

NYC Fire Code Requirements for NYC Public High School Laboratories



**UFT (NYC DOE) TRAINING
52 BROADWAY**

HISTORY

- 1959 = Fire Prevention Directive 8-59 addressed hazardous material storage and use in High School laboratories.
- 1966 = Fire Prevention Directive 1-66 addressed hazardous material storage and use in College and Hospital laboratories.
- 1973 = National Fire Protection Association (or NFPA) writes a Standard on Laboratories called NFPA 45 – NYC, however chooses not to adopt it – the standard will be eventually be revised 8 more times before NYC finally adopts it in 2008.

HISTORY (cont'd)

- 1985 = Fire Prevention Directive 1-66 is revised to address major concerns from the university and medical research laboratory community. Unfortunately the high school regulations are not revised at this time.
- 1992 = All Fire Prevention directives (basically pamphlets) are assembled into one book called the Rules of the City of New York. No revisions are made at this time.

HISTORY (cont'd)

- 2008 = NYC finally revises its outdated NYC Fire Prevention Code (calling it the 2008 NYC Fire Code). The Code is modeled after the International Fire Code.
- The Rules of the City of New York are also revised and are called the NYC Fire Rules. New regulations are written for all laboratories.
- The Fire Code and Rules allow for the “grandfathering” of design requirements of existing laboratories; however, all laboratories are required to comply with the maintenance and operational requirements of the new Fire Code as well as NFPA 45 (the 2004 edition).

HISTORY (cont'd)

- 2016 = The NYC Fire Rules are revised to include new maintenance and operational sections of the 2015 edition of NFPA 45.
- This 2015 edition of NFPA 45 was revised by NFPA in response to the US Chemical Safety Board's strong recommendations that in wake of recent educational laboratory fires and accidents, additional standards be adopted to prevent such mishaps.

FDNY PERMIT REQUIREMENTS

- A FDNY permit is required to store, handle or use:
- More than 1 gallon of flammable liquids
- More than 1 gallon of combustible liquids
- More than 75 standard cubic feet (75 scf) of flammable gases (equivalent to an 8.5" diameter by 31" tall compressed gas cylinder).

FDNY PERMIT REQUIREMENTS CONT'D

- Laboratories or storage rooms that do not have any of the materials previously mentioned will still require a hazardous materials permit if they store, handle or use any of the following hazardous materials in the following quantities:
- Pyrophorics = any amount
- Highly toxic materials = any amount
- Flammable Solids = 1 pound
- Oxidizing materials = 10 pounds
- Water reactives = 50 pounds
- Corrosive liquids = 55 gallons

FDNY PERMIT REQUIREMENTS CONT'D

- If a laboratory or storage room is storing, handling or using hazardous materials in excess of the quantities of hazardous materials just previously mentioned they may opt to obtain the standard laboratory or storage room permit (to avoid more the stringent requirements that come with the hazardous materials permit).
- There are no permit fees associated with public high school laboratories as the NYC DOE is a City Agency.

FDNY PERMIT REQUIREMENTS CONT'D

- A permit is issued after a satisfactory inspection of a laboratory or chemical storage room.
- Permits are sent out by mail after the inspector submits their satisfactory inspection report.
- Permits are renewable on an annual basis following a satisfactory renewal or re-inspection of the laboratory. Inspections are usually not scheduled in advance.

CERTIFICATE OF FITNESS REQUIREMENTS

- Laboratory operations and storage rooms requiring a permit shall be under the **personal** supervision of a certificate of fitness (or COF) holder. This person is usually a science teacher.
- At least one certificate of fitness holder shall be present on each floor of the laboratory unit room in which laboratory operations are being conducted while the laboratory is in operation.

COF REQUIREMENTS CONT'D

- Chemical Storage Rooms requiring a permit shall be under the **general** supervision of a certificate of fitness holder. This person is usually a lab specialist, however, schools with no lab specialist will require a science teacher to obtain this additional certificate.
- The process of obtaining a Certificate of Fitness will be discussed by Elsa Araya of our Department's Public Certification Unit.
- There is no fee associated with obtaining a Certificate of Fitness if you are a NYC employee.

Inspection Checklist

- Laboratories are limited to 15 gals of flammable or combustible liquids if the lab is non-sprinklered, 25 gal if the lab is sprinklered.
- Chemical storage rooms are limited to a total of 300 gals of chemicals at a maximum 5 gals of chemicals per square foot.
- Chemicals that form peroxides (such as ethyl ethers) must be labeled when first opened and tested for peroxide formation every six (6) months.
- Chemicals in danger of decomposition, unlabeled containers and chemicals whose expiration dates have exceeded should be properly and legally disposed of.

Inspection Checklist Cont'd

- Chemicals transferred to other containers in ½ pint size (8 oz) bottles or larger should always be properly labeled.
- No flammable liquids or compressed gases are allowed in below grade labs or storage rooms.
- Incompatible materials should be stored away from each other, preferably in different storage cabinets or shelves, if not by distance or within secondary containment if space is an issue.
- Safety showers are required if storage of flammable liquids or corrosives exceeds 5 gallons.
- Safety showers must be tested annually.

Inspection Checklist Cont'd

- Corrosive material should not be stored on metal shelving.
- Neutralizing agent is required when storing more than 5 gallons of corrosive liquids.
- MSDS sheets are required (in paper form in one central location or electronically).
- Laboratory sign on entrance door required (optional if concerned over “advertising” to students).
- Chemical storage room sign on chemical storage room door (optional if entrance from corridor)
- No smoking signs on entrance doors and within rooms (optional).

Inspection Checklist Cont'd

- Compressed gas cylinders must be secured and capped when not in use.
- Refrigerated flammable liquids must be stored in approved flammable liquid storage refrigerators.
- Refrigerators that are not approved for such flammable liquid storage should be properly labeled to prohibit such storage.
- Dry chemical fire extinguishers are required with a monthly (quick) check indicated on tag (in house custodial staff) and an annual (maintenance) inspection by a FDNY certified company also required (new tag).

Inspection Checklist Cont'd

- Fume hoods must operate within a face velocity of 80 fpm to 150 fpm. Fume hoods must be tested annually and labeled.
- Fume hoods should not be used as a storage cabinet.
- Storage of containers, boxes or equipment should not come within 18 inches of sprinkler heads or 2 feet from unprotected (non-sprinklered) ceilings.

Violations

- There are 3 types of violation documents issued by NYC Fire Department inspectors.
- The first type and most commonly issued violation document is the violation order or VO.
- Letter sized, hand written document, on pink paper
- 30 day time limit for compliance. We can extend compliance time if progress is shown upon reinspection.
- The VO is usually given to either the principal or the custodian depending on the type of violation.

Violations

- The second type of violation document is called a Notice of Violation or NOV.
- Legal sized, checklist style document with a white (respondent) copy and a gold (self-certification) copy.
- The NOV itself is usually delivered by the NYC Fire Department to the NYC Department of Education's city agency liaison.
- 35 days for compliance via self-certification to the Environmental Control Board or ECB. Extensions are also given should the violation require additional compliance time.
- A third type of violation document, a criminal court summons is reserved for imminent danger or threat to public safety violations.

QUESTIONS?

Thank you!

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Chief Inspector

Hazard Control Group

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