



# Fire Prevention Plan

**March 2023**

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## **1. Introduction**

The Fire Prevention Plan is a Cal OSHA requirement designed to reduce the risk of fire at the University of San Diego. A significant portion of the plan is focused on guidelines for the safe storage, handling, and disposal of flammable materials. Also included in the plan are descriptions of potential or known fire hazards, potential ignition sources, a discussion of fire alarm systems, inspection protocols designed to identify fire risks, and employee safety training information.

## **2. General Responsibilities:**

2.1 New employees shall read and familiarize themselves with the following safety related documents:

- 2.1.1. Injury and Illness Prevention Plan
- 2.1.2. New Employee Safety Training booklet
- 2.1.3. Emergency Preparedness Brochure

2.2 Employees assigned to work with chemicals shall read and familiarize themselves with the Hazard Communication program and the following related documents that may pertain to their job/tasks:

- 2.2.1. The Chemical Hygiene Plan – (for laboratory-based employees)
- 2.2.2. Radiation Safety Manual- (for those handling radioactive materials)
- 2.2.3. Biosafety Manual (for employees potentially exposed to bio-hazards)

2.3 Report all unsafe conditions to your office supervisor, lab safety manager, or the Environmental Health and Safety Department.

2.4 Report all accidents, near misses, injuries, or occupational illnesses to your supervisor.

2.5 Employees shall not run electrical cords or any other cords, ropes, cables or other trip hazards across aisles, walkways, corridors, passageways, stairwells, or any other areas where people might be expected to walk.

2.6 Do not tamper with or remove lights or lighting fixtures. Maintenance personnel shall repair or adjust the lighting as needed.

- 2.7 Do not operate, tamper with or remove portable fire extinguishers, except in an emergency, and in accordance with the Fire Prevention Plan. If a fire extinguisher is used, do not return it back on the hook. Contact the Environmental Health and Safety Director Charles White at (619) 260-2226 to have it serviced or replaced.
- 2.8 If a fire, evacuation, or other emergency occurs, follow all the instructions in the Emergency Procedures Guide. Emergency Procedures can be found online in the USD Public Safety website or in a binder in the red emergency evacuation backpack.
- 2.9 Do not block access to fire extinguishers, fire pull stations or other fire protection equipment.
- 2.10 Do not block or obstruct exit doors or lock them during business hours.
- 2.11 Do not block aisles or hallways.
- 2.12 Electrical control panels shall not be blocked or obstructed. There must always be a 36-inch clearance in front of this equipment.
- 2.13 When storing high materials of any description, always allow a minimum clearance of 18 inches between the top of the storage and the fire sprinkler head. If the building does not have fire sprinklers, there should be a minimum clearance of 24".
- 2.14 Always practice good housekeeping:
  - 2.14.1 Keep floors clean and dry to prevent slipping hazards. Spills should be cleaned up immediately.
  - 2.14.2 Do not permit trash, garbage, or waste containers to overflow.

### **3.0 Fire Discovery:**

- 3.1. Remove anyone in the immediate area and close all the doors as you leave. As you leave, warn other occupants by knocking on doors and shouting "Fire".
- 3.2. Activate the nearest fire alarm pull station to evacuate the building and notify USD Public safety at 619-260-2222 or extension 2222. Tell them where the fire is and give them any other information requested.

- 3.3 Attempt to extinguish the fire only if it is safe and you feel comfortable doing so.
- 3.4. If there is smoke or heat, stay low to the ground. Crawl to the nearest exit, if need be.
- 3.5. Evacuate the building by the nearest exit and report to the designated Evacuation Assembly Area (See Attachment B) **DO NOT USE ELEVATORS! USE STAIRWELLS.**
- 3.6 Before opening any door, feel the door near the top. If it is hot, do not open it. Use another exit. If you become trapped, do the following:
- 3.6.1 Call ext. 2222 and tell Public Safety your exact location and situation. They will notify the Fire Department by radio.
  - 3.6.2 Place a blanket or similar object along the bottom of the door to keep smoke out. If possible, wet the material first.
  - 3.6.3 Retreat. Close as many doors between you and the fire as possible.
  - 3.6.4 Hang a light-colored material or sign out the window to attract attention of rescue teams below.
  - 3.6.5 DO NOT JUMP**
- 3.7 If the door is not hot, open it cautiously. Stand behind the door and be prepared to close it quickly if there is excessive smoke or heat.
- 3.7.1 If able, assist people with special needs.
    - 3.7.1.1 People who are non-ambulatory and using a wheelchair may proceed to use the established Areas of Rescue Assistance in the building.
    - 3.7.1.2 Once in the Area of Rescue Assistance, please follow the posted instructions to notify public safety of your location and await assistance from first responders.
  - 3.7.2. Leave the area by the nearest exit that is clear of smoke.
  - 3.7.3. Assemble outside in the pre-designated Emergency Evacuation Assembly Area. Do not re-enter the building until notified to do so by the Fire Department or USD Public Safety.

