

Columbia University Health Sciences

Fire Safety

A. PURPOSE AND OBJECTIVES

- To provide appropriate information and training to all CUHSD staff as part of a continuing Fire Safety Prevention and Education Program.
- To assure the prompt reporting of a fire and the prompt initiation of fire safety procedures to safeguard life and contain fire until the arrival of the Fire Department.
- To establish a method of systematic safe and orderly evacuation of the area or building in case of fire or other emergency.

B. Fire Response Team(FRT)/Emergency Response Personnel

Duties and Responsibilities

SHIFT	FIRE SAFETY OFFICER	SECURITY	FACILITIES
Day 0800-1600 HRS.	<ol style="list-style-type: none"> 1. TOUR CHIEF 2. LIAISON WITH THE FDNY @ ENTRANCE AND ON THE FIRE FLOOR 	<ol style="list-style-type: none"> 1. LIAISON WITH FDNY @ ENTRANCE TO BUILDING 1. SECURE ELEVATOR FOR USE BY THE FRT AND THE FDNY 	<ol style="list-style-type: none"> 1. EVACUATION TEAM 2. INCIPIENT FIRE FIGHTING 3. CONFINEMENT TEAM 4. FLOOR ABOVE TEAM
Evening, Weekends & Holidays 1600-2400 HRS.	<p>Off Duty ON CALL 24HRS. PAGE FIRE SAFETY OFFICER THEN DIRECTOR OF EH&S DURING AN ACTUAL FIRE CONDITION</p>	<ol style="list-style-type: none"> 1. TOUR CHIEF* 2. SECURE ELEVATOR FOR USE BY THE FRT AND THE FDNY 	<ol style="list-style-type: none"> 1. EVACUATION TEAM 2. INCIPIENT FIRE FIGHTING 3. CONFINEMENT TEAM 4. FLOOR ABOVE TEAM
Nights 0000-0800 HRS.	<p>Off Duty ON CALL 24HRS. PAGE FIRE SAFETY OFFICER THEN DIRECTOR OF EH&S DURING AN ACTUAL FIRE CONDITION</p>	<ol style="list-style-type: none"> 1. TOUR CHIEF* 2. SECURE ELEVATOR FOR USE BY THE FRT AND THE FDNY 	<ol style="list-style-type: none"> 1. EVACUATION TEAM 2. INCIPIENT FIRE FIGHTING 3. CONFINEMENT TEAM 4. FLOOR ABOVE TEAM

Post-Fire Responsibilities

Post-Fire Responsibilities Environmental Health & Safety and Facilities Operations	<ol style="list-style-type: none"> 1. Smoke Ventilation. 2. Salvage and Repair activities. 3. Replacement of used Fire Extinguishers. 4. Re-hang Fire Hose if necessary
Security	<ol style="list-style-type: none"> 1. Control and Man Elevators as necessary during salvage Activities. 2. Re-Setting of any Fire Alarm Panel that was activated during fire emergency.
Facilities Operations, Building Services	<ol style="list-style-type: none"> 1. Housekeeping and Sanitizing activities.

C. TO REPORT A FIRE

To Report a Fire – Dial: 305-7979

**Dialing This Extension will Result in a
Fire Department Response**

D. FIRE PREVENTION

The most effective way of fighting fires is to prevent them from occurring. All Columbia University Health Sciences staff have a responsibility to contribute to the University's efforts to prevent fires. Personnel should neither create nor tolerate conditions that could cause or fuel a fire.

Fire Safety Training

Each employee or staff of Columbia University-HSD receives Fire Safety Training as part of their initial orientation program and annually thereafter. The training covers fire safety procedures as well as specific duties employees must perform upon discovering a fire, heat or smoke condition. The R.A.C.E. procedure is reviewed as well as use of portable fire extinguishers.

Fire Drills

To ensure appropriate response to a fire alarm, the University conducts drills at specific intervals. Drills involve the simulation of a fire in a particular area, with emphasis placed on evacuation from the hazardous area, activation of the alarm, and confinement of the fire. Detailed records of the drill are maintained by the Fire Safety Officer. Sites requiring quarterly Fire Drills will be contacted and arrangements will be made to conduct these drills at a time convenient to all concerned.

Method of Drill

The drills are conducted by the Fire Safety Officer. All on-duty staff are expected to participate in the drills. The Fire Safety Officer presents a simulated fire situation to an unsuspecting staff member, who is then expected to initiate the R.A.C.E. procedure.

The Fire Safety Officer uses these drills as a teaching tool for the staff and reviews appropriate procedures with all staff.

The Fire Safety Officer maintains an official record of each drill. The official drill report is reviewed by the Institutional Health and Safety Council.

Reports

Following each fire/smoke incident or fire alarm, a Fire Report is completed. Reports are periodically reviewed by the Institutional Health and Safety Council.

As taken from Rules City of New York (RCNY) Chapter 10-01, Chemical Laboratories

Certificates/Permits

A permit is required to maintain or operate a laboratory or storage room in which flammable gases, solids and liquids, explosive materials, oxidizing materials, and reactive materials are used in testing, research, experimental or instructional work. This permit will be issued by the Fire Commissioner after the location has been inspected and approved as acceptable for such practices. At least one Certificate of Fitness holder per floor must be on the premises while the laboratory is in operation. Additional Certificate of Fitness holders may be required by the Fire Commissioner in some laboratories. The Certificate of Fitness holders are responsible for making sure that all fire safety regulations and procedures are obeyed on the premises. All Permits and Certificates of Fitness must be posted so that they may be readily inspected by Fire Department Representatives.

Certificate of Fitness

Certificate of Fitness means a written statement issued by the Fire Commissioner certifying that the person to whom it was issued has passed an examination as to his qualifications to perform such work mentioned therein and that he has authority to perform such work during the term specified.

Chemicals Stored in Laboratories

One of the most important areas of concern is storage and handling of hazardous materials:

Chemicals stored and used in a laboratory can be placed into one of nine major categories according to its properties. A brief description of each of these categories is given below.

1. Flammable Liquid - Any liquid mixture, substance or compound which will emit a flammable vapor at a temperature below 100 degrees Fahrenheit when tested in a Tagliabue open cup tester (e.g., acetone, ethyl alcohol).
2. Combustible Liquid - Any liquid mixture, substance or compound which will emit a flammable vapor at a temperature above 100 degrees Fahrenheit when tested in a Tagliabue open cup tester (e.g., fuel oil).
3. Flammable Solid - A solid substance other than one classified as an explosive which is liable to cause a fire through friction, through absorption of moisture, through spontaneous chemical changes, or as a result of retained heat from manufacturing or processing (e.g., white phosphorous, nitrocellulose, metallic sodium and potassium, zirconium powder).

4. Oxidizing Material - A substance that yields oxygen readily to support combustion (e.g., potassium permanganates, sodium nitrate, hydrogen peroxide).
5. Flammable Gas - A gas that will form an explosive mixture upon concentration with air or that will ignite in air. Utility gas piped into a laboratory will not be considered as flammable gas for purpose of classification under these regulations.
6. Unstable (Reactive) Chemical - A substance, other than one classified as an explosive or blasting agent, that will vigorously and energetically react, is potentially explosive, will polymerize or decompose instantaneously, will undergo uncontrollable auto-reaction or can be exploded by heat, shock, pressure or combinations thereof. (e.g., organic peroxides, nitromethane, ammonium nitrate). Unstable chemicals may only be used when the laboratory has an explosion hazard control system installed.
7. Explosive Material - Any quantity of Class A, Class B or Class C explosive as classified by the D.O.T. and any other chemical compounds or mixtures thereof used as the propelling or exploding material in any cartridge or other explosive device.
8. Volatile Inflammable Oil - Any oil or liquid that will generate flammable vapor at a temperature below 100 degrees Fahrenheit when tested in a Tagliabue open cup tester. This refers to liquid products of coal tar, shale oil and petroleum. (e.g., xylol, toluol, gasoline, naphtha, benzene)
9. Corrosive Acid - Sulfuric, hydrochloric, nitric, etc.

