New Fire Code for New York City


All materials, operations and facilities regulated by the Fire Code are subject to the new Fire Code provisions as of its effective date, except that installations lawfully existing on June 30, 2008, may, with certain exceptions, be maintained under the prior laws and regulations, even though they are not in compliance with the new Fire Code’s requirements.

The text of the new Fire Code, Frequently Asked Questions, an Inquiry Form and other informative material can be viewed by going to our website @ www.nyc.gov/fdny. Questions about the new Fire Code and rules may be submitted by the Fire Department using the Fire Code inquiry form on this website. You may also submit your inquiry in writing to: Code Revision Unit, Bureau of Legal Affairs, New York City Fire Department, 9 MetroTech Center, Brooklyn, NY 11201-3857

SECTION FC 102
APPLICABILITY

FC 102.1 Design and installation provisions. The design and installation provisions of this code shall apply to:

1. Facilities established and conditions arising on or after the effective date of this code.
2. Facilities and conditions not lawfully existing prior to the effective date of this code.
3. Facilities and conditions lawfully existing prior to the effective date of this code, except as otherwise provided in Section 102.3.

FC 102.2 Administrative, operational and maintenance provisions.

The administrative, operational and maintenance provisions of this code, including permit and certification requirements, shall apply to:

1. Facilities, operations, conditions, uses and occupancies established or arising on or after the effective date of this code.
2. Facilities, operations, conditions, uses and occupancies established or existing prior to the effective date of this code.

Operational requirements are those that relate to the operation and supervision of equipment and premises. Permits, supervision and certificate requirements, emergency preparedness plans, recordkeeping, prohibitions against smoking, and posting of signage are examples of operational requirements.

Maintenance requirements are those that relate to keeping equipment and premises in good working order and a safe condition. Housekeeping, servicing and periodic testing and inspection of equipment, and prevention and removal of obstructions to means of egress are examples of maintenance requirements.

FC 102.2.2 New permits and certificates. In any case where a provision of this code requires a permit or certificate for a facility, operation, condition, use or occupancy and no permit or certificate was previously required therefor pursuant to the New York City Fire Prevention Code, such facility, operation, condition, use or occupancy may be continued without such permit or certificate until July 1, 2009.
FC 102.3 Lawfully existing facilities and conditions. Facilities, or parts thereof, lawfully existing on the effective date of this code, as to which the design or installation of a facility would not be allowed or approved under this code may be continued in compliance with the New York City Fire Prevention Code and other laws, rules and regulations or permit conditions applicable at the time such facility was lawfully allowed or approved, and as such provisions may be amended from time to time. Manufacturing, storage, handling or use of materials in premises under conditions that would not be allowed or approved under this code, but which conditions lawfully existed in such premises on the effective date of this code, may be continued in compliance with the requirements of the New York City Fire Prevention Code and other laws, rules and regulations or permit conditions applicable at the time such condition was lawfully allowed or approved, and as such provisions may be amended from time to time.

Exceptions:

1. Facilities and conditions lawfully existing prior to the effective date of this code shall comply with the requirements of this code when specifically required by this code.

2. Facilities and conditions lawfully existing prior to the effective date of this code shall comply with the requirements of this code when the commissioner determines such facility or condition to constitute a life safety hazard.

3. Facilities and conditions existing prior to the effective date of this code shall comply with the requirements of this code when the part of the building, structure, facility or premises in which the facility is located or the condition exists undergoes a change in use or occupancy on or after such effective date.

4. Facilities and conditions existing prior to the effective date of this code shall comply with the requirements of this code when the part of the building, structure, facility or premises in which the facility is located or the condition exists, undergoes alteration, whether made voluntarily, or as a result of damage, deterioration or other cause, on or after such effective date.

FC 2702.1 Definitions

LABORATORY UNIT. An enclosed space of a minimum one-hour fire rated construction, designed or used as a non-production laboratory. Laboratory units may include one or more separate laboratory work areas, and accessory storage rooms or spaces within or contiguous with the laboratory unit, such as offices and lavatories.

SECTION FC 2706
NON-PRODUCTION CHEMICAL LABORATORIES

FC 2706.1 Scope. This section shall govern the storage, handling and use of laboratory chemicals in a non-production laboratory and accessory storage of laboratory chemicals in a storage room. The design and construction of non-production laboratories and accessory storage rooms for laboratory chemicals shall comply with the requirements of the construction codes, including the Building Code and the Mechanical Code.

