1 General. The use of unstable (reactive) materials in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) or 5003.1.1(3) ~~*of rule 1301:7-7-50 of the Administrative Code*~~ shall be in accordance with ~~*paragraphs*~~ ~~(A)~~(Sections 5001~~)~~, ~~(C)~~(5003~~)~~ and ~~(D)~~(5005~~)~~ ~~*of rule 1301:7-7-50 of the Administrative Code*~~ and this ~~*rule*~~chapter.



1301:7-7-67 Water-reactive solids and liquids.

Section 6701 General

6701.1 Scope. The storage and use of water-reactive solids and liquids shall be in accordance with this ~~rule~~ chapter.

Exceptions:

1. Display and storage in Group M and storage in Group S occupancies complying with ~~paragraph~~ (C)(11)(Section 5003.11~~) of rule 1301:7-7-50 of the Administrative Code~~.

2. Detonable water-reactive solids and liquids shall be stored in accordance with Chapter 56~~rule 1301:7-7-56 of the Administrative Code~~.

6701.2 Permits. Permits shall be required as set forth in ~~rule 1301:7-7-01 of the Administrative Code~~ Chapter 1.

Section 6702 Definition

6702.1 Definition. The following term is defined in ~~rule 1301:7-7-02 of the Administrative Code~~ Chapter 2.

"Water-reactive material."

"Class 3."

"Class 2."

"Class 1."

Section 6703 General requirements

6703.1 Quantities not exceeding the maximum allowable quantity per control area. The storage and use of water-reactive solids and liquids in amounts not exceeding the maximum allowable quantity per control area indicated in ~~paragraph~~ (C)(1)(Section 5003.1~~) of rule 1301:7-7-50 of the Administrative Code~~ shall be in accordance with ~~paragraphs~~ (A)(Sections 5001~~)~~ and ~~(C)~~(5003~~) of rule 1301:7-7-50 of the Administrative Code~~ and ~~paragraphs~~Sections ~~(A)~~(6701~~)~~ and ~~(C)~~(6703~~) of this rule~~.

6703.2 Quantities exceeding the maximum allowable quantity per control area. The storage and use of water-reactive solids and liquids in amounts exceeding the maximum allowable quantity per control area indicated in ~~paragraph~~ (C)(1)(Section 5003.1~~) of rule 1301:7-7-50 of the Administrative Code~~ shall be in accordance with ~~rule 1301:7-7-50 of the Administrative Code~~ Chapter 50 and this ~~rule~~chapter.

Section 6704 Storage

6704.1 Indoor storage. Indoor storage of water-reactive solids and liquids in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1)~~ of rule 1301:7-7-~~

~~50 of the Administrative Code~~, shall be in accordance with ~~paragraphs (A)(~~Sections 5001~~)~~, ~~(C)(~~5003~~)~~ and ~~(D)(~~5004~~) of rule 1301:7-7-50 of the Administrative Code~~ and this ~~rule~~chapter.

6704.1.1 Detached storage. Storage of water-reactive solids and liquids shall be in detached buildings where required by ~~paragraph (C)(8)(b)(~~Section 5003.8.2~~) of rule 1301:7-7-50 of the Administrative Code~~.

6704.1.2 Liquid-tight floor. In addition to the provisions of ~~paragraph (D)(12)(~~Section 5004.12~~) of rule 1301:7-7-50 of the Administrative Code~~, floors in storage areas for water-reactive solids and liquids shall be of liquid-tight construction.

6704.1.3 Waterproof room. Rooms or areas used for the storage of water-reactive solids and liquids shall be constructed in a manner ~~which~~that resists the penetration of water through the use of waterproof materials. Piping carrying water for other than approved automatic sprinkler systems shall not be within such rooms or areas.

6704.1.4 ~~Water-tight~~ Watertight containers. When Class 3 water-reactive solids and liquids are stored in areas equipped with an automatic sprinkler system, the materials shall be stored in closed ~~water-tight~~watertight containers.

6704.1.5 Storage configuration. Water-reactive solids and liquids stored in quantities greater than 500 cubic feet (14 m^3) shall be separated into piles, each not larger than 500 cubic feet (14 m^3). Aisle widths between piles shall ~~not~~ be not less than the height of the pile or 4 feet (1219 mm), whichever is greater.

Exception: Water-reactive solids and liquids stored in tanks.

Class 2 water-reactive solids and liquids shall not be stored in basements unless such materials are stored in closed ~~water-tight~~watertight containers or tanks.

Class 3 water-reactive solids and liquids shall not be stored in basements.

Class 2 or 3 water-reactive solids and liquids shall not be stored with flammable liquids.

6704.1.6 Explosion control. Indoor storage rooms, areas and buildings containing Class 2 or 3 water-reactive solids and liquids shall be provided with explosion control in accordance with ~~paragraph (K)(~~Section 911~~) of rule 1301:7-7-09 of the Administrative Code~~.

6704.2 Outdoor storage. Outdoor storage of water-reactive solids and liquids in quantities exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(3) ~~of rule 1301:7-7-50 of the Administrative Code~~ shall be in accordance with ~~paragraphs (A)(~~Sections 5001~~)~~, ~~(C)(~~5003~~)~~ and ~~(D)(~~5004~~) of rule 1301:7-7-50 of the Administrative Code~~ and this ~~rule~~chapter.

6704.2.1 General. Outdoor storage of water-reactive solids and liquids shall be within tanks or closed water-tight containers and shall be in accordance with ~~paragraphs (D)(2)(b)(~~Sections 6704.2.2~~) to~~through ~~(D)(2)(e)(~~6704.2.5~~) of this rule~~.

6704.2.2 Class 3 distance to exposures. Outdoor storage of Class 3 water-reactive solids and liquids shall not be within 75 feet (22 860 mm) of buildings, lot lines, public streets, public alleys, public ways or means of egress.

6704.2.3 Class 2 distance to exposures. Outdoor storage of Class 2 water-reactive solids and liquids shall not be within 20 feet (6096 mm) of buildings, lot lines, public streets, public alleys, public ways or means of egress. A 2-hour fire barrier ~~wall~~ without openings or penetrations~~,~~ and extending not less than 30 inches (762 mm) above and to the sides of the storage area, is allowed in lieu of such distance. The wall shall either be an independent structure, or the exterior wall of the building adjacent to the storage area.

6704.2.4 Storage conditions. Class 3 water-reactive solids and liquids shall be limited to piles not greater than 500 cubic feet (14 m^3).

Class 2 water-reactive solids and liquids shall be limited to piles not greater than 1,000 cubic feet (28 m^3).

Aisle widths between piles shall ~~not~~ be not less than one-half the height of the pile or 10 feet (3048 mm), whichever is greater.