Laboratory Safety Procedures

Containers used to store chemicals and gases must be clearly labeled. These labels must indicate the container's contents and the conditions under which the chemicals must be stored, including any expiration dates and shelf life. The Certificate of Fitness holder must periodically check the labels to make sure that they are still legible. When the label on a container is not legible and its contents cannot be identified, the Certificate of Fitness holder must treat its contents as hazardous. The Certificate of Fitness holder must then make arrangements to have the contents of the container disposed of in a safe manner.

After using a chemical, the Certificate of Fitness holder must make sure that it is returned to the original storage location. Care must also be taken to make sure that the chemicals are stored in sealed containers. These containers must be in good condition. When defective or damaged containers are discovered, they must be replaced promptly.

Materials Safety Data Sheets (MSDS) must be made readily available to laboratory staff and emergency personnel at all times. Each MSDS lists a chemical's characteristics and describes the precautions that should be taken when it is handled. The

MSDS may also provide information about the steps that should be taken in case of an emergency. The Certificate of Fitness holder must make sure that all MSDS are kept current and available at all times.

Bonding During Pouring Operations

The build up of static electricity is a potential source of ignition and must be avoided when transferring a flammable liquid from one metal container to another. This is achieved by running a bonding wire from one container to the other. It is also advisable to ground the entire operation. It is also advisable to reduce static electricity build up when transferring some liquids to a glass container (e.g., polar solvents). In this situation, the static electricity build-up should be limited by reducing the free fall distance of the liquid during the transfer. This is achieved by pouring the liquid through a funnel during the transfer. The funnel should be long enough so that it reaches the bottom of the glass container. As an added precaution, it is recommended that this type of transfer be done under controlled ventilation or in a fume hood when possible.

Handling of Acids and Bases

Special precautions must be taken when handling concentrated acids and bases due to their corrosive nature. A substance is considered acidic when it has a pH level less than seven. A substance is considered a base when it has a pH level greater than seven. When the pH level is exactly seven, the liquid is considered to be neutral. Care must be taken when mixing acids with water. The acid should be added to the water slowly. Do not add the water to the acid. Contact with skin or other sensitive tissues may cause severe burns. It is recommended that gloves, safety carriers, aprons and face shield be used when handling concentrated acids and bases. However, if contact with skin occurs the affected area should be flushed with water for at least 15 minutes. Then medical attention should be sought to treat the burn.

Incompatible Chemicals

Incompatible chemicals should not be allowed to come into contact with each other. Contact between incompatible chemicals can produce poisonous or flammable gases, explosions, or spontaneous ignition. Some examples of incompatible chemicals are shown in the table below. The chemicals in the right column should not be allowed to come in contact with the chemicals in the left column.

Acetone	Concentrated Acids, Nitric Acid, Perchloric Acid, Peroxides, and Permanganates
Alkali and Alkaline Earth Metals such as Sodium, Potassium,	Carbon Dioxide, Carbon Tetrachloride and other Chlorinated

Lithium, Magnesium,
Calcium, Aluminum

Hydrocarbons (also do
not use water or
foam on fires involving
the metals in the left column)

Acetylene
Copper, Silver, Fluorine,
and Mercury

Chlorine, Bromine,

Hydrogen Peroxide
most metals or their
salts, any flammable
liquid, combustible
materials, Aniline, or

Copper, Chromium, Iron,

Nitric Acid
Concentrated Caustics,
Chromic Acid, Hydrocyanic
Acid, Hydrogen Sulfide,
Flammable liquids and
gases, and Nitritable
substances

Acetic Acid, Aniline,

Oxygen
Flammable liquids, and
gases, Flammable solids

Oils, Grease, Hydrogen,

Fume Hoods and Exhaust Systems

Approved fume hoods and exhaust systems which are vented to the atmosphere must be installed to extract noxious odors, flammable and poisonous gases and radioactive materials from storage areas and laboratory units. In locations where perchloric acids, strong oxidizing agents or highly reactive chemicals are used the fume hood must be served by an independent duct. This system must vent to the atmosphere without coming into contact with the vapors and gases extracted using the other fume hoods. Fume hoods are to be vented at a minimum average face velocity of 100 feet per minute, with minimum face velocity at any point not less than 75 feet per minute. Washdown provisions are required in fume hoods in which perchloric acids are heated above room temperature. The Certificate of Fitness holder must make sure that these systems are maintained in good working order. The hoods are designed for use when working with chemicals and should not be used for the storage of chemicals.

Signs and Warning Placards

A list indicating the maximum amount of hazardous chemicals that may be stored in each laboratory unit must be posted at a designated emergency response station. This

list will be used by emergency personnel in case of a fire, explosion or other emergency. The list will allow the fire fighting personnel to adjust their fire fighting strategies for the premises. This list might also be reviewed by Fire Department representatives when conducting announced or unannounced inspections of the premises.

Wherever water reactive chemicals are stored, the Certificate of Fitness holder must make sure the sign below is posted:

In Case of Fire Do NOT Use Water

The sign shown below must be posted on the door to each chemical laboratory unit. The letters must be painted red on a white background.

**LABORATORY
POTENTIALLY HAZARDOUS SUBSTANCES**

Signs indicating that smoking is prohibited must be conspicuously posted inside storage rooms and laboratories. These signs must also be posted outside the entrances to these areas. Smoking is never permitted inside the laboratory or storage rooms. Signs must also be posted at the entrances to areas where flammable gases, explosives, or materials that react with water are used or stored. These signs must indicate the type and nature of these gases and materials.

Warning placards indicating the type and nature of materials and gases used or stored in an area must be posted at the entrances to such areas. For example warning placards must be posted when radioactive or biohazardous materials or poisonous gases are used or stored in an area.

All exits in the laboratories must be clearly marked with illuminated exit signs. The Certificate of Fitness holder must make sure that these signs are kept clearly visible at all times. The Certificate of Fitness holder must also make sure that all laboratory exits are kept free of obstructions at all times.

Storage Regulations

A limited amount of chemicals may be stored in each laboratory. The Certificate of Fitness holder must make sure that chemicals are stored under appropriate conditions. The table below describes the maximum laboratory storage limits. A classification list stating the maximum amount of chemicals which may be used or stored in each laboratory unit must be provided at a single designated response point for emergency response.

Lab Type	Fire Rating	Fire Protection	Flammable Liquids	Flammable Solids	Oxidizing Materials	Unstable Reactive
I	2 hours	Sprinklers	30 gals	15 lbs.	50 lbs.	12 lbs.
II	1 hour	Sprinklers	25 gals	10 lbs.	40 lbs.	6 lbs.
III	2 hours	No Sprinklers	20 gals	6 lbs.	30 lbs.	3 lbs.
IV	1 hour	No Sprinklers	15 gals	3 lbs.	20 lbs.	2 lbs.

General Storage Rules

1. Minimize the amount of chemicals stored in the laboratory. Store only those chemicals that are required.
2. Use safety cans to store flammables when possible.
3. Use approved fireproof storage cabinets for storing flammables that cannot be stored in flammable cans. These cabinets must be approved by OSHA's General Industry Standards for Flammable and Combustible Liquids.
4. Make sure all containers are properly labeled.
5. Do not store flammables where they are exposed to direct sunlight.
6. Periodically check that storage areas are adequately ventilated.
7. Do not fill closed lid containers to the top.

Storage Rooms

Each storage room must be constructed in a manner such that it has at least a 2-hour fire rating. An automatic exhaust and a sprinkler system must be installed in each storage room. All electrical equipment in all flammable liquid and all flammable gas storage rooms such as motor controllers, thermal cutouts, switches, relays, the switches and contactors of autotransformer starters, resistance or impedance devices or other devices which in their normal operation tend to create arcs, sparks, or high temperatures, shall not be installed unless such devices are of a type approved for use in explosive atmospheres. Lamps in fixed positions are to be enclosed in a manner approved for explosive atmospheres and must be properly protected by substantial metal guards where exposed to prevent being broken. Lamps cannot be of a pendant type unless the lamp is supported by hangers of rigid conduit or flexible connectors approved for explosive atmospheres. All rubber covered wires used must have insulation no less than three sixty-fourths of an inch thick.