FC 2706.2 General. Laboratory chemicals within a laboratory unit shall be stored, handled and used in accordance with this section and, except as otherwise provided in this section, NFPA 45 laboratory unit fire hazard class D requirements.

BC 419.5 Classification. Buildings or portions thereof occupied as a non-production laboratory may be classified as Group B occupancy. Non-production laboratories not in compliance with the laboratory chemical quantity limitations shall be classified as Group H occupancy.
APPLIES TO ALL LABORATORIES

FC 105.6 Required permits.

Laboratory units. A permit is required to store, handle or use hazardous materials in a laboratory unit in amounts exceeding 1 gallon (3.8 L) of flammable liquid, 1 gallon (3.8 L) of combustible liquid or 75 SCF (2.12 m³) of flammable gas.

NOTE: For reference purposes, there is 75 SCF of Hydrogen in a cylinder measuring 8.5” in diameter and 31” in height.

NOTE: The permit requirement for the indoor storage and use of cryogenic gases is 60 gallons, for nonflammable compressed gases the amount is 3000 SCF, for oxidizing gases it is 504 SCF, for flammable or corrosive gas the amount is 400 SCF and any amount of toxic gases.

FC 2706.5 Prohibitions. It shall be unlawful in any non-production laboratory or any accessory storage of laboratory chemicals in a storage room to:

1. Store, handle or use any explosive.
2. Store, handle or use any unclassified detonable organic peroxide, detonable pyrophoric material, detonable unstable (reactive) material or detonable water-reactive material.
3. Store, handle or use any Class 4 unstable (reactive) material.
4. Store, handle or use any Class 4 oxidizing material.
5. Store, handle or use below grade any flammable gas.
6. Use an open flame for heating or distilling any flammable solid, flammable liquid or flammable gas.

FC 2706.6.5 Water reactive material. The storage, handling and use of water reactive material within a laboratory unit shall not exceed 2.5 pounds (1.135 kg); 5 lbs if room is 2 hour rated.

FC 2706.6.6 Pyrophoric material. The storage, handling and use of solid or liquid pyrophoric material within a laboratory unit shall not exceed 0.5 pounds (0.227 kg); 1 lb if room is 2 hour rated.

FC 2706.6.7 Highly toxic material. The storage, handling and use of solid or liquid highly toxic material within a laboratory unit shall not exceed 5 pounds (2.27 kg).

FC 2706.6.8 Toxic material. The storage, handling and use of solid or liquid toxic material within a laboratory unit shall not exceed 250 pounds (113.5 kg).

FC 2706.6.9 Corrosive material. The storage, handling or use of solid or liquid corrosive material within a laboratory shall not exceed 250 gallons (946 L).

FC 2706.6.10 Highly toxic and toxic gases. It shall be unlawful to store, handle or use in any educational and instructional laboratory unit any combination of highly toxic and toxic gases in quantities that exceed 20 SCF.

FC 2706.9 Safety showers. Where more than 5 gallons (19 L) of corrosive liquid or flammable liquid are stored, handled or used, suitable facilities with fixed overhead or flexible hand-held showers shall be provided. Such shower shall be within 25 feet (7620 mm) of the laboratory unit and storage room door and shall be maintained in good working order, and readily accessible at all times.
FC 2706.10 Neutralizing or absorbing agents. Where more than 5 gallons (19 L) of corrosive liquids are stored, handled or used, a sufficient quantity of suitable neutralizing or absorbing agents shall be provided.

FC 2706.11 Curtains and drapes. Curtains and drapes installed in a laboratory unit shall comply with the flame resistance requirements of Chapter 8.

5.4 Means of Access to an Exit

5.4.1* A second means of access to an exit shall be provided from a laboratory work area if any of the following situations exist:

(5) A compressed gas cylinder larger than lecture bottle size, located such that it could prevent safe egress in the event of accidental release of cylinder contents.

(6) A cryogenic container located such that it could prevent safe egress in the event of accidental release of container contents.

Annex A Explanatory Material

A.5.4.1 A door to an adjoining laboratory work area or laboratory unit is considered to be a second means of access to an exit, provided that the laboratory unit is not of a higher fire hazard classification.