6704.2.5 Containment. Secondary containment shall be provided in accordance with the provisions of ~~*paragraph* (D)(2)(b)(~~Section 5004.2.2~~) of rule 1301:7-7-50 of the Administrative Code~~.

Section 6705 Use

6705.1 General. The use of water-reactive solids and liquids in amounts exceeding the maximum allowable quantity per control area indicated in Table 5003.1.1(1) or 5003.1.1(3) ~~of rule 1301:7-7-50 of the Administrative Code~~ shall be in accordance with ~~*paragraphs* (A)(~~Sections 5001~~)~~, ~~(C)(~~5003~~)~~ and ~~(E)(~~5005~~) of rule 1301:7-7-50 of the Administrative Code~~ and this ~~*rule*~~chapter.

1301:7-7-80 Referenced standards.

This ~~*rule*~~chapter lists the standards that are referenced in various ~~*paragraphs*~~ sections of this *code*. *Such standards shall be incorporated by reference into and considered part of the requirements of this code to the prescribed extent of each such reference.* The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of *the adopted* document that reference the standard. The application of the referenced standards shall be as specified in ~~*paragraph* (B)(7)~~(Section 102.7~~) of rule 1301:7-7-01 of the Administrative Code~~.

AASHTO

American Association of State Highway and Transportation Officials
444 North Capitol Street, NW~~orthwest~~, Suite 249
Washington, DC 20001

HB-17-2002: Specification for Highway Bridges, 17th edition 2002
503.2.6

AFSI

Architectural Fabric Structures Institute
c/o Industrial Fabric Association International
1801 ~~Country~~County Road B West
Roseville, MN 55113

ASI-77: Design and Standard Manual
3103.10.2

ANSI

American National Standards Institute
25 West 43rd Street, ~~Fourth~~4th Floor
New York, NY 10036

ANSI E1.21-~~2006~~2013: Entertainment Technology: Temporary ~~Ground Supported Overhead~~ Structures Used ~~to Cover the Stage Areas and Support Equipment in the~~ for Technical Production of Outdoor Entertainment Events
3105.1, 3105.4, 3105.5

~~**ANSI Z21.69/CSA 6.16-09: Connectors for Movable Gas Appliances**~~
~~609.4~~

API

American Petroleum Institute
1220 L Street, NW~~orthwest~~
Washington, DC 20005

Publ 2009-7th Edition (2002, R2012): Safe Welding and Cutting Practices in Refineries, Gas Plants and Petrochemical Plants
5706.7

Publ 2028 3rd Edition-(2002, ~~R2012~~R2010): Flame Arrestors in Piping Systems
~~5704.2.7.3.1~~5704.2.7.3.2

Publ 2201 5th Edition-(2003, R2010): Procedures for Welding or Hot Tapping on Equipment in Service
5706.7

RP 651 ~~3rd~~ 4th Edition (~~2007~~2014): Cathodic Protection of Aboveground Petroleum Storage Tanks

Note: for copyright claim information, please see the notice on the last page of this rule.

5706.7, 5706.7.1

RP 752-3rd Edition (2009): Management of Hazards Associated with Location of Process Plant Buildings, CMA Managers Guide

5706.7

RP 1604-3rd Edition (1996 R2010): Closure of Underground Petroleum Storage Tanks

5704.2.13

RP 1615-(1996) 6th Edition (2011): Installation of Underground-petroleum Storage Systems

5704.2.13.1.5, 5706.7

RP 1631 (1997): Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks

5704.2.7.11.3

RP 2001-9th Edition (2012): Fire Protection in Refineries, 8th edition

5706.7

RP 2003-~~7~~8th Edition (~~2008~~2015): Protection Against Ignitions Arising Out of Static, Lightening and Stray Currents

5706.7

RP 2023 3rd Edition-(2001, R2006): Guide for Safe Storage and Handling of Heated Petroleum-derived Asphalt Products and Crude-oil Residue

5706.7, 5706.7.3

~~**Spec 12P-3rd Edition Reaffirmed 2008: Specification for Fiberglass Reinforced Plastic Tanks**~~

~~5704.2.13.1.5~~

Std 653-~~4th~~ 5th Edition (~~2009~~2018): Tank Inspection, Repair, Alteration and Reconstruction

5706.7

Std 2000-~~6th~~ 7th Edition (~~2009~~2014): Venting Atmosphere and Low-pressure Storage Tanks: Nonrefrigerated and Refrigerated

5704.2.7.3.2

Std 2015-~~6~~8th Edition 2001 (~~R2006~~2018): Requirements for Safe Entry and Clearing of Petroleum Storage Tanks

5706.7, 5706.7.2

RP 2350-4th Edition (2012): Overfill Protection for Storage Tanks in Petroleum Facilities, 3rd edition

5704.2.7.5.8, 5706.4.6, 5706.7

ASCE/SEI

American Society of Civil Engineers
Structural Engineering Institute
~~1801 Alexander Bell Drive~~
Reston, VA 20191-4400

ASCE/SEI 24-~~14~~20: Flood Resistant Design and Construction

~~604.1.7~~1203.1.8

ASHRAE

~~American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.~~ASHRAE
1791 Tullie Circle, NE
Atlanta, GA 30329

15-~~2013~~2019: Safety Standard for Refrigeration Systems
~~606.12.1~~608.1.1, 608.18.2

170-~~2017~~*2021*: Ventilation of Health Care Facilities
1020.6

ASME

~~The~~ American Society of Mechanical Engineers
Two Park Avenue
New York, NY 10016-5990

A13.1-~~2007~~2020: Scheme for the Identification of Piping Systems
3509.3, 5003.2.2.1, 5303.4.3, 5503.4.5, 5703.5.2

A17.1-2019/CSA B44-~~2013~~19: Safety Code for Elevators and Escalators
508.1.6, ~~607.1~~604.2, 907.3.3, ~~1009.4~~1009.4.1

A17.3-~~2008~~*the edition as referenced in rule 4101:5-3-01 of the Administrative Code*: Safety Code for Existing Elevators and Escalators
1103.3.1, 1103.3.2

B16.18-~~2012~~2018: Cast Copper-Alloy Solder Joint Pressure Fittings
909.13.1

B16.22-~~2013~~2018: Wrought Copper and Copper-alloy Solder-joint Pressure Fittings
909.13.1

B31.1-~~2012~~2020: Power Piping
~~5003.2.2,~~ Table 5703.6.2

B31.3-~~2016~~2020: Process Piping
5003.2.2.2, Table 5703.6.2

B31.4-~~2012~~2019: Pipeline Transportation Systems for Liquids ~~Hydrocarbons~~ and ~~Other Liquids~~Slurries
Table 5703.6.2

B31.9-~~2011~~2020: Building Services Piping
Table 5703.6.2, 5703.6.3, 5703.6.11

BPVC-~~2010/2011 addenda~~2019: ASME Boiler and Pressure Vessel Code, (Sections I, II, IV, V & VI, VIII)
5003.2.1, 5303.2, 5303.3.2, 5503.2.6, 5503.4.3, 5503.7, 5704.2.13.1.5, 5806.3.1, 5806.4.1, 5806.4.8

~~ASSE~~ASSP

American Society of Safety ~~Engineers~~Professionals
~~1800 East Oakton Street~~520 N. Northwest Highway
~~Des Plaines, IL 60018~~Park Ridge, IL 60068

ANSI/~~ASSE~~ASSP Z359.1-~~2007~~*2019*~~: Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components, Part of t~~The Fall Protection Code
1015.6, 1015.7

Note: for copyright claim information, please see the notice on the last page of this rule.