Flammable Liquids

Generally, flammable liquids and volatile flammable oils (VFOs) are stored in metal containers. However, they may be stored in approved glass containers when there is a concern for maintaining the purity of the liquid. They may also be stored in glass containers when the liquid would cause the metal to corrode. The maximum capacity of these glass containers is one gallon. Containers used to store VFOs must be placed in steel storage cabinets.

Flammable Gases

Limited amounts of flammable gases may be stored in the laboratory when the gas is used for part of an ongoing operation only. Under NO circumstances may the flammable gases be used or stored below grade level. The flammable gases must be stored separately from chemicals, acids, and oxidizing agents. Flammable liquids, gases and solids must be protected against ignition sources. Do not expose the flammable liquids, gases or solids to open flames or extreme heat. The safest way to heat a flammable substance is to use a heat jacket. The table below indicates the maximum amount of flammable gases that may be stored in a laboratory.

Area of Laboratory	*Maximum Capacity
Up to 500 Sq. Ft.	9.24 Cu. Ft.
Per additional 100 Sq. Ft.	1.54 Cu. Ft.
Maximum per laboratory Unit	15.4 Cu. Ft.

*Water container capacity

Compressed Gases

Compressed gas cylinders are often used in the laboratory. All compressed gases are potential hazards because of the pressure within the cylinder, their flammability, and/or their toxicity. The Certificate of Fitness holder should know the potential hazards associated with compressed gases. He/she should also know how to administer first aid treatment in case of an emergency. Several safety procedures must be followed when dealing with compressed gases.

1. Cylinders must be secured in an upright position using a belt or a chain. In no case may the cylinder be secured to plumbing or electrical conduits. All cylinders are color-coded. This color code is used to identify the contents of the cylinder. Never change the color of the cylinder. The valve protection caps must be replaced when cylinders are not in use. Care must be taken when handling the cylinders to prevent physical damage. Cylinders should be transported using suitable hand-trucks and should never be rolled or dragged.
2. When cylinders are stored, they must be separated according to their contents. Full and empty cylinders must be stored separately. All cylinders must be tagged to indicate whether they are full or empty. Cylinders not in use should be removed from the laboratory. The number of cylinders used in the lab should be limited to minimize fire and toxicity hazards.
3. All work done using compressed gases should be conducted in well-ventilated areas.
4. Smoking is not permitted near stored gases.

5. The conditions of the cylinders, valves and related equipment must be checked regularly for leaks and physical damage. A soap and water solution test should be used to check for leaks. Leaking or defective cylinders must be replaced promptly.
6. All compressed gas cylinders must have passed a hydrostatic pressure test within the past 10 years.
7. No flammable gas cylinders may be stored or used below grade level without special approval from the New York City Fire Department.

Corrosive Acids and Bases

Area used to store corrosive acids must be carefully designed to make sure that spills of acid will not come into contact with bare metal or cellulosic materials with nitric acid. Strong organic acids should be stored separately from mineral acids. The perchloric acids must be stored in glass containers separated from the organic materials. Containers of sodium bicarbonate or other suitable neutralizing or absorbing agents must be provided in these storage areas. The can be poured onto acid spills to help neutralize and contain the spill. These agents must be positioned in a location that remains accessible at all times.

Strong acids must be stored separately from strong bases. Care must also be taken to make sure that the acids are not stored near substances which react with them to evolve heat, hydrogen or explosive gases.

When acids or flammable liquids are stored in excess of 5 gallons, special emergency showers must be installed within 25 feet of the laboratory door. The showers are designed to quickly drench the individual in case of emergency. The Certificate of Fitness holder must make sure the showers remain accessible and unobstructed at all times.

Water Reactive Chemicals

Water reactive chemicals must be stored in enclosures or receptacles that protect the chemicals from contact with water. It is essential that these materials are kept dry at all times and should not be stored directly under sprinkler heads.

Storage of Liquids Having a Flashpoint of Less than 100° Fahrenheit in Refrigerators

All storage of liquids having a flashpoint of less than 100 degrees Fahrenheit, when tested in a Tagilabue Open Cup Tester and if required to be stored in refrigerators, shall be stored in explosion proof refrigerators which have been approved by the Board of Standards and Appeals or Underwriters Laboratories. Such storage may be maintained in iceboxes cooled with dry ice. Where refrigerated room or walk-ins boxes are used, the shall be cooled by indirect refrigeration, and with the electrical equipment explosion proof.

Signs must be provided for all non-explosion proof type refrigerators in the laboratories that read as follows:

<p style="text-align: center;">STORE NO FLAMMABLE LIQUIDS FLASHING BELOW 100 DEGREES FAHRENHEIT</p>
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Organic Peroxides

These chemicals are hazardous because of their extreme sensitivity to shock, sparks, or other forms of accidental ignition. The following are examples of compounds that are know to form peroxides: ethers, aldehydes, and ketones. The presence of peroxides can be easily detected using Merkoquant Peroxide test strips.

Follow the manufacturer's recommendations for storing and handling peroxides. The peroxides should be stored at the lowest possible temperature consistent with solubility or freezing point. Never store a peroxide below its freezing point as its shock sensitivity will be increased. The peroxides must be stored in a location that will protect them from friction, grinding, and all forms of impact. This is especially important for solid peroxides

Use only the amounts of peroxides required to complete the task. Do not return the unused peroxides to the container. Caution must be used when mixing the peroxides. A ceramic or wooden spatula should be used during mixing. A metal spatula must never be used. Smoking, open flames, or other sources of ignition are not permitted near peroxides.

Electrical Equipment

The Certificate of Fitness holder must make sure that all electrical appliances are kept in good working order. When defects are discovered the appliance must be repaired or replaced immediately. All fixed electrical equipment used in "cold" rooms where flammable gases or liquids are used must be explosion proof.

Explosion Hazard Control Systems

The fire commissioner may require explosion hazard control systems to be installed in some locations. The type of system required is determined on an individual basis. The Certificate of Fitness holder must make sure that all explosion hazard control rules and regulations are obeyed in these areas.

Fire Prevention and Protection Systems

Several fire protection and fire prevention systems are required in all storage areas and laboratories. The Certificate of Fitness holder must make sure that these systems are maintained in good working order at all times. Some of these systems are briefly described below.

Fire Alarms

Generally, either smoke and/or heat detectors are used as fire alarm devices. They are designed to automatically sound the alarm when a fire is detected. An alarm will sound on the premises and a signal may be sent to a central monitoring station. The personnel at the central monitoring station will then notify the fire department. The smoke and heat detectors must be tested annually. These inspections must be conducted by persons holding a Certificate of Fitness for the maintenance and testing of smoke and heat detectors. During these inspections, the Certificate of Fitness holder will calibrate the smoke and heat detectors where necessary. An defective detectors that are discovered must be replaced immediately.

Sprinklers

Sprinkler systems are designed such that water is automatically discharged when a fire occurs. The system consists of an arrangement of piping connected to a reliable water supply. Sprinkler heads are installed at intervals along the piping. Under normal conditions, the sprinkler heads are kept in the closed position by a fusible link. The fusible link is designed to melt when the temperature in the room reaches an unsafe level. When the fusible link melts, water is forcefully discharged at a controlled rate onto the fire. The discharge of the water suppresses the fire and prevents it from spreading.

Standpipe System

Generally, a standpipe system is installed in or close to the laboratory or storage area. This system consists of a series of pipes and hoses that may be used to discharge water in case of a fire emergency.