8.2 Basic Requirements

8.2.2* Laboratory units and laboratory hoods in which chemicals are present shall be continuously ventilated under normal operating conditions.

Annex A Explanatory Material

A.8.2.2 A minimum ventilation rate for unoccupied laboratories (e.g., nights and weekends) is four room air changes per hour. Occupied laboratories typically operate at rates of greater than eight room air changes per hour, consistent with the conditions of use for the laboratory. It is not the intent of the standard to require emergency or standby power for laboratory ventilation systems.

8.4 Exhaust Air Discharge

8.4.6 Chemical fume hood face velocities and exhaust volumes shall be sufficient to contain contaminants generated within the hood and exhaust them outside of the laboratory unit.

8.4.7* The fume hood shall provide containment of the possible hazards and protection for personnel at all times when chemicals are present in the hood.

Annex A Explanatory Material

A.8.4.7 Laboratory fume hood containment can be evaluated using the procedures contained in ASHRAE 110, Method of Testing Performance of Laboratory Fume Hoods. Face velocities of 0.4 m/sec to 0.6 m/sec (80 ft/min to 120 ft/ min) generally provide containment if the hood location requirements and laboratory ventilation criteria of this standard are met.

MC 407.1 General. Non-production chemical laboratories complying with the hazardous materials quantity limitations of the New York City Building Code shall provide a mechanical ventilation system in accordance with this code and NFPA 45, except that ducts constructed of combustible materials shall not be permitted.
8.5.10 Manifolding of Chemical Fume Hood and Ducts.

8.5.10.1 Exhaust ducts from each laboratory unit shall be separately ducted to a point outside the building, to a mechanical room, or to a shaft.

8.5.10.2 Connection to a common chemical fume hood exhaust duct system shall be permitted to occur within a building only in any of the following locations:

(1) Mechanical room
(2) Shaft protected in accordance with the chapter for protection of vertical openings of NFPA 101
(3) A point outside the building

8.5.10.3 Exhaust ducts from chemical fume hoods and other exhaust systems within the same laboratory unit shall be permitted to be combined within that laboratory unit.

8.81 Chemical Fume Hood Interiors

8.8.1.3* Chemical fume hoods shall be provided with a means of preventing overflow of a spill of 2 L (0.5 gallon) of liquid.

---

Annex A Explanatory Material

A.8.8.1.3 The means of containing minor spills might consist of a 6.4 mm (1/4 in.) recess in the work surface, use of pans or trays, or creation of a recess by installing a curb across the front of the hood and sealing the joints between the work surface and the sides, back, and curb of the hood.

8.8.5 Other Hood Services

8.8.5.2 In existing installations where service controls are within the hood, additional shutoffs shall be located within 15 meters (50 feet) of the hood and shall be accessible and clearly marked.

8.12 Identification of Chemical Fume Hood Systems

8.12.2 A sign shall be affixed to each hood containing the following information from the last inspection, or a properly maintained log of all hoods providing the following information shall be maintained:

(1) Inspection interval
(2) Last inspection date
(3) Average face velocity
(4) Location of fan that serves hood
(5) Inspector’s name

---

9.2.3 Storage

9.2.3.4 Containers of materials that might become hazardous during prolonged storage shall be dated when first opened.

9.2.3.4.1 At the end of 6 months, the material shall be evaluated or tested for continued safe use.

9.2.3.4.2 Material that is found to be safe or that can be treated to be made safe shall be permitted to be redated and retained for an additional 6-month period.
**FC 2703.9.8 Separation of incompatible materials.** Incompatible materials shall be separated while in storage or use except for stored materials in containers having a capacity of not more than 5 pounds (2 kg) or 0.5 gallon (2 L). Separation shall be accomplished by:

1. Segregating incompatible materials in storage by a distance of not less than 20 feet (6096 mm).
2. Isolating incompatible materials in storage by a noncombustible partition extending not less than 18 inches (457 mm) above and to the sides of the stored material.
3. Storing liquid and solid materials in hazardous material storage cabinets. Materials that are incompatible shall not be stored in the same cabinet.
4. Storing compressed gases in gas cabinets or exhausted enclosures. Materials that are incompatible shall not be stored within the same cabinet or exhausted enclosure.