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

B42-~~20~~15a: Specification for Seamless Copper Pipe, Standard Sizes
909.13.1

B43-15: Specification for Seamless Red Brass Pipe, Standard Sizes
909.13.1

B68/B68M-11: Specification for Seamless Copper Tube, Bright Annealed (Metric)
909.13.1

B88-~~14~~16: Specification for Seamless Copper Water Tube
909.13.1

B251/B251M-~~10~~17: Specification for General Requirements for Wrought Seamless Copper and Copper-alloy Tube
909.13.1

B280-~~16~~18: Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service
909.13.1

D56-~~16~~16a: Test Method for Flash Point by Tag Closed Tester
202

D86-~~16~~17: Test Method for Distillation of Petroleum Products at Atmospheric Pressure
202

D92-~~12b~~18: Test Method for Flash and Fire Points by Cleveland Open Cup Tester
202, 2401.2, 5001.1, 5104.1.1, 5104.1.2, 5701.2

D93-~~16~~18: Test Method for Flash Point by Pensky-Martens Closed Up Tester
202

D323-~~08~~15A: Test Method for Vapor Pressure of Petroleum Products (Reid Method)
202

D2859-16: Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
804.3.3.1, 804.3.3.2

D3278-96(2011): Test Methods for Flash Point of Liquids by Small Scale Closed-cup Apparatus
202

D3699-98: Standard Specification for Kerosene
5706.9

E84-~~16~~18b: Standard Test Method for Surface Burning Characteristics of Building Materials
202, 803.1, ~~803.1.1~~, 803.1.2, ~~803.5.1~~803.3, 803.5.2, ~~803.6, 803.7~~, 803.10, 803.12, 803.13, ~~804.1~~, 804.1.1, 804.1.2, 804.2.4, 3305.9

E108-~~2011~~2017: Standard Test Methods for Fire Tests of Roof Coverings
317.2, 317.3

E648-17a: Standard Test Method for Critical Radiant Flux of Floor-covering Systems Using a Radiant Heat Energy Source
804.3.1, 804.3.2, 804.4

E681-~~15~~09(2015)*:* Test Method for Concentration Limits of Flammability of Chemicals (Vapors and Gases)
202

E1354-~~16~~17*:* Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter
304.3.2, 304.3.4, 318.1, 808.1, 808.2, 2310.5.3, ~~3304.2.3~~3305.2.3, 3305.9, 3603.4

E1529-~~13~~16el: Standard Test Method for Determining Effects of Large Hydrocarbon Pool Fires on Structural Members and Assemblies
~~5704.2.9.1.3~~5704.2.9.2.3

E1537-~~13~~16: Test Method for Fire Testing of Upholstered Furniture
805.1.1.2, 805.2.1.2, 805.3.1.2, 805.4.1.2

E1590-~~13~~17: Test Method for Fire Testing of Mattresses
805.1.2.2, 805.2.2.2, 805.3.2.2.1, 805.4.2.2

E1966-15*:* Standard Test Method for Fire-resistant Joint Systems
202

E2072-14*:* Standard Specification for Photoluminescent (Phosphorescent) Safety Markings
1025.4

E2404-~~15~~17*:* Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Polymeric (Including Vinyl) and Wood Wall or Ceiling Coverings Facing and Veneers to Assess Surface Burning Characteristics
803.5.1, 803.5.2, ~~803.6, 803.7,~~ 803.12

E2573-~~12~~17: Standard Practice for Specimen Preparation and Mounting of Site-fabricated Stretch Systems to Assess Surface Burning Characteristics
803.10

E2579-15: Standard Practice for Specimen Preparation and Mounting of Wood Products to Assess Surface Burning Characteristics
803.13

E3082-17: Standard Test Methods for Determining the Effectiveness of Fire-retardant Treatments for Natural Christmas Trees
806.1.4

F1085-~~10~~14: Standard Specification for Mattress and Box Springs for Use in Berths in Marine Vessels
805.3.2.2.2

F2006-~~10~~17: Standard/Safety Specification for Window Fall Prevention Devices for Non-emergency Escape (Egress) and Rescue (Ingress) Windows
1015.8

F2090-~~13~~17*:* Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms
1015.8, 1015.8.1, 1031.2.1

F2200-~~14~~17*:* Standard Specification for Automated Vehicular Gate Construction
503.5, 503.6

BHMA

Builders Hardware Manufacturers' Association
355 Lexington Avenue, 15th Floor

New York, NY 10017

A156.10-~~2011~~2017: ~~American National Standard for~~ Power-operated Pedestrian Doors
~~1010.1.4.2~~1010.3.2

A156.19-~~2013~~*2020*: ~~American National~~ ~~Standard for~~ Power Assist and Low-energy Power-operated Doors
~~1010.1.4.2~~1010.3.2

A156.27-~~2011~~2019: Power- and Manual-operated Revolving Pedestrian Doors
~~1010.1.4.1, 1010.1.4.1.1~~1010.3.1, 1010.3.1.1

A156.38-*2020*: Low-energy Power-operated Sliding and Folding Doors
1010.3.2

CA

State of California Department of Consumer Affairs
Bureau of Electronics and Appliance Repair, Home Furnishings and Thermal Insulation
4244 South Market Court, Suite D
Sacramento, CA 95834-1243

California Technical Bulletin 129-1992: Flammability Test Procedure for Mattresses for Use in Public Buildings
805.1.~~1~~2.2, 805.2.2.2, 805.3.2.2.1, 805.4.2.2

California Technical Bulletin 133-1991: Flammability Test Procedure for Seating Furniture for Use in Public Occupancies
805.1.1.2, 805.2.1.2, 805.4.1.2, *805.5.1, 805.5.2*

CGA

Compressed Gas Association
14501 George Carter Way, Suite 103
Chantilly, VA 20151

ANSI/CGA G-13-(~~2006~~2015): Storage and Handling of Silane and Silane Mixtures (an American National Standard)
6404.1, ~~6405.2~~6404.2, 6405.3