Fire Extinguishers

Fire extinguishers must be provided in each laboratory and storage area. Such extinguishers shall be located so that no point shall be further than fifty feet from an

extinguisher. Generally, dry-chemical extinguishers are installed in laboratories and storage areas. These extinguishers are most effective when they are discharged at the base of the fire. However, the Fire Commissioner may require other types of extinguishers depending on the nature of the chemicals used in the laboratory.

The Certificate of Fitness holder must be familiar with the different types of fire extinguishers that are present. He/she must know how to operate the extinguishers in a safe and efficient manner. He/she must know the difference between the various types of extinguishers and when they should be used. A description of the three classes of fires and the appropriate extinguishers are described below.

Class A fires occur when ordinary combustible materials are ignited. For example, wood and paper fires are Class A fires. Water type extinguishers should be used to extinguish these fires. The water type extinguishers cool the fire while quenching the flame.

Class B fires occur when flammable liquids or greases are ignited. These fires must be extinguished by smothering the flame. The flame may be smothered using CO₂, dry chemical or foam extinguishers. Water type extinguishers are not effective for class B fires.

Class C fires occur when electrical equipment catches fire. These fires must be fought with fire extinguishers that do not conduct electricity. CO₂ and dry chemical extinguishers must be used to extinguish electrical fires. Foam and water type extinguishers must not be used to extinguish electrical fires.

Symbols may also be painted on the extinguisher. The symbols indicate what kind of fires the extinguishers may be used on.

Emergency Procedures

The Certificate of Fitness holder must activate the fire alarm and notify the Fire Department immediately when a fire or explosion is discovered. The Certificate of Fitness holder must know the telephone number of the Fire Department Borough Communication Office. The borough telephone numbers are listed below. These telephone numbers should also be posted near the telephones most likely to be used in case of an emergency.

In Case of an Emergency Call

Manhattan	(212)-999-2222
Bronx	(212)-999-3333
Brooklyn	(718)-999-4444
Queens	(718)-999-5555
Staten Island	(718)-999-6666

The Certificate of Fitness holder must wait at the emergency response station for the fire department personnel to arrive. He/she must answer any questions asked by the fire fighters when they arrive. For example the he/she must indicate the location of the fire and describe the type of fire protection devices available. He/she must also describe the types of chemicals stored on fire floor. The Bureau of Fire Prevention must be notified as soon as possible after the explosion or fire has occurred. The Bureau of Fire Prevention may require a detailed report on the causes and the consequences of the explosion or fire. Generally, this report must be filed within 10 days after the incident.

An evacuation plan must be established for each laboratory. The evacuation plan must also describe the procedures that must be followed when exiting the building during an emergency. The evacuation plan must take into consideration the hazardous nature of the chemicals stored and used in the building. Generally, several employees are required to supervise the evacuation operations (e.g., a fire drill conductor and the wardens). However, the Certificate of Fitness holder may aid in the evacuation procedures. Fire drills must be conducted at least once a year to familiarize employees with the evacuation procedures. Care must be taken to assess the effectiveness of the evacuation plan.

The Certificate of Fitness holder must know how to respond when an individual's clothing has caught fire. The correct procedure is to immediately roll the person on the floor to smother the flames. This will quickly extinguish the flames. Fire blankets, showers and fire extinguishers should only be used when they are immediately at hand.

Disposal of Chemicals

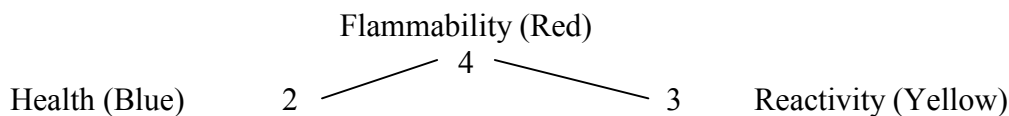
Old, unwanted, contaminated or unidentified chemicals must be disposed of in a manner consistent with New York City, New York State, and Federal Regulations. The Certificate of Fitness holder must make sure that these disposal regulations are obeyed.

Hazard Signal Arrangements

Flammable and combustible liquids are highly hazardous and require special handling. Fire and explosion are the hazards most commonly associated with flammable and combustible liquids. These hazards can occur when the vapors released from these liquid ignite. There are also acute and chronic health effects that can develop if flammable liquids come in contact with human tissue or are inhaled or ingested.

A simple classification system has been developed by the National Fire Protection Association (NFPA) that allows the flammability, reactivity, and health hazards associated with a material to be quickly identified. The classification system is referred to as the Hazard Signal Arrangement. This system uses the term "material" to represent all liquids, gases and solids. Under the classification system, each material is given three ratings that represent the material's flammability, health, and reactivity hazards (in that order). Each rating ranges from 0 to 4. The higher the hazard signal number, the greater the degree of hazard associated with the material. The hazard signals are also color-coded: red for flammability, blue for health, and yellow for reactivity. A hazard

classification sign may be posted on containers used to ship or store these materials. The classification numbers are always arranged in triangular fashion as shown in the diagram below.



Flammability Hazard

The flammability signal describes the conditions under which the material will burn. Brief descriptions of the degrees of flammability hazard are given below.

4 = Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature, or which are readily dispensed in air will burn readily.

3 = Materials that can be ignited under almost all ambient temperature conditions.

2 = Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

1 = Materials that must be preheated before ignition can occur.

0 = Materials that will not burn.

Electrical equipment poses a double threat. One threat is fire and the other is the threat of electrical shock. All equipment must be checked prior to use by the staff member handling the equipment. The operator should check for frayed wiring, grease build-ups, unusual odors or extreme heat when the equipment is turned on. If any of these conditions are noted, the equipment should be taken out of service immediately.

Smoking

Smoking is a major cause of fire. The following **Columbia University Smoking Policy** applies to all:

In recognition of the severe health risks associated with smoking, and in compliance with applicable laws, Columbia has adopted the following policy that restricts the right to smoke on its premises:

1. Smoking is prohibited in any indoor area at the University that is open to the public.
2. Smoking is prohibited in any enclosed work area for faculty, staff or students, except as provided in paragraph 7b. set forth below.

3. Smoking is prohibited in the following outdoor areas at the University:
 - a) Outdoor seating or viewing areas of sports arenas and recreational areas, such as those at Baker Field.
 - b) Outdoor dining areas of restaurants, such as those outside the Ferris Booth Hall and Uris dining facilities.
 - c) Outdoor seating or viewing areas where presentations/performances (i.e., motion pictures, concerts, theatre, lectures and dance) are to take place.
4. Smoking is prohibited in University vehicles used for shuttle-bus service for University faculty, staff or students and is prohibited in other University vehicles, unless all occupants agree that smoking may be permitted.
5. Without in any way limiting these general rules, smoking is specifically prohibited in the following areas at the University: auditoriums, classrooms, libraries, conference rooms, meeting rooms, day care centers, laboratories, storage areas, employee or student lounges, theaters, clubhouses, elevators, hallways, stairways, rest rooms, apartment buildings (other than in individual apartments, rooms or suites), seating or viewing areas of sports arenas and recreational areas, gymnasiums, swimming pools, health care facilities, employee or student medical facilities, rooms or areas containing photocopying or other equipment used by employees or students in common, food markets or other retail stores, restaurants, cafeterias and dining facilities (including the Faculty House), and bars or other places in which alcoholic or other beverages are served.
6. In any dispute under this policy, the health concerns of the non-smoking faculty, staff or student shall be granted priority.
7. The restrictions announced in this policy statement do not apply to:
 - a) Student bedrooms in University Residence Halls, which will be subject to the University Residence Halls policies with regard to smoking.
 - b) Private enclosed faculty, staff, or student offices which are usually occupied by no more than three persons provided that:
 - i. smoking prohibited whenever more than three persons are present even if each person to permit smoking;
 - ii. when between one and three persons are present, at least one of the persons present is the usual occupant, and each person present consents to permit smoking; and
 - iii. the office door is completely closed while anyone is smoking and remains closed for a reasonable period of time thereafter in order to minimize or eliminate the drift of second-hand smoke into smoke-free areas.
 - c) Individual apartments, rooms or suites in University off-campus apartment buildings.