**11.1.4 Special Ventilation Requirements for Gas Cylinders.**

11.1.4.1 Lecture bottle-sized cylinders of the following gases located in laboratory units shall be kept in a continuously mechanically ventilated hood or other continuously mechanically ventilated enclosure:

1. All gases that have health hazard ratings of 3 or 4
2. All gases that have a health hazard rating of 2 without physiological warning properties
3. Pyrophoric gases

11.1.4.2 Cylinders of all gases that are greater than lecture bottle size and have health hazard ratings of 3 or 4 and cylinders of gases that have a health hazard rating of 2 without physiological warning properties that are located in laboratory units shall meet both the following conditions:

1. Storage in approved continuously mechanically ventilated gas cabinets
2. Compliance with NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*

11.1.4.3 Cylinders of pyrophoric gases that are greater than lecture bottle size that are located in laboratory units shall be kept in approved continuously mechanically ventilated, sprinklered gas cabinets.

**11.1.5 Cylinder Safety.**

11.1.5.2.2 Where the source cylinder is outside of the laboratory, a station regulator and gauge shall be installed at the point of use to show outlet pressure.

**11.1.6 Cylinders in Use.**

11.1.6.5* The maximum internal volume (water volume) of all cylinders in each of the listed classifications, in use in the laboratory work area, shall comply with the following:

2.* Maximum quantity of oxidizing gases is as follows:

(a) For a laboratory work area of 500 ft² or less, the internal cylinder volume in scf equals 6.0.
(b) For a laboratory work area greater than 500 ft², the internal cylinder volume is 0.012 ft³ per ft² lab work area.

**Annex A Explanatory Material**

**A.11.1.6.5** Maximum quantities in 11.1.6.5(2) are doubled for sprinklered space.
Maximum quantity of health hazard 3 or 4 gases is as follows:

(a) For a laboratory work area of 500 ft² or less, the internal cylinder volume in scf equals 0.3.
(b) For a laboratory work area greater than 500 ft², the internal cylinder volume is 0.0006 ft³ per ft² lab work area.


13.1.1 Entrances to laboratory units, laboratory work areas, storage areas, and associated facilities shall be identified by signs to warn emergency response personnel of unusual or severe hazards that are not directly related to the fire hazard of contents.

Annex A Explanatory Material

A.13.1 Examples of severe or unusual hazards that might require posting of signs include the following:

(1) Unstable chemicals
(2) Radioactive chemicals
(3) Carcinogens, mutagens, and teratogens
(4) Pathogens
(5) High-pressure reactions
(6) High-powered lasers
(7) Water-reactive materials
(8) Cryogens

Use of the system presented in NFPA 704, Standard System for the Identification of the Hazards of Materials for Emergency Response, which might be suitable for flammable liquid storage cabinets or those laboratories containing a nearly constant chemical inventory, is not recommended for multichemical laboratories where the chemicals can change frequently.

Even where storage within a laboratory involves unusually high amounts of flammable or toxic or reactive materials (and hence calls for hazard identification), a lettered sign is generally more easily understood than a numerical designation. Hence, the NFPA 704 system is not recommended for laboratories in general.

FC 2703.7.1 Smoking. It shall be unlawful to smoke in the following locations, and "No Smoking" signs shall be provided in English as a primary language and in symbols complying with the requirements of Section 310:

1. In rooms or areas where hazardous materials are stored or used in open systems in amounts requiring a permit.
2. Within 25 feet (7620 mm) of outdoor hazardous material storage, handling and use areas, including dispensing areas.
3. Facilities or areas within facilities in which smoking has been entirely prohibited shall have "No Smoking" signs conspicuously placed at all entrances to the facility or area. Facilities or areas within facilities in which smoking is permitted in designated areas shall have signs indicating that smoking is permitted in designated areas only.
4. In rooms or areas where flammable or combustible hazardous materials are stored, handled or used.