ANSI/CGA P-18-(~~2006~~2013): Standard for Bulk Inert Gas Systems
5501.1

C-7-(~~2011~~2014): Guide to the ~~Preparation of Precautionary~~ Classification and Labeling ~~and Marking~~ of Compressed Gases ~~Containers~~
~~5303.4.3~~5303.4.2, 5503.4.2

P-1-(~~2000~~2015): Standard for Safe Handling of Compressed Gases in Containers
5305.7

S-1.1- (~~2011~~2011): Pressure Relief Device Standards - Part 1 - Cylinders for Compressed Gases
5303.3.2, 5503.2

S-1.2-(~~2005~~2009): Pressure Relief Device Standards - Part 2 - Cargo and Portable Tanks for Compressed Gases
5303.3.2, 5503.2

S-1.3-(2008): Pressure Relief Device Standards - Part 3 - Stationary Storage Containers for Compressed Gases
5303.3.2, 5503.2

V-1-(~~2005~~2013): Standard for Gas Cylinder Valve Outlet and Inlet Connections
3505.2.1

CGR

Coast Guard Regulations
c/o Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402-9325

46 CFR Parts 30, 32, 35 & 39-1999: Shipping
5706.8

CPSC

Consumer Product Safety Commission
4330 East-West Highway
Bethesda, MD 20814

16 CFR; 1500.41-2009: Method ~~of~~for Testing Primary Irritant Substances
202

16 CFR; 1500.42-2009: Test for Eye Irritants
202

16 CFR; 1500.44- 2009: Method for Testing Extremely Flammable and Flammable Solids
202

~~**16 CFR Part 1500-2009: Hazardous Substances and Articles; Administration and Enforcement Regulations**~~
~~202~~

16 CFR Part 1630-2007: Standard for the Surface Flammability of Carpets and Rugs
804.3.3.1, 804.3.3.2

CSA

CSA Group
8501 East Pleasant Valley Road
Cleveland, Ohio 44131

ANSI Z21.69/CSA 6.16-2015 Connectors for Movable Gas Appliances
319.5, 606.4

ANSI Z83.26/CSA 2.37-2014 Gas-fired Outdoor Infrared Patio Heaters
605.5.2.2.1

CSA FC1-2012 Stationary Fuel Cell Power Systems
1206.3

CSA/ANSI NGV 2-2016 Compressed Natural Gas Vehicle Fuel Containers
319.9.1.3

CSA/ANSI NGV 5.1-2016 Residential Fueling Appliances
2308.2.3

CSA/ANSI NGV 5.2-2017 Vehicle Fueling Appliances
2308.2.4

DOC

U.S. Department of Commerce
1401 Constitution Avenue, NW
Washington, DC 20230

16 CFR Part 1632-~~2009~~2015: Standard for the Flammability of Mattress and Mattress Pads (FF 4-72, Amended)
805.1.2.1, 805.2.2.1, 805.3.2.1, 805.4.2.1

DOL

U.S. Department of Labor
c/o Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402-9325

29 CFR Part 1910.1000-~~2014~~2015: Air Contaminants
202, 2104.2.1

29 CFR Part 1910.1200-~~2009~~2015: Hazard Communication
202, 5603.6

DOTn

U.S. Department of Transportation
Office of Hazardous Material Safety
1200 New Jersey Avenue SE
East Building, 2nd floor
Washington, DC 20590

33 CFR Part 154-~~1998~~2015: Facilities Transferring Oil or Hazardous Material in Bulk
5706.8

33 CFR Part 155-~~1998~~2015: Oil or Hazardous Material Pollution Prevention Regulations for Vessels
5706.8

33 CFR Part 156-~~1998~~2015: Oil and Hazardous Material Transfer Operations
5706.8

49 CFR Part 172-~~2009~~2015: Hazardous Materials Tables, Special Provisions, Hazardous Materials Communications, Emergency Response Information and Training Requirements
5604.6.5.2, *5706.5.4.5*

49 CFR Part 173-2009: Shippers-General Requirements for Shipments and Packagings
5104.1.1, 5104.1.2, 5606.3

49 CFR Part 173.137-2009: Shippers-General Requirements for Shipments and Packagings: Class 8-Assignment of Packing Group
202

49 CFR Part 173.192-2006 Packaging for Certain Toxic Gases in Hazard Zone A
Table 5003.8.2

49 CFR Part 178-2015 Specifications for Packagings
3505.4

49 CFR Parts 100-185-2015: Hazardous Materials Regulations
202, 3505.4, 5303.2, 5503.4.3, 5503.7, 5601.1, *5601.3,* 5706.5.1.15

49 CFR-1998: Transportation
5616.3.1

DOTy

U.S. Department of Treasury
c/o Superintendent of Documents
~~U.S. Government Printing Office~~

Washington, DC 20402-9325

27 CFR Part 555 ~~1998~~2015: Commerce in Explosives, as amended through April 1, 1998
202, 5604.6.5.2

EN

European Committee for Standardization (EN)
Central Secretariat
Rue de Stassart 36
B-10 50 Brussels

European Standard EN 1081 1998: ~~1998~~ Resilient Floor Coverings-Determination of the Electrical Resistance
2309.5.1.1

FCC

Federal Communications Commission
Wireless Telecommunications Bureau (WTB)
445 12th Street SW
Washington, DC 20554

47 CFR Part 90.219-~~2007~~2014: Private Land Mobile Radio Services-Use of Signal Boosters
~~510.5.4~~510.5.5

FM

~~Factory Mutual Global Research~~
~~Standards Laboratories Department~~
~~1301 Atwood Avenue, P.O. Box 7500~~
~~Johnston, RI 02919~~
FM Approvals
Headquarters Office
1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062

4430-2012: Approval Standard for Heat and Smoke Vents
910.3.1

ANSI/FM 4996-~~13~~2019: Approval Standard for Classification of Pallets and Other Material Handling Products as Equivalent to Wood Pallets
315.7.5, 3206.4.1.1

ICC

International Code Council, Inc.
500 New Jersey Avenue, NW
6th Floor
Washington, DC 20001

ICC 300-~~12~~17: Standard on Bleachers, Folding and Telescopic Seating and Grandstands
~~1029.1.1, 1029.16~~ 1030.1.1, 1030.17

ICC 500-20: ICC/NSSA Standard on the Design and Construction of Storm Shelters

1031.2

ICC A117.1-09 Accessible and Usable Buildings and Facilities (for alterations and change of occupancy)
907.5.2.3.3, 1009.8.2, 1009.9, 1009.11, 1010.2.13.1, 1013.4, 1023.11