8. The New York City Smoke Free Air Act of 1995 and University policy prohibit employer retaliatory adverse personnel action against employees or applicants for employment who exercise, or attempt to exercise, any rights under this policy which includes the right to refuse to enter a room while anyone is smoking. Any complaints or grievances claiming retaliation may be processed through the appropriate grievance procedures.
9. Also under the City Smoke Free Air Act of 1995, the University has an obligation to inform persons smoking in restricted areas that they are doing so. Certain employees have been designated in the various schools and departments who are responsible for informing persons who smoke in restricted areas that they are in violation of the law and University policy.
10. Questions, problems or complaints concerning smoking and this policy should, as much as possible, be resolved by the appropriate dean, vice president, director or department chairperson (or their delegates). Any employee having a question or problem of this nature should present it to his/her immediate supervisor. If the problem is not resolved at that level, the employee should present the matter to the department head, who will resolve the dispute in a manner consistent with the Policy. These officers or their delegates will have the responsibility in the first instance of enforcing the Policy in areas under their control. The Vice President for Human Resources through the Office of Environmental Health and Safety will have overall enforcement responsibility throughout the University, and can also provide advice about the University's Smoking Policy. Human Resources' Office of Employee and Labor Relations will assist with issues relating to employee and labor relations.

According to reports issued by the Surgeon General, smoking presents risks of certain cancers, coronary artery disease, emphysema, gastric ulcers, stroke and fetal injury. In general, smokers die from a variety of ailments at a rate twice as high as nonsmokers.

Smoking cessation programs are sponsored by and held at Columbia throughout the year. Because quitting smoking decreases most risks to health, and because most people who smoke would quit if they could, Columbia urges its affiliates to take advantage of all available programs.

E. WHAT TO DO WHEN DISCOVERING A FIRE OR SMOKE CONDITION

All personnel who discover a fire or smoke condition shall follow the R.A.C.E. procedure outlined below:

R Remove from danger anyone in the hazardous area

A Activate the alarm

- Activate a fire alarm pull station
- Dial the University fire telephone number*
- Give the operator your name and exact location of the fire

C Confine the fire

- Close the door to the effected room
- Close the door to all other rooms
- Close stairwell doors, smoke barriers

E Extinguish the fire, if possible by using the proper type of portable fire extinguisher

***To report a fire, dial 305-7979. Dialing this extension will result in a Fire Department Response**

F. WHAT TO DO WHEN HEARING A FIRE ALARM SIGNAL

Fire Alarms

The University is served and protected by an electronically supervised, coded fire alarm system, which consists of manual fire alarm stations, smoke detector and sprinkler systems.

Manual fire alarm boxes are strategically located throughout the University. These alarms are manually operated by pulling the handle down all the way and releasing. Activation of a station causes the building's fire alarm system to sound the coded signal of the alarm box activated and notifies the FDNY of the alarm condition.

Many laboratories, corridors, storerooms and other high risk areas are protected by an automatic sprinkler system. Activation of any of the sprinklers causes water to flow and the fire alarm to sound throughout the building and notified the FDNY.

Certain high-risk areas such as the HVAC system and corridor smoke barriers are equipped with smoke detectors. When a detector goes into alarm mode, the general alarm sounds throughout the building and the FDNY is notified.

In addition to the coded fire alarm system, each telephone can be used to call the University fire alarm system.

When Fire Alarms Sound

When the fire alarms sound throughout the University, all staff members shall determine the location of the alarm by counting the sequence of gongs and then checking the fire alarm chart for the location of the alarm. Fire alarm charts are located next to each fire alarm box. A copy of the chart is also included in this manual (see pages 207-220).

If the alarm originated from their unit, they are to immediately determine who pulled the alarm and why. If there is in fact a fire, they are to insure that the **R.A.C.E.** procedure is being followed.

If the alarm originated from another unit on the same floor, the supervisor may assign staff (when available) to respond to the adjacent unit to offer assistance while the remaining staff are to confine their unit by closing all doors. Attempts shall be made to keep all corridors clear and all doors closed.

If the alarm originated from another floor or building, the staff are to secure their units by closing all doors and keeping corridors clear.

G. FIRE ALARM CODES

The fire alarm bells ring in a code which identifies the fire alarm box pulled or the area where the automatic alarm has been activated. A copies of codes for each building/area for CUHSD are included on the following pages.

The bells ring in groups of two or three numbers and the entire sequence repeats four times. Short pauses appear between numbers in the code and longer pauses between repeats of the entire code.

In general, it is best not to begin counting when you first hear the bells. Wait until the first complete code finishes, then count the entire code during the repeat transmissions. Once you determine the code number, refer to the code card and find the alarm location. During the building evacuation, try to avoid stairwells that take you close to the fire location.

Atchley/Irving Pavilion
161 FORT WASHINGTON AVENUE

Fire Alarm Location: _____

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

To report a Fire by telephone dial 5-7979 or 6-4444

FLOOR	MER WEST	MER NORTH	STAIR "C"	STAIR "B"	STAIR "A"
SUB-BASEMENT	5-2	7-2	7-2-1	8-2	9-2
FLOOR	ELEVATOR LOBBY	STAIR "A"	STAIR "B"	STAIR "C"	
BASEMENT	5-1	7-1	8-1	9-1	
FLOOR	LOBBY	LOCKER RM NORTH			
1 ST	2-1	3-1			
FLOOR	STAIR "A"	STAIR "B"	ELEVATOR LOBBY		
2 ND	2-2	3-2	4-2		
3 RD	2-3	3-3	4-3		
4 TH	2-4	3-4	4-4		
5 TH	2-5	3-5	4-5		
6 TH	2-6	3-6	4-6		
7 TH	2-7	3-7			
8 TH	2-8	3-8			
9 TH	2-9	3-9			
10 TH	2-10	3-10			
11 TH	2-1-1	3-1-1			
12 TH	2-1-2	3-1-2			
13 TH	2-1-3	3-1-3			
14 TH	2-1-4	3-1-4	4-1-4		
ROOF	2-1-5				
MER		3-1-5			
SMOKE 10-1					
SPRINKLER 10-2;					

**Babies Hospital North
3959 BROADWAY**

Fire Alarm Location: _____

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

To report a Fire by telephone dial 5-7979 or 6-4444

FLOOR	STAIR "H"	SOUTH CORRIDOR	CENTER CORRIDOR
TUNNEL	7-1		
BASEMENT	6-1	6-2	
1 ST	2-1	3-1	
2 ND	2-2	3-2	
3 RD	2-3	3-3	
4 TH	2-4	3-4	
5 TH	2-5	3-5	
6 TH	2-6	3-6	
7 TH	2-7	3-7	
8 TH	2-8	3-8	
9 TH	2-9	3-9	
10 TH	2-10	3-10	
11 TH	2-1-1	3-1-1	
12 TH	2-1-2	3-1-2	
13 TH	2-1-3	3-1-3	4-1-3
Smoke 10-1			
SPRINKLER 10-2			

**Babies Hospital North Addition
3959 BROADWAY**

Fire Alarm Location: _____

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

To report a Fire by telephone dial 5-7979 or 6-4444

FLOOR	EAST	WEST	SOUTHWEST	NORTH
2 ND	1-2-2	1-2-3		
3 RD	1-3-2	1-3-3		
4 TH		1-4-3	1-4-2	1-4-1
4 TH		1-4-4		
Smoke 10-1				
SPRINKLER 10-2				