13.3 Labeling of Containers.

13.3.1 Content identification, including precautionary information, shall be provided directly on all original and subsequent containers of hazardous chemicals, except those being used in ongoing experiments.
APPLIES TO ALL LABORATORIES AS OF JULY 1, 2009

FC 2706.4 Supervision. Non-production laboratory operations requiring a permit shall be under the personal supervision of a certificate of fitness holder. At least one certificate of fitness holder shall be present on each floor of the laboratory unit on which laboratory operations are being conducted while the laboratory is in operation. Additional certificate of fitness holders shall be provided as the commissioner may require as a condition of the permit. Accessory laboratory chemical storage rooms shall be under the general supervision of a certificate of fitness holder.

6.6.3* Emergency Plans.

6.6.3.1.1 Plans for laboratory emergencies shall be developed, which shall include the following:

(1) Alarm activation
(2) Evacuation and building re-entry procedures
(3) Equipment shutdown procedures or applicable emergency operation.
(4) Fire-fighting operations
(5) Non-fire hazards (poisons, corrosives, irritants, biohazards, radioactivity, etc)
(6) Information as required by the authority having jurisdiction to allow the emergency responders to develop response tactics.

Annex A Explanatory Material

A.6.6.3 An emergency response plan should be prepared and updated. The plan should be available for inspection by the authority having jurisdiction, upon reasonable notice. The following information should be included in the emergency plan:

(1) The type of emergency equipment available and its location
(2) A brief description of any testing or maintenance programs for the available emergency equipment
(3) An indication that hazard identification marking is provided for each storage area
(4) Location of posted emergency response procedures
(5) Material safety data sheets (MSDSs) for all hazardous materials stored on the site
(6) A list of responsible personnel who are designated and trained to be liaison personnel for the fire department; these individuals should be knowledgeable in the site emergency response procedures and should aid the emergency responders with the following functions:
   (a) Pre-emergency planning
   (b) Identifying where flammable, pyrophoric, oxidizing, and toxic gases are located
   (c) Accessing material safety data sheets
(7) A list of the types and quantities of compressed and liquefied gases normally at the facility
APPLIES TO NEW LABS, NEW EQUIPMENT OR EXISTING LABS THAT CHOOSE TO OPT IN TO THE NEW CODE

5.4.1 Means of Access to an Exit

5.4.1* A second means of access to an exit shall be provided from a laboratory work area if any of the following situations exist:

(3) A laboratory work area within a Class B, Class C, or Class D laboratory unit exceeds 1000 ft².
(4) A hood in a laboratory work area is located adjacent to the primary means of exit access.

5.4.4 Emergency lighting facilities shall be provided for any laboratory work area requiring a second means of access to an exit.

Annex A Explanatory Material

A.5.4.1 A door to an adjoining laboratory work area or laboratory unit is considered to be a second means of access to an exit, provided that the laboratory unit is not of a higher fire hazard classification.

6.2.1 Automatic Sprinkler Systems

6.2.2.1 Automatic sprinkler system protection shall be required for all new laboratories in accordance with the following:

(2) Automatic sprinkler protection for Class C and Class D laboratories shall be in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems, for ordinary hazard (Group 1) occupancies.

BC 419.6.1 Sprinkler system. Laboratory units shall be provided throughout with an automatic sprinkler system. The entire building shall be provided throughout with an automatic sprinkler system when the aggregate floor area of all laboratory units within any building exceeds 20,000 square feet.

6.3 Standpipe and Hose Systems

6.3.1 In all laboratory buildings that are two or more stories above or below grade level (level of exit discharge), standpipes shall be installed in accordance with NFPA 14, Standard for the Installation of Standpipe and Hose Systems.

BC 419.6.3 Fire alarm system. A manual fire alarm system shall be installed.

8.4 Exhaust Air Discharge

8.4.6 Chemical fume hood face velocities and exhaust volumes shall be sufficient to contain contaminants generated within the hood and exhaust them outside of the laboratory unit.

8.4.7* The fume hood shall provide containment of the possible hazards and protection for personnel at all times when chemicals are present in the hood.
A.8.4.7 The chemical fume hood exhaust airflow should not be reduced to less than 25 ft³/min/ft² of internal hood work surface even when the sash is fully closed.

8.8.4* Electrical Devices

8.8.4.1 In installations where services and controls are within the hood, additional electrical disconnects shall be located within 50 ft of the hood and shall be accessible and clearly marked.

Annex A Explanatory Material

A.8.8.4 Locating services, controls, and electrical fixtures external to the hood minimizes the potential hazards of corrosion and arcing.