ICC~~/ANSI~~ A117.1-~~09~~17: Accessible and Usable Buildings and Facilities *(for new construction and additions)*
907.5.2.3.3, 1009.8.2, 1009.9, 1009.11, 1010.2.13.1, ~~1012.1, 1012.6.5, 1012.10,~~ 1013.4, 1023.11~~1010.1.9.7~~

IEBC-~~15~~21: International Existing Building Code
1011.5.2, 1103.1, 1104.18, 1105.5.2

IFGC-~~15~~21: International Fuel Gas Code
201.3, ~~603.1~~605.1, ~~603.1.2~~605.2.1.3, ~~603.6.2~~ 605.3, 605.6.2, ~~603.9~~605.8, 610.1.1, 1206.9, 2301.1, 2301.6, 2308.1, 2308.2.3, 2308.2.4, 2309.3.1.2, 2309.3.1.5, 2504.5, 3001.1, 3003.1, 3004.1, 3004.2, ~~3104.15.1~~3107.12.1, ~~3104.15.2~~3107.12.2, ~~3104.16.1~~3107.13.1, ~~3303.1,~~ ~~3303.3~~3304.3, ~~3306.2.1~~3307.2.1, Table 5003.1.1(1), 5301.1, 5801.1, 5803.1.4, 6103.1, 6103.2.1.7, 6103.3

IPMC-~~15~~21: International Property Maintenance Code
~~*118.3.8*~~*121.3.8*, 311.1.1

IWUIC-~~15~~21: International Wildland-Urban Interface Code
304.1.2

~~***IEC***~~

~~*International Electrotechnical Commission*~~
~~*3, rue de Varembe*~~
~~*PO Box 131*~~
~~*CH-1211 Geneva 20*~~
~~*Switzerland*~~

~~***IEC 60601-1-2: Medical Electrical Equipment***~~
~~*5705.5*~~

IIAR

International Institute of Ammonia Refrigeration
1001 N. Fairfax Street, Suite 503
Alexandria, VA 22314

ANSI/IIAR-2-2014, including Addendum A: ~~Equipment,~~Safe Design ~~and Installation~~ of Closed-circuit Ammonia ~~Mechanical Refrigerating~~Refrigeration Systems
~~606.12.1.1~~608.1.2, 608.9

ANSI/IIAR 6-2019: Standard for Inspection, Testing and Maintenance of Closed-circuit Ammonia Refrigeration Systems
608.1.2

ANSI/IIAR-7-~~2013~~2019: Developing Operating Procedures for Closed-circuit Ammonia Mechanical ~~Refrigerating~~Refrigeration Systems
~~606.12.1.1~~608.1.2

ANSI/IIAR-8-2020: Decommissioning of Closed-circuit Ammonia Refrigeration Systems
608.1.2

ANSI/IIAR-9-2020: Standard for Recognized and Generally Accepted Good Engineering Practices (RAGAGEP) for Existing Closed-circuit Ammonia Refrigeration Systems
608.1.2

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IKECA

International Kitchen Exhaust Cleaning Association
100 North 20th Street, Suite 400
Philadelphia, PA 19103

~~C10-2011~~ **ANSI/IKECA C10-2016~~:~~ Standard for the Methodology for Cleaning of Commercial Kitchen Exhaust Systems**
~~609.3.3.2~~606.3.3.2

ISO

International Organization for Standardization (ISO)
ISO Central Secretariat
1 ch, de la Voie-Creuse, Case postale 56
CH-1211 Geneva 20, Switzerland

ISO 8115-86: Cotton Bales-Dimensions and Density
Table 2704.2.2.1, Table 5003.1.1(1)

NEMA

National Electrical Manufacturer's Association
1300 North 17th Street, Suite ~~1752~~900
~~Rosslyn~~Arlington, VA 22209

250-~~2003~~2018: Enclosures for Electrical Equipment (1,000 Volt Maximum)
6005.2

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA ~~02269~~02169-7471

02-~~11~~20: Hydrogen Technologies Code
1206.3, 1206.4, 2309.1, 2309.3.1.1, 2309.3.1.2, 2309.4, 2309.6, 2311.8, 2311.8.2, 2311.8.10, 2311.8.11, 5301.1, 5801.1

04-21: Standard for Integrated Fire Protection and Life Safety System Testing
901.6.2.1, 901.6.2.2

10-~~13~~18*21*: Standard for Portable Fire Extinguishers
308.1.4, 308.1.4.1, Table 901.6.1, *906.1,* 906.2, Table 906.3(1), 906.3.2, Table 906.3(2), 906.3.4, 3006.3

11-~~14~~16*21*: Standard for Low-, Medium- and High-expansion Foam
904.7, ~~5704.2.9.1.2~~5704.2.9.2.2

12-~~15~~18*22*: Standard on Carbon Dioxide Extinguishing Systems
Table 901.6.1, 904.8, ~~904.12~~904.13, 1207.5.5

12A-~~15~~18*22*: Standard on Halon 1301 Fire Extinguishing Systems
Table 901.6.1, 904.9

13-~~16~~19*22*: Standard for the Installation of Sprinkler Systems
903.3.1.1, 903.3.2, 903.3.8.2, 903.3.8.5, ~~904.12~~904.13, 905.3.4, 907.6.4, 914.3.2, 1019.3, 1103.4.8 3201.1, 3204.2, 3205.5, Table 3206.2, 3206.4.1, ~~3206.9~~3206.10, 3207.2, 3207.2.1, 3208.2.2, 3208.2.2.1, 3208.4, ~~3210.1,~~ 3401.1, 5104.1, 5104.1.1, 5106.5.7, *5622.2.1.3, 5622.3.1.1,* 5704.3.3.9, Table 5704.3.6.3(7), 5704.3.7.5.1, 5704.3.8.4

13D-~~16~~19~~22~~: Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes
903.3.1.3

13R-~~16~~19~~22~~: Standard for the Installation of Sprinkler Systems in Low-rise Residential Occupancies
903.3.1.2, 903.3.5.2, 903.4

14-~~16~~19: Standard for the Installation of Standpipe and Hose Systems
905.2, 905.3.4, 905.4.2, 905.6.2, 905.8

15-~~12~~17: Standard for Water Spray Fixed Systems for Fire Protection
~~5704.2.9.1.3~~ 1207.5.5, 5704.2.9.2.3

16-~~15~~19: Standard for the Installation of Foam-water Sprinkler and Foam-water Spray Systems
904.7, ~~904.12~~904.13

17-~~17~~21: Standard for Dry Chemical Extinguishing Systems
Table 901.6.1, 904.6, ~~904.12~~904.13

17A-~~17~~21: Standard for Wet Chemical Extinguishing Systems
Table 901.6.1, 904.5, *904.5.2,* ~~904.12~~904.13

20-~~16~~19~~22~~: Standard for the Installation of Stationary Pumps for Fire Protection
913.1, 913.2, 913.5.1