**Babies Hospital South
3959 BROADWAY**

Fire Alarm Location: _____

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

To report a Fire by telephone dial 5-7979 or 6-4444

FLOOR	STAIR “K”	STAIR “J”	NORTHEAST
SUB-BASEMENT	8-1	9-1	
BASEMENT	5-1	6-1	7-1
1 ST	2-1	3-1	
2 ND	2-2	3-2	4-2
3 RD	2-3	3-3	
4 TH	2-4	3-4	
5 TH	2-5	3-5	
6 TH	2-6	3-6	
7 TH	2-7	3-7	
8 TH	2-8	3-8	
9 TH	2-9	3-9	
10 TH	2-10	3-10	
11 TH	2-1-1	3-1-1	
12 TH	2-1-2	3-1-2	
13 TH	2-1-3	3-1-3	4-1-3
SMOKE 10-1			
SPRINKLER 10-2			

**William Black Building
650 WEST 168TH STREET**

**FIRE ALARM STATION _____
LOCATION _____**

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

Dial 5-7979 to report a fire by telephone

Floor	STAIR F	STAIR G	FAN ROOM	
Sub-Bsmnt	6-6	6-5	6-4	
Floor	Stair E		Stair F	Stair G
Basement	7-1		8-1	9-1
1ST FLOOR	4-1		2-1	3-1
Main Lobby	6-1	Balcony	5-2	
Auditorium	5-1	Stage Area	5-3	
2	4-2		2-2	3-2
3	4-3		2-3	3-3
4	4-4		2-4	3-4
5	4-5		2-5	3-5
7	4-7		2-7	3-7
8	4-8		2-8	3-8
9	4-9		2-9	3-9
10	4-3-1		2-3-1	3-3-1
11	4-1-1		2-1-1	3-1-1
12	4-1-2		2-1-2	3-1-2
14	4-1-4		2-1-4	3-1-4
15	4-1-5		2-1-5	3-1-5
16	4-1-6		2-1-6	3-1-6
17	4-1-7		2-1-7	3-1-7
18	4-1-8		2-1-8	3-1-8
19	4-1-9		2-1-9	3-1-9
20	4-3-2 (Roof)		2-3-2	3-3-2
21			2-2-1	3-2-1
22			2-2-2	3-2-2
Roof			2-2-3	3-2-3
Smoke 10-1 Sprinkler 10-2				

**EYE INSTITUTE
635 WEST 165TH STREET**

Fire Alarm Location: _____

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

To report a Fire by telephone dial 5-7979 or 6-4444

FLOOR	STAIR "B"	EAST CENTER	STAIR "A"	WEST CENTER
BASEMENT	8-1	6-1	7-1	5-1
1 ST	1-1	2-1		
2 ND	2-2		3-2	
FLOOR	STAIR "B"		STAIR "A"	
3 RD	2-3		3-3	
4 TH	2-4		3-4	
5 TH	2-5		3-5	
6 TH	2-6		3-6	
7 TH	2-7		3-7	
8 TH	2-8		3-8	
9 TH	2-9		3-9	
10 TH	2-10		3-10	
Smoke 10-1				
SPRINKLER 10-2				

**Eye Research Addition
160 FORT WASHINGTON AVENUE**

FIRE ALARM STATION _____
LOCATION _____

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

Dial 5-7979 to report a fire by telephone

Floor	Stair D	Stair C	M.E.R. East
Bsmnt	8-1	7-1	9-1
1	2-1	3-1	4-1
2	2-2 (Lobby)	3-2	
3	2-3	3-3	
4	2-4	3-4	
5	2-5	3-5	
6	2-6	3-6	
7	2-7	3-7	
8	2-8	3-8	
Penthouse		3-9	
Elevator Machine Room	2-10		
Smoke 10-1			
Sprinkler 10-2			
* Note: Annunciator for Smoke and Sprinkler is located in Old Eye Basement			

**HAMMER HEALTH SCIENCES BUILDING
701 WEST 168TH STREET**

**FIRE ALARM STATION _____
LOCATION _____**

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader (FRT Leader).

Dial 5-7979 to report a fire by telephone

FLOOR	Stair "A"	STAIR "B"	STAIR "C"	CIRCULAR STAIR "D"	COMMUNITY CENTER
LL II	3-2-3	2-2-3	4-3	3-3-3	
LL I	3-2-2	2-2-2	4-2-2	3-2-2	4-2
Lobby Area	5-1				
Lobby Lvl	3-1	2-1	4-1		
2	3-2	2-2		2-3-2	
3	3-3	2-3			
4	3-4	2-4			
5	3-5	2-5			
6	3-6	2-6			
7	3-7	2-7			
8	3-8	2-8			
9	3-9	2-9			
10	3-10	2-10			
11	3-1-1	2-1-1			
12	3-1-2	2-1-2			
13	3-1-3	2-1-3			
14	3-1-4	2-1-4			
15	3-1-5	2-1-5			
16	3-1-6	2-1-6			
17	3-1-7	2-1-7			
18	3-1-8	2-1-8			
Smoke Alarm 10-1 Sprinkler Alarm 10-2					

**HARKNESS PAVILION
180 FORT WASHINGTON AVENUE**

Fire Alarm Location: _____

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

To report a Fire by telephone dial 5-7979 or 6-4444

FLOOR	STAIR "B"	STAIR "C"	WING X-RAY
Tunnel	6-1		
MAIN	2-1	3-1	4-1
1 ST	2-2	3-2	4-2
2 ND	2-3	3-3	4-3
3 RD	2-4	3-4	4-4
4 TH	2-5	3-5	
5 TH	2-6	3-6	
6 TH	2-7	3-7	
7 TH	2-8	3-8	
8 TH	2-9	3-9	
9 TH	2-10	3-10	
10 TH	2-1-1	3-1-1	
11 TH	2-1-2	3-1-2	
12 TH	2-1-3		
13 TH	2-1-4		
Smoke 10-1			
SPRINKLER 10-2			
MER 7-2			
TUNNEL ELECTRICAL SERVICE 7-1			

**MARY LASKER BUILDING
3960 BROADWAY**

**FIRE ALARM STATION _____
LOCATION _____**

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

Dial 305-7979 to report a fire by telephone

Floor	Stair "A"	Stair "B"	Stair "C"
The CU Bookstore			
The "X" Cafe			
The D BBQ			
Cellar	8-2-1	8-2-2	8-2-3
1	1-2-1	1-2-2	
2	2-2 (Lobby)	3-2	
3	2-3	3-3	
4	2-4	3-4	
5	2-5	3-5	
6	2-6	3-6	
7	2-7	3-7	
8	2-8	3-8	
		3-9	
Smoke 10-1			
Sprinkler 10-2			

Persons tampering with this system or transmitting false alarms will be subject to arrest with a maximum of one year imprisonment or a fine of \$1,000.00 or both.

BY ORDER OF THE FIRE COMMISSIONER

Neurological Institute
710 WEST 168TH STREET

Fire Alarm Location: _____

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

To report a Fire by telephone dial 5-7979 or 6-4444

Floor	STAIR "C"	STAIR "A"
<u>Sub Basement</u>	6-1	7-2
<u>Basement</u>	8-1	7-1
<i>FMRI</i>	1-2-1	
1 ST FLOOR LOBBY(MAIN ENTRY)		1-1
1 ST FLOOR AUDITORIUM		1-2
1 ST FLOOR NORTH WEST SIDE		1-3
1 ST	2-1	3-1
2 ND	2-2	3-2
3 RD	2-3	3-3
4 TH	2-4	3-4
5 TH	2-5	3-5
6 TH	2-6	3-6
7 TH	2-7	3-7
8 TH	2-8	3-8
9 TH	2-9	3-9
10 TH	2-10	3-10
11 TH	2-1-1	3-1-1
12 TH	2-1-2	3-1-2
13 TH	2-1-3	3-1-3
14 TH	2-1-4	3-1-4
SMOKE 10-1		
SPRINKLER 10-2		