8.8.5 Other Hood Services

8.8.5.1.1 For new installations or modifications of existing installations, controls for chemical fume hood services (gas, air, water, etc.) shall be located external to the hood and within easy reach.

8.8.7 Measuring Device for Hood Airflow

8.8.7.1 A measuring device for hood airflow shall be provided on each chemical fume hood.

10.1 Quantity Limitations

10.1.2 Quantities of flammable and combustible liquids, including liquids in laboratory units located in health care occupancies, shall not exceed those specified for a Class D laboratory unit.

FC 2706.6.1 Flammable and combustible liquids. The density and total quantity of flammable and combustible liquids allowed within a laboratory unit, excluding storage rooms, shall be in accordance with Table 10.1.1 of NFPA 45 for laboratory unit fire hazard class D.

Exceptions. For laboratory units other than educational or instructional laboratories pursuant to NFPA 45:

1. The density of flammable and combustible liquids allowed within a laboratory unit may be increased to those set forth in Table 10.1.1 of NFPA 45 for laboratory unit fire hazard class B provided the total quantity of flammable and combustible liquid, including any in storage cabinets or safety cans, does not exceed 25 gallons.

2. The density of flammable and combustible liquids allowed within a laboratory unit may be increased to those set forth in Table 10.1.1 of NFPA 45 for laboratory unit fire hazard class B provided the total quantity of flammable and combustible liquid, including any in storage cabinets or safety cans, does not exceed 30 gallons and the walls, floors and ceilings of the laboratory unit are separated from all adjoining areas by 2-hour fire rated construction.

3. The quantity of flammable and combustible liquids allowed within a laboratory unit, excluding quantities in storage cabinets or safety cans, may be increased to 100 gallons, and the total quantities of flammable and combustible liquids, including quantities in storage cabinets or safety cans, may be increased to 200 gallons provided the walls, floors and ceilings of the laboratory unit are separated from all adjoining areas by 2-hour fire rated construction.

NOTE: According to BC 419.7.1, a density of 1 gallon per 100 square feet shall be used.
3.3.31 **Instructional Laboratory Unit.** A laboratory unit used for education past the 12th grade and before post-college graduate level instruction for the purposes of instruction of six or more persons for four or more hours per day or more than 12 hours per week. Laboratory units used for graduate or post-graduate research are not to be considered instructional laboratory units.

**Table 10.1.1**

<table>
<thead>
<tr>
<th>Lab Unit Fire Hazard Class</th>
<th>Flammable and Combustible Liquid Class</th>
<th>Excluding Quantities in Storage Cabinets</th>
<th>Including Quantities in Storage Cabinets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Max Qty/100 ft² of Lab Unit</td>
<td>Max Qty per Lab Unit</td>
</tr>
<tr>
<td>D</td>
<td>I</td>
<td>1 gal</td>
<td>75 gals</td>
</tr>
<tr>
<td>D</td>
<td>I, II and IIIA</td>
<td>1 gal</td>
<td>75 gals</td>
</tr>
<tr>
<td>B</td>
<td>I</td>
<td>5 gals</td>
<td>300 gals</td>
</tr>
<tr>
<td>B</td>
<td>I, II and IIIA</td>
<td>10 gals</td>
<td>400 gals</td>
</tr>
</tbody>
</table>

**FC 2706.6.2 Flammable solids.** The storage, handling and use of flammable solids within a laboratory unit shall be shall not exceed 10 pounds, (4.54 kg); 15 pounds if room is 2 hour rated.

**FC 2706.6.3 Oxidizers and organic peroxides.** The storage, handling and use of solid and liquid oxidizers and organic peroxides within a laboratory unit not exceed 40 pounds (18.16 kg), provided that not more than 2 pounds (0.908 kg) of such oxidizers are Class 3 oxidizers and not more than 1 pound (0.454 kg) of such peroxides are Class I organic peroxides; 50 pounds (and no more than 2 pounds Class 3 and 1 pound Class 1) if room is 2 hour rated.

**FC 2706.6.4 Unstable (reactive) material.** The storage, handling and use of unstable (reactive) material within a laboratory unit shall not exceed 6 pounds (2.724 kg), provided not more than 1 pound (0.454 kg) of such reactive material is Class 3 unstable reactive; 12 pounds (and no more than 1 pound Class 3) if room is 2 hour rated.