22-~~13~~18: Standard for Water Tanks for Private Fire Protection
507.2.2*, 918.4*

24-~~13~~19~~22~~: Standard for Installation of Private Fire Service Mains and their Appurtenances
507.2.1*, 918.4*, 2809.5

25-~~14~~20~~23~~: Standard for the Inspection, Testing and Maintenance of Water-based Fire Protection Systems
507.5.3, Table 901.6.1, ~~*901.6.3.1*~~*901.6.4.1*, 901.7, 904.7.1, 912.7, 913.5

30-~~15~~21: Flammable and Combustible Liquids Code
~~610.1~~607.1, 2301.*1,* 5001.1, *5701.1,* 5701.2, 5703.6.2, 5703.6.2.1, 5704.2.7, 5704.2.7.1, 5704.2.7.2, 5704.2.7.3.2, 5704.2.7.4, 5704.2.7.6, 5704.2.7.7, 5704.2.7.8, 5704.2.7.9, 5704.2.9.3, ~~5704.2.9.2~~5704.2.9.4, ~~5704.2.9.5.1.1~~5704.2.9.6.1.1, ~~5704.2.9.5.1.2~~5704.2.9.6.1.2, ~~5704.2.9.5.1.3~~5704.2.9.6.1.3, ~~5704.2.9.5.1.4~~5704.2.9.6.1.4, ~~5704.2.9.5.1.5~~5704.2.9.6.1.5, ~~5704.2.9.5.2~~5704.2.9.6.2, ~~5704.2.9.6.3~~5704.2.9.7.3, 5704.2.10.2, 5704.2.11.3, 5704.2.11.4.2, 5704.2.12.1, 5704.3.1, 5704.3.6, Table 5704.3.6.3(1), Table 5704.3.6.3(2), Table 5704.3.6.3(3), 5704.3.7.2.3, 5704.3.8.4, 5706.8.3

30A-~~15~~21: Code for Motor Fuel-dispensing Facilities and Repair Garages
2301.1, 2301.4, 2301.5, 2301.6, *2304.2, 2304.3, Table 2306.2.3,* 2306.6.3, 2310.1, *2312.1*

~~***30A-90: Code for Motor Fuel-Dispensing Facilities and Repair Garages***~~
~~*2304.2, 2304.3*~~

30B-~~15~~19: Code for the Manufacture and Storage of Aerosol Products
5101.1, 5103.1, 5104.1, Table 5104.3.1, Table 5104.3.2, Table 5104.3.2.2, 5104.3.3, 5104.4.1, 5104.5.2, 5104.6, 5104.8.2, ~~5106.2.3~~5106.2.2, 5106.2.4, 5106.3.2, Table 5106.4, 5106.5.1, 5106.5.6, 5107.1

31-~~16~~20: Standard for the Installation of Oil-burning Equipment
~~603.1.7, 603.3.2, 603.3.5~~ 605.1.6, 605.4.1, 605.4.~~3~~4

32-16: Standard for Dry Cleaning ~~Plants~~Facilities
2107.1, 2107.3

33-~~15~~18: Standard for Spray Application Using Flammable or Combustible Materials
~~2404.3.2~~2403.3.3

34-~~15~~18: Standard for Dipping, Coating and Printing Processes Using Flammable or Combustible Liquids
2405.3, 2405.4.1.1

35-~~11~~16: Standard for the Manufacture of Organic Coatings
2901.3, 2905.4

40-~~16~~19: Standard for the Storage and Handling of Cellulose Nitrate Film
306.2

45-~~04~~19: Standard on Fire Protection for Laboratories Using Chemicals ~~(2015 Edition)~~
~~319.1~~322.1, 3803.1.5, 3804.1.1.7, 3805.2.1, 3805.2.2

51-~~13~~18: ~~Standard for the~~ Design and Installation of Oxygen-fuel Gas Systems for Welding, Cutting and Allied Processes
3501.5, 3507.1, 3509.1

~~**51A-12: Standard for Acetylene Cylinder Charging Plants**~~
~~3508.1~~

52-~~13~~19: Vehicular Gaseous Fuel System Code
319.9.2, 5301.1

55-~~13~~20: Compressed Gases and Cryogenic Fluids Code
3508.1, 5301.1 ~~5307.3~~5307.4.2, 5501.1, 5801.1, 6301.1

56-~~12~~20: Standard for Fire and Explosion Prevention during Cleaning and Purging of Flammable Gas Piping Systems
~~3306.2.1~~3307.2.1

58-~~14~~20: Liquefied Petroleum Gas Code
319.8.3, *319.8.6,* ~~603.5.1.1,~~ 2311.5, 3903.6, 6101.1, 6103.1, 6103.2.1, *6103.2.1.1,* 6103.2.1.2, 6103.2.1.7, ~~*6103.2.1.1,*~~ 6103.2.2, 6104.1, *6104.2,* 6104.3.2, 6104.4, *6105.1,* 6105.2, *6106.1,* 6106.2, 6106.3, 6107.2, 6107.4, 6108.1, 6108.2, *6109.7,* 6109.11.2, *6109.13.1,* 6111.3, *6112.1*

59A-~~13~~19: Standard for the Production, Storage and Handling of Liquefied Natural Gas (LNG)
5301.1, 5501.1

61-~~17~~20: Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities
Table ~~2204.1~~2205.1

68-13: Standard on Explosion Protection by Deflagration Venting
911.1, 911.4, Table 2205.1

69-~~14~~19: Standard on Explosion Prevention Systems
911.1, 911.3, Table ~~2204.1~~2205.1

70-~~17~~20*23*: National Electrical Code
309.2, *319.17, 323.5,* ~~603.1.3, 603.1.7, 603.6.2~~ 603.1, 603.1.1, 603.2.1, 603.4, 603.4.1, 603.5, 603.8, ~~604.1.2~~, ~~605.3~~, ~~605.4~~, ~~605.9, 605.11, 606.16, 610.6, 610.7~~, 605.1.2, 605.1.6, 605.6.2, 607.6, 607.7, 608.17, 608.18, 904.3.1, 907.6.1, 909.12.2, 909.16.3, 910.4.6, 1006.2.2.4, 1010.2.9.2, *1103.11.1,* 1201.2, 1203.1.3, *1204.4, 1204.7,* 1205.1, *1205.1.1.1,* 1206.4, ~~1206.14~~*1206.13,* 1207.4.1, 1207.4.2, 1207.4.8, 1207.5.3, 1207.10.6, 1207.10.7.4, *1207.11,* 1207.11.5, ~~1207.11.10~~*1207.11.9,* 2006.3.4, 2104.2.3, 2108.2, 2203.4.1, 2203.5, Table ~~2204.1~~2205.1, 2301.5, 2305.4, 2308.8.1.2.4, 2309.2.3, ~~2309.6.1.2.4,~~ 2311.3.1, 2311.8.10, 2403.2.1, 2403.2.1.1, 2403.2.1.4, 2403.2.5, 2404.6.1.2.2, 2404.9.4, 2504.5, 2603.2.1, 2703.7.1, 2703.7.2, 2703.7.3, 2803.4, 2904.1, 3103.12.6.1, ~~3104.15.7~~, 3106.6, 3107.12.7, ~~3304.7~~3305.7, 3506.4, ~~5003.7.3~~, 4003.3.3, 4003.3.4, 4003.4, 5003.8.7.1, 5003.9.4, 5303.7.6, 5303.8, 5303.16.11, 5303.16.14, 5503.6, 5503.6.2, 5703.1, Table 5703.1.1, 5703.1.3, 5704.2.8.12, 5704.2.8.17, 5706.2.8, *5707.4.3,* 5803.1.5, 5803.1.5.1, 5807.1.10, 5906.5.5, 5906.5.6, 6109.15.1