**PRESBYTERIAN HOSPITAL
622 WEST 168TH STREET**

**FIRE ALARM STATION _____
LOCATION _____**

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

Dial 5-7979 to report a fire by telephone

Floor	STAIR F	SOUTH EAST	STAIR E CENTER	SOUTH	STAIR D	SOUTH WEST	ELEVATOR LOBBY AREA
Tunnel					6-2		
Bsmnt	6-1		7-1		8-1		
1	2-1		3-1		4-1		
2	2-2		3-2		4-2		
3	2-3		3-3		4-3		
4	2-4	2-4-1	3-4	3-4-1	4-4	4-4-1	
5	2-5		3-5		4-5		
7	2-6		3-6		4-6		
8	2-7		3-7		4-7		5-7
9	2-8		3-8		4-8		5-8
10	2-9		3-9		4-9		
11	2-10		3-10		4-10		
12	2-1-1		3-1-1		4-1-1		
14	2-1-2		3-1-2		4-1-2		
15	2-1-3		3-1-3		4-1-3		
16	2-1-4		3-1-4		4-1-4		
17	2-1-5		3-1-5		4-1-5		5-1-5
18	2-1-6		3-1-6		4-1-6		5-1-6
19	2-1-7		3-1-7		4-1-7		5-1-7
20	2-1-8		3-1-8		4-1-8		5-1-8
22	2-1-9		3-1-9				
Smoke 10-1							
Sprinkler 10-2							

**PSYCHIATRIC INSTITUTE BUILDING
722 WEST 168TH STREET
FIRE ALARM CODE**

In Case of fire or visible smoke condition Remove anyone in immediate danger, Activate the fire alarm pull station, Confine the fire by closing all doors. Extinguish if fire is small and your safety is assured, or evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader (FRT).

Dial 5-7979 to report a fire by telephone

FLOOR	CODED SIGNAL
20 TH FLOOR	2-2-1
19 TH FLOOR	2-1-9
18 TH FLOOR	2-1-8
17 TH FLOOR	2-1-7
16 TH FLOOR	2-1-6
15 TH FLOOR	2-1-5
14 TH FLOOR	2-1-4
13 TH FLOOR	2-1-3
12 TH FLOOR	2-1-2
11 TH FLOOR	2-1-1
10 TH FLOOR	2-10
09 TH FLOOR	2-9
08 TH FLOOR	2-8
07 TH FLOOR	2-7
06 TH FLOOR	2-6
05 TH FLOOR	2-5
04 TH FLOOR	2-4
03 RD FLOOR	2-3
02 ND FLOOR	2-2
01 ST FLOOR	2-1
ENGINEERS OFFICE	5-1

**VANDERBILT CLINIC
622 WEST 168TH STREET**

**FIRE ALARM STATION _____
LOCATION _____**

In case of fire or visible smoke condition Remove anyone in immediate danger, Activate fire alarm pull station, Confine the fire by closing all doors, Extinguish if fire is small and your safety is assured, or Evacuate the area. Do not return to the area until told to do so by the Fire Department (FDNY) or the Fire Response Team Leader.

Dial 5-7979 to report a fire by telephone

Floor	South	Stair “A”	Stair “B”	East	Stair “C”
Tunnel		7-2		7-3	7-4
Basement	8-1	7-1	6-1	6-1-1	6-1-2
1st	4-1	3-1			
2nd	4-2-1	3-2-1	2-2-1	5-2-1	5-2-2
3rd	4-2	3-2	2-2		
4th		3-3	2-3		
5th		3-4	2-4		
7th		3-5	2-5		
8th		3-6	2-6		
9th		3-7	2-7		
10th		3-8	2-8		
11th		3-9	2-9		
12th		3-10	2-10		
14th		3-1-1	2-1-1		
15th		3-1-2	2-1-2		
16th		3-1-3			
Lobby North 1st Floor	Lobby South 1st Floor	Amb. Entrance Area “A”	Crash Room Area “A”	Med. Clinic 2nd Floor	
5-1	5-1-1	2-1	2-1	5-2-1	
Smoke Detector activation 10-1					
Sprinkler Alarm activation 10-2					

H. PORTABLE FIRE EXTINGUISHERS

Location

Fire extinguishers are located throughout each building, mounted on walls. You will always be in close proximity to an extinguisher. Ascertain the location and type of fire extinguisher nearest your work area.

Type

The three types of fire extinguishers in use are water under pressure and dry chemical, and carbon dioxide (CO₂) extinguishers. Water and dry chemical types may be used on all ordinary combustible material (wood, paper, cloth, etc.), while dry chemical can also be used on flammable liquids and electrical fires where the power source has been shut off.

To Operate the Extinguisher

Water Type:

1. Remove the unit from the wall and carry or drag it to the fire area.
2. Pull the locking pin out of the handle.
3. Point the hose at the base of the fire and squeeze the handle.
4. Sweep back and forth across the fire to allow the water to extinguish the fire.
5. The water under pressure will shoot about 30 feet and last about 30 seconds.

ABC/Dry Chemical Extinguisher: Best extinguishing agent for Class B fires (i.e., oil and grease), they may be used on other fires as well.

1. Remove the unit from the wall and carry or drag it to the fire area.
2. Pull pin, squeeze lever and direct hose assembly at base of fire.
3. On flammable liquid fires, discharge should be directed at the near edge of the fire.
4. Move the nozzle rapidly from side-to-side and gradually progress forward as the flames are extinguished.

Carbon Dioxide (CO₂) Extinguisher – Red cylinders which contain compressed carbon dioxide gas. A large black horn nozzle attachment to the top valve delivers CO₂ to extinguish the fire. Use for Class B and Class C fires: flammable alcohol, toluene, ether, grease, gas and electrical fires (computers).

1. Pull lock pin out handle
2. Direct nozzle at base of flames
3. Grasp handle and squeeze to release gas
4. For flammable liquid fires, direct discharge at near edge of fire
5. Move the nozzle rapidly from side to side, gradually progressing forward as the flames are extinguished

P = Pull Pin

A = Aim Hose

S = Squeeze Lever

S = Sweep from side – to – side

I. FACILITIES:

BUILDING AREAS/HEIGHTS BUILDING SITE PLANS

- **RUSS BERRIE MEDICAL SCIENCE PAVILION**
- **BLACK BUILDING**
- **GEORGIAN BUILDING**
- **HAMMER HEALTH SCIENCES BUILDING**
- **MARY LASKER BUILDING**
- **P&S BUILDING**
- **PRESBYTERIAN HOSPITAL BUILDING**
- **VANDERBILT CLINIC BUILDING**

**RUSS BERRIE MEDICAL SCIENCE BUILDING
1150 SAINT NICHOLAS AVENUE, N.Y.C. 10032**

10 story reinforced concrete-construction classification 1B.

STANDPIPE SYSTEM

Stair “A”	-	Outlets in the stairwell	1 st flr – PH2
Stair “B”	-	Outlets in the stairwell	Sub-basement to PH1 – Stair B to roof
Stair “C”	-	Outlets in stairwell	Sub-basement to 1 st flr (Parking lot)

SPRINKLER SYSTEMS

Building is sprinkled throughout. Will annunciate at Fire Command Station and transmit alarm to Central Station.

FIRE ALARM SYSTEM (Class “E” Type)

Throughout building with pull stations located by stairwells “A”, “B” and “C”. Automatic sprinkler water flow and smoke detectors transmit to Central Station.

EMERGENCY POWER

Building has “emergency power” capability.

**BLACK BUILDING & ALUMNI AUDITORIUM
22 STORY CLASS 1 FIRE PROOF 650 WEST 168TH ST.**

STANDPIPE SYSTEM

Auditorium	Two outlets in the Orchestra (main floor) and two in the Balcony on East and West walls.
Stair “E”	Outlets in the Stairwell, Basement – 20 Two way roof manifold OS & Y shutoff valves at Basement, 5 th and 12 th floors.
Stair “G”	Outlets in the Stairwell, Sub-basement – 22 OS & Y shutoff valves at Sub-basement, Basement and 11 th floor.
Stair “F”	Fire Tower. There are no outlets in stairwell.

Additional Outlets Auxiliary Cabinet at Stair “G”, 1st Floor.