**Exception:** The total quantity of unstable (reactive) material allowed within a laboratory unit that is provided with walls, floors and ceilings that separate the laboratory unit from all adjoining areas by 2-hour fire rated construction shall not exceed 12 pounds (5.44 kg), provided not more than 1 pound (0.454 kg) of such reactive material is Class 3 unstable (reactive).

**Annex B Supplementary Definitions**

- Class I: Flashpoint below 100 degrees F
- Class II: Flashpoint at or above 100 degrees F and below 140 degrees F
- Class IIIA: Flashpoint at or above 140 degrees F and below 200 degrees F
FC 2706.8 Storage rooms. In addition to the quantities that may be stored, handled and used in a laboratory unit pursuant to Section 2706.6, chemicals for use in a laboratory unit may be stored in a dedicated storage room complying with the following requirements:

1. Storage room capacity shall not exceed a maximum of 300 gallons (1136 L) of chemicals or 5 gallons per square foot (204 L/m²) of floor area.
2. Flammable gas storage rooms shall not contain more than 2,500 SCF (70.8 m³) of flammable gas.
3. Chemicals that are incompatible with each other shall not be stored in the same storage room, unless in compliance with the requirements of this chapter.
4. Chemicals shall not be used within the storage room.

BC 419.9 Storage rooms. In addition to the quantities allowed within a laboratory unit by Section 419.7, laboratory chemicals that are accessory to a laboratory unit may be stored, whether outside of or entirely within a laboratory unit, in dedicated storage rooms complying with all of the following:

3. Storage rooms shall be enclosed by a minimum of 2-hour rated fire barriers.
4. Storage rooms shall be equipped with a continuously operated ventilation system that provides at least 6 changes of air per hour and vents to the outdoors.
5. Each entrance to the storage room shall be provided with a minimum 1½-hour rated self-closing fire door.
6. Each entrance to the storage room shall be provided with a sill at the doorway, except that no sill shall be required in storage rooms containing only flammable gases.
7. Storage rooms shall be equipped with an automatic sprinkler system providing at least one sprinkler for each 90 square feet or portion thereof.
9. Storage rooms shall not open directly to an exit or any enclosed exit access component.
10. The floor of any storage room storing flammable gases shall be located at or above grade.

BC 419.8 Storage room classification. Storage rooms for laboratory chemicals accessory to a laboratory unit shall be classified as occupancy group S-1. Storage rooms not in compliance with the laboratory chemical quantity limitations shall be classified as Group H occupancy.

FC 2701.5.2 Hazardous materials reporting. The storage of hazardous materials shall be reported as required by the New York State General Municipal Law Section 209-u. The commissioner may require an application for a permit pursuant to this code to include a copy of the current filing pursuant to such New York State General Municipal Law for the facility or premises for which a permit is sought.

11.1.6 11.1.6 Cylinders in Use.

11.1.6.3 A compressed gas cylinder shall be considered to be “in use” if it is in compliance with one of the following:

(1) Connected through a regulator to deliver gas to a laboratory operation
(2) Connected to a manifold being used to deliver gas to a laboratory operation
(3) A single cylinder secured alongside the cylinder described in item (1) as the reserve cylinder for the cylinder described in item (1)

11.1.6.4 Cylinders not “in use” shall not be stored in the laboratory unit.
11.1.6.5* The maximum internal volume (water volume) of all cylinders in each of the listed classifications, in use in the laboratory work area, shall comply with the following:

(1)* Maximum quantity of flammable gases is as follows:

(a) For a laboratory work area of 500 ft² or less, the internal cylinder volume in scf equals 6.0.
(b) For a laboratory work area greater than 500 ft², the internal cylinder volume is 0.012 ft³ per ft² lab work area.

(3)* Maximum quantity of liquefied flammable gases is as follows:

(a) For a laboratory work area of 500 ft² or less, the internal cylinder volume in scf equals 1.2.
(b) For a laboratory work area greater than 500 ft², the internal cylinder volume is 0.0018 ft³ per ft² lab work area.

Annex A Explanatory Material

A.11.1.6.5 Maximum quantities in 11.1.6.5(1) and 11.1.6.5(3) are doubled for sprinklered space.