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72-~~16~~19~~22~~: National Fire Alarm and Signaling Code
508.1.6, ~~604.2.4,~~ Table 901.6.1, 903.4.1, 904.3.5, 907.1.2, 907.2, 907.2.6, 907.2.9.3, ~~907.2.11~~907.2.11, ~~907.2.13.2~~907.2.13.2, 907.3, 907.3.3, 907.3.4, *907.5.2,* 907.5.2.1.2, 907.5.2.1.3.1, 907.5.2.1.3.2, 907.5.2.2, 907.5.2.2.5, 907.6, 907.6.1, 907.6.2, 907.6.6, *907.6.6.1,* 907.7, 907.7.1, 907.7.2, 907.8, 907.8.2, ~~907.8.5~~907.8.4, 917.1, *1009.6.~~3~~5.1,* 1103.3.2, 1203.2.4, 1207.5.4, 1207.6.1.2.3, 1207.6.1.2.4, Table 1207.7, 2810.11

76-16: Standard for the Fire Protection of Telecommunications Facilities
~~1207.1.2.1~~*1207.1.4.1*, 1207.2.1, 1207.3.1, 1207.3.7.1, 1207.4.1, 1207.5.1, 1207.5.2, 1207.5.3, 1207.5.5, Table 1207.6, 1207.6.2.3, Table 1207.7

77-14: Recommended Practice on Static Electricity
Table 2205.1

80-~~16~~19~~22~~: Standard for Fire Doors and Other Opening Protectives
~~703.1.3, 703.2,~~ 705.2, 706.1, ~~1010.1.4.3~~1010.3.3, ~~1032.2.2~~

85-~~15~~19: Boiler and Combustion System Hazards Code
Table ~~2204.1~~2205.1

86-~~15~~19: Standard for Ovens and Furnaces
3001.1

92-~~15~~18: Standard for Smoke Control Systems
909.7, 909.8

96-~~20~~21: Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations
606.2, 904.13

99-~~15~~21: Health Care Facilities Code
~~611.1~~603.1.2, 603.5.1.1, 609.1, ~~1105.5.2, 1105.10.1, 1105.10.2,~~ 1105.11.1, 1105.11.2, 1203.4.1, 1203.5.1, 5003.7.4, 5306.4, 5306.5

101-21: Life Safety Code *(only applies for Section 1030.6.2)*
1030.6.2

105-~~16~~19: Standard for Smoke Door Assemblies and Other Opening Protectives
~~703.1.2~~705.2, 706.1, 909.20.4.1

110-~~16~~19~~22~~: Standard for Emergency and Standby Power Systems
~~604.1.2, 604.4, 604.5,~~ 913.5.2, 913.5.3, 1203.1.3, 1203.4, 1203.5

111-~~16~~19~~22~~: Standard on Stored Electrical Energy Emergency and Standby Power Systems
~~604.1.2, 604.4, 604.5, 913.5.2, 913.5.3~~1203.1.3, 1203.4, 1203.5

120-~~15~~20: Standard for Fire Prevention and Control in Coal Mines
Table ~~2204.1~~2205.1

160-~~11~~21: Standard for the Use of Flame Effects Before an Audience
308.3.2, *5611.2, 5611.4, 5611.6, 5612.12.3, 5619.4.1.3*

170-~~15~~18: Standard for Fire Safety and Emergency Symbols
1025.2.6.1

204-~~15~~18: Standard for Smoke and Heat Venting
Table 901.6.1, 910.5.1, 910.5.2

~~211-16: Standard for Chimneys, Fireplaces, Vents and Solid Fuel-Burning Appliances~~
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232-17: Standard for the Protection of Records
3210.1.1

241-~~13~~19: Standard for Safeguarding Construction, Alteration and Demolition Operations
3301.1, 3303.2

253-~~15~~19: Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
804.3.1, 804.3.2, 804.4

260-~~13~~19: Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture
805.1.1.1, 805.2.1.1, 805.3.1.1, 805.4.1.1

261-~~13~~18: Standard Method of Test for Determining Resistance of Mock-up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes
805.1.1.1, 805.2.1.1, 805.3.1.1, 805.4.1.1

265-~~15~~19: Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Wall Coverings in Full Height Panels and Walls
803.5.1, 803.5.1.1, ~~803.5.1.2, 803.5.2, 803.6~~

286-~~15~~19: Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth
803.1, ~~803.1.2, 803.1.2.1, 803.5.1, 803.6, 803.7,~~ 803.1.1, 803.1.1.1, 803.3, 803.12, 803.13, 804.1.1, 804.2.4

289-~~13~~19: Standard Method of Fire Test for Individual Fuel Packages
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303-~~11~~~~12~~21: Fire Protection Standard for Marinas and Boatyards
3603.5, 3603.6, 3604.2

318-~~15~~18: Standard for the Protection of Semiconductor Fabrication Facilities
2703.16

326-~~10~~20: Standard for the Safeguarding of Tanks and Containers for Entry, Cleaning, or Repair
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385-~~12~~17: Standard for Tank Vehicles for Flammable and Combustible Liquids
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400-~~16~~19: Hazardous Materials Code
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407-17: Standard for Aircraft Fuel Servicing
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409-~~16~~22: Standard for Aircraft Hangars
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410-~~10~~20: Standard on Aircraft Maintenance
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484-~~15~~19: Standard for Combustible Metals
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495-~~13~~18: Explosive Materials Code
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498-~~13~~18: Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives
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505-~~13~~18: Fire Safety Standard for Powered Industrial Trucks, Including Type Designations, Areas of Use, Maintenance and Operation
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652-19: The Fundamentals of Combustible Dust
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654-~~17~~20: Standard for Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids
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655-~~12~~17: Standard for the Prevention of Sulfur Fires and Explosions
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664-~~17~~20: Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities
2203.1, 2203.5, Table ~~2204.1~~2205.1, 2805.3