The system is supplied by 35,000 gal. (12,000 gal fire supply) Gravity Feed Tank located on the roof of the Presbyterian Hospital building and a 1000 GPM MANUAL fire pump with 24,000 gal. suction tank, in the Powerhouse located in the Sub-basement of the P&S Building. City Main Feed on Broadway, Fort Washington Avenue and W. 168th Street. Minimum nozzle pressure supplied at highest outlet – 50 pounds.

SPRINKLER SYSTEM (Partial)

Located on various floors throughout building and will annunciate (be identified) at fire alarm panel.

FIRE ALARM SYSTEM

Located throughout the building with pull stations on each floor by stairwells. Automatic sprinkler water flow and smoke detectors transmit to Central Stations (1-way voice communication).

EMERGENCY POWER

Building has “emergency power” capability.

**GEORGIAN RESIDENCE
7 STORY - 617 WEST 168TH STREET**

Columbia University occupies floors 1,2 and 3 as office space. Floors 4 through 7 are occupied as student residence; the occupancy classification is a J-2.

There is no Standpipe System in this Building.

SPRINKLER SYSTEM (Partial)

There is a partial Sprinkler System; it is in the corridors only.

It is fed from the City Main located on 169th Street. There are two FDNY Siamese connections located on the 168th street and 169th street sides of the building.

There are shut valves provided at each floor of the occupancy, there are ladders provided to access these valves and they are located in the western portion of the building. The sprinkler system is provided with water flow switches on each floor of the occupancy, they are tied into the fire alarm system of the building.

FIRE ALARM PANEL

The fire alarm panel is located at the Security desk in the lobby. It will annunciate water flow, smoke and heat detectors, and manual pull stations at this panel. It is zoned with identifiers at the panel.

**HAMMER HEALTH SCIENCES BLDG.
18 STORY CLASS 1 FIRE PROOF 701 WEST 168TH ST.**

STANDPIPE SYSTEM

Stair “A”	-	Outlets in Stairwell	LL2 -18
Stair “B”	-	Outlets in Stairwell 3 Way Manifold at roof	LL2 -18
Stair “C”	-	Outlets in Stairwell	LL2-Lobby (1 st Floor)
Additional Outlets	(3)	LL2 Auxiliary Hose Cabinet by row 79A LL1 Auxiliary Hose Cabinet by row 32 and by Stair “B”	

The system is supplied by a City Main; Siamese connections on Haven Avenue (2) and W. 169th Street.

House Tank on 18th floor and MANUAL Fire Pump, 750 GPM, Variable Speed, 4 step, in Pump Room, LL2. FOLLOW SIGNS ON REAR WALL OR FIRE PLAN.

SPRINKLER SYSTEM (Partial)

Located on various floors throughout the building and will annunciate (be identified) at fire alarm panel in LL2.

FIRE ALARM SYSTEM

Located throughout the building with pull stations on each floor by stairwells. Automatic sprinkler water flow and smoke detectors transmit to Central Station.

EMERGENCY POWER

Building has “emergency power” capability.

MARY LASKER BUILDING
6 STORY - 3960 BROADWAY, NY, NY

Columbia University owns this building. It is maintained through the office of the Audubon Biomedical Science and Technology Park. Building Department Classification is D-2.

STANDPIPE SYSTEM

There is a standpipe system in this Building. Hose connections are located in each stairwell.

SPRINKLER SYSTEM

The building is completely sprinkled.

It is fed from the City Main located on Broadway. There are two FDNY Siamese connections and they are located on the 168th street and 169th street sides of the building. There are shut valves provided at each floor of the occupancy, and they are located accordingly:

On the even numbered floors they are in the “A” stairwell

On the odd numbered floors they are located in the “B” stairwell

The sprinkler system is provided with water flow switches on each floor of the occupancy, they are tied into the fire alarm system of the building. The fire alarm system is connected to a Central Station.

ELEVATORS:

There are two separate elevator banks and they are designated accordingly:

They are equipped with Firemen’s Service capability.

**PHYSICIAN & SURGEONS (P&S) BUILDING
20 STORY CLASS 1 FIRE PROOF 630 WEST 168TH STREET**

STANDPIPE SYSTEM

Stair “E” PH Stem	Outlets in stairwell	B-19
Stair “H”	Outlets in stairwell	Sub-Bsmt –20
Additional Outlets	None	

System supplied by 35,000 gal. (12,000 gal. Fire Supply) Gravity Feed Tank on the roof of the Presbyterian Hospital Building and 1000 GPM MANUAL Fire Pump with 24,000 gal. suction tank in the Powerhouse located in the Sub-basement of the P&S Building. City main feed on Broadway, Fort Washington Avenue and W. 168th Street. Siamese connection on W. 168th Street. Shutoff Valves located in 1st floor landings, Stairs PH Stem “E” and Stair “H”.

SPRINKLER SYSTEM (Partial)

Located on various floors throughout building and will annunciate (be identified) at fire alarm panel.

FIRE ALARM SYSTEM

Located throughout the building with pull stations on each floor by stairwells. Automatic sprinkler water flow and smoke detectors transmit to Central Station (1-way voice communication).

EMERGENCY POWER

Building has “emergency power” capability.

**PRESBYTERIAN HOSPITAL BUILDING
24 STORY CLASS 1 FIRE PROOF 622 WEST 168TH STREET**

Columbia University occupies floors 7, 8, 9, 10, 15, 17, 18, 19, 20, 22 mainly as office space with a few laboratories. The 22nd floor is mechanical space. The remainder of the building is occupied by New York Presbyterian Hospital (NYPH) as office and outpatient space.

STANDPIPE SYSTEM

Located in Stairwells “D”, “E” and “F” on all floors except the “E” Stair on the 20th floor; and covered by an Auxiliary Cabinet in the Elevator Lobby.

Supplied by 35,000 gal. (12,000 gal Fire Supply) Gravity Feed Tank on 24th floor, 1000 GPM MANUAL fire pump with 24,000 gal. suction tank in the Powerhouse located in the Sub-basement of the P&S building. City Main Feed on Broadway, Fort Washington Avenue and W. 168th Street. Auxiliary Standpipe Cabinets in Main Elevator Lobby all floors.

SPRINKLER SYSTEM (Partial)

Located on various floors throughout building and will annunciate (be identified) at the fire panel located on the 17th floor.

FIRE ALARM PANEL

Floors 7-8 and 17-22 transmit to Central Station through Case/Acme panel in tunnel area. Water flow and Smoke Detectors on University floors 7-8 and 17-22 annunciate at 17th floor panel.

EMERGENCY POWER

Building has “emergency power” capability.

**VANDERBILT CLINIC
16 STORY CLASS 1 FIREPROOF 622 WEST 168TH STREET**

Columbia University occupies floors 7, 8, 9, 11, 12, 14, 15. New York Presbyterian Hospital (NYPH) occupies all others floors. Floors 7-9 are Dental Clinics and Dental School. Floors 11-15 are Laboratory floors. Floor 16 is a mechanical space.

STANDPIPE SYSTEM

Located in Stairwells “A”, “B”, “C” on all floors except the “B” Stairwell on the 15th floor.

Supplied by 35,000 gal. (12,000 gal Fire Supply) Gravity Feed Tank on the roof of the Presbyterian Hospital Building and 1000 GPM MANUAL fire pump with 24,000 gal. suction tank in the Powerhouse located in the Sub-basement of the P&S building. City Main feed on Broadway, Fort Washington Avenue and W. 168th Street. There is a 3-Way Roof Manifold in Stair “A”.

SPRINKLER SYSTEM (Partial)

Located on various floors throughout the building and will annunciate (be identified) at the fire panel located in the Emergency Room as well as at an additional annunciator panel located in the basement.

FIRE ALARM SYSTEM

Located throughout the building with pull stations at exit stairs “A” and “B” only. Automatic sprinkler water flow and smoke detectors transmit to Central Station.

EMERGENCY POWER

Building has “emergency power” capability.