701-~~15~~19: Standard Methods of Fire Tests for Flame-propagation of Textiles and Films
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703-~~15~~21: Standard for Fire Retardant-treated Wood and Fire ~~R~~retardant Coatings for Building Materials
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704-17: Standard System for Identification of the Hazards of Materials for Emergency Response
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720-15: Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment
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780-17: Standard for the Installation of Lightning Protection Systems
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853-20 Standard for Installation of Stationary Fuel Cell Power Systems
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855-20 Standard for the Installation of Stationary Energy Storage Systems
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914-~~10~~19: Code for Fire Protection of Historic Structures
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1124-06: Code for the Manufacture, Transportation, Storage and Retail Sales of Fireworks and Pyrotechnic Articles

5601.1.3, *5612.1, 5614.1.2, 5620.1.1, 5620.4, 5627.2.2, 5627.4.1.2, 5627.6, 5627.7.2, 1301:7-7-56 Appendix*

1124-22: Code for the Manufacture, Transportation, and Storage of Fireworks and Pyrotechnic Articles
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1125-~~12~~17: Code for the Manufacture of Model Rocket and High Power Rocket Motors
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1126-~~11~~21: Standard for the Use of Pyrotechnics Before a Proximate Audience
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1127-~~13~~18: Code for High Power Rocketry
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1221-19 Standard for the Installation, Maintenance and Use of Emergency Services Communications Systems
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2001-~~15~~1822: Standard on Clean Agent Fire Extinguishing Systems
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OBBS

Ohio Board of Building Standards
6606 Tussing Road
Reynoldsburg, Ohio 43068

OBC: Ohio Building Code
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10C-2016*:* Positive Pressure Fire Tests of Door Assemblies

~~1010.1.10.1~~1010.2.9.3

30-19~~95~~: Metal Safety Cans-with revisions through ~~July 2009~~June 2014

5003.9.10, 5005.1.10, 5705.2.4, 5707.2.1

58-~~96~~2018: Steel Underground Tanks for Flammable and Combustible Liquids-~~with revisions through July 1998~~
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80-2007: Steel Tanks for Oil-burner Fuels and Other Combustible Liquids-with revisions through ~~August 2009~~January 2014
~~610.2~~319.7.1, 605.4.2.1, 605.4.2.2, 607.2

87A-~~12~~2015: ~~Outline of Investigation for~~ Power-operated Dispensing Devices for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent-with revisions through June 2017
2306.8.1

142-2006: Steel Aboveground Tanks for Flammable and Combustible Liquids-with revisions through ~~February 12, 2010~~August 2014
~~610.2~~319.7.1, 605.4.1.1, 605.4.2.1, 605.4.2.2, 607.2, 2306.2.3

147B-05: Nonrefillable (Disposable) Type Metal Container Assemblies for Butane
6103.2.1.7.1

199E-2004: Outline of Investigation for Fire Testing of Sprinklers and Water Spray Nozzles for Protection of Deep Fat Fryers
~~904.12.4.1~~904.13.4.1

217-2015: Single and Multiple Station Smoke Alarms-with revisions through ~~April 2012~~ November 2016
~~907.2.11, 915.4.3~~ 907.2.11, 915.4.4

268-2016: Smoke Detectors for Fire Alarm Systems with revisions through July 2016
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294-~~2013~~2018: Access Control System Units-with revisions through ~~September 2010~~February 2015
~~1010.1.9.7, 1010.1.9.8, 1010.1.9.9~~ 1010.2.11, 1010.2.12, 1010.2.13.1, 1010.2.14

300-2005~~(R2010)~~: Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment-with revisions through ~~July 16, 2010~~December 2014
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300A-2006: Outline of Investigation for Extinguishing System Units for Residential Range Top Cooking Surfaces
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305-2012: Panic Hardware-with revisions through March 2017
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325-~~13~~2017: Standard for Door, Drapery, Gate, Louver and Window Operators and Systems-with revisions through ~~June 2013~~
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498A-2008: Current Taps and Adaptors-with revisions through June 2016
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499-~~05~~2014: Standard for Electrical Heating Appliances-with revisions through ~~February 2013~~February 2017
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647-1993: Standard for Unvented Kerosene-fired Room Heaters and Portable Heaters-with revisions through April 2010
605.5

710-2012: Exhaust Hoods for Commercial Cooking Equipment-with revisions through June 2018
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710B-2011: Recirculating Systems-with revisions through August 2014
~~609.2, 904.12~~ 606.2, 904.13

723-~~08~~2018: Standard for Test for Surface Burning Characteristics of Building Materials-~~with revisions through September 2010~~

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790-2004: Standard Test Methods for Fire Tests of Roof Coverings-with revisions through ~~October 2008~~October 2018
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791-2006: Standard for Residential Incinerators-with revisions through November 2014
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793-2008: Automatically Operated Roof Vents for Smoke and Heat-with revisions through ~~September 2011~~March 2017
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817-2015: Standard for Cord Sets and Power-supply Cords-with revisions through August 2018
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864-2014: Control Units and Accessories for Fire Alarm Systems-with revisions through ~~August 2012~~March 2018
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900-~~04~~2015: Air Filter Units ~~with revisions through February 2012~~
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924-2016: Standard for Safety Emergency Lighting and Power Equipment with revisions through ~~February 2011~~ May 2018
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971A-2006: Outline of Investigation for Metallic Underground Fuel Pipe
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1046-2010: Grease Filters for Exhaust Ducts-with revisions through April 2017
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5003.8.7.1, 5704.3.2.1.1

1313-~~93~~2015: ~~Standard for~~ Nonmetallic Safety Cans for Petroleum Products ~~with revisions through November 2012~~
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1315-~~95~~2017: ~~Standard for~~ Safety for Metal Waste Paper Containers ~~with revisions through September 2012~~
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1316-1994: Glass Fiber Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-gasoline Mixtures-with revisions through May 2006
5704.2.13.1.5

1363-~~07~~2018: Relocatable Power Taps ~~with revisions through September 2012~~
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1363A-2014: Outline of Investigation for Special Purpose Relocatable Power Taps
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1369-2018: Aboveground Piping Requirements
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1489-2016: Fire Resistant Pipe Protection Systems Carrying Combustible Liquids

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1778-2014: Uninterruptible Power Systems – with Revisions through October 2017
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1973-2018: Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications and Stationary Applications
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2200-2012: Stationary Engine Generator Assemblies-with revisions through ~~June 2013~~October 2015
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2201-2018: Standard for Carbon Monoxide (CO) Emission Rate of Portable Generators
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