#### **4.0 Fire Alarm Activation:**

- 4.1 Prior to an emergency evacuation, be aware of the following procedures when the fire alarm sounds in your building. You should also be familiar with whom is your Building Safety Representative, the nearest exit from the building, your emergency evacuation routes, and your evacuation assembly area. In the event of an evacuation:

- 4.1.1 Leave the premises immediately if you hear a fire alarm. Always close your door. Do not use elevators.
- 4.1.2 State law requires occupants to evacuate a building when the fire alarm sounds. Occupants should use their closest exits, and go to their designated evacuation assembly area and report to the Building Safety Representative or supervisor for your department, floor, or building.
- 4.1.3 The Building Safety Representative, if available, may be approached for information by USD Department of Public Safety or first responders.
- 4.1.4 The City of San Diego Fire Department will assume command and control over all fire alarm conditions.
- 4.1.5 The occupants of the building may not re-enter the building even if the fire alarm has stopped sounding. The City of San Diego Fire Department or USD Public safety may deem it appropriate to silence the fire alarm immediately.
- 4.1.6 When the emergency condition is over, the City of San Diego Fire Department officer in charge will release the building to the USD Public Safety, or to an adviser from the Environmental Health and Safety.
- 4.1.7 The USD Public Safety officer or the adviser from EH&S will then turn the building back over to the Building Safety Representative to allow occupants to re-enter the building.

4.2. The evacuation of buildings at the University of San Diego is everyone's responsibility. However, some people have assumed responsibilities to assist in the emergency evacuation of their building. The title given to these people is Building Safety Representative, Alternate Building Safety Representative, and Floor Safety Representative. Community directors and Resident Assistance assume these roles in the student residential buildings and areas.

4.2.1 Building Safety Representative responsibilities are:

- 4.2.1.1 Ensure the safe and expedient evacuation of their building or floor.
- 4.2.1.2 Know the location of the designated assembly area, and emergency exits.
- 4.2.1.3 Distribute information concerning evacuation plans, drills, and safety to all departments in their building.
- 4.2.1.4 Ensure access to exits and fire safety equipment.
- 4.2.1.5 Accounting of building occupants at the assembly area.
- 4.2.1.6 Reporting missing or injured persons to emergency responders.
- 4.2.1.7 Provide, if requested, assistance to those with disabilities that need it for safe egress.

4.2.1.8 Attend meetings with Environmental Health and Safety Staff.

4.3.1 Alternate Building Safety Representative Responsibilities

4.3.1.1 Assumes responsibilities of the Building Safety Representatives in their absence.

4.4.1 Floor Safety Representative Responsibilities

4.4.1.1 Ensure the safe and expedient evacuation of their building or floor.

4.4.1.2 Know the location of the designated assembly area, and emergency exits.

4.4.1.3 Ensure clear access to exits and fire safety equipment.

4.4.1.4 Accounting of building occupants at the assembly area.

4.4.1.5 Reporting missing or injured persons to emergency responders.

4.4.1.6 Ensure assistance has been provided for those with disabilities that need it for safe egress.

4.5.1 Departmental Responsibilities.

4.5.1.1 Departments shall keep a copy of this plan and a copy of their building evacuation assembly area locations. Department employees shall be fully aware of this plan and their responsibilities. All faculty, staff, and administrators must know the location of the designated assembly areas.

4.6 Evacuation Drills

4.6.1 Building Safety Representatives and building staff are expected to participate in emergency evacuation drills.

4.6.2 Planned evacuation drills will be conducted annually for office buildings, and semi-annually for residences. Records will be maintained to document each evacuation drill.

4.7 Attend annual Building Safety Representative Meetings.

**Safety Representatives are to never place themselves in danger while performing these duties.**

## **5. Fighting a Fire:**

5.1 If the fire is very small, and you know how to use a fire extinguisher safely, you may attempt to put out the fire. Make sure the fire department has been called out first. The Office of Environmental Health and Safety offers training classes in the use of portable fire extinguishers when requested or on a periodic basis. Call Charles White at (619) 260-2226 to schedule a class.

## **6. Responding to a Fire:**

6.1 Always pull the fire alarm first (or send someone to do this), before attempting to fight a fire. Do not try to fight a fire unless you feel it can be done safely and there is a clear escape route.

6.2 Before opening any doors to investigate a possible fire, feel the top part of the door with the back of your hand. If it is hot, do not open the door. If door is cool, open it a crack to see if the fire is still confined and small; if not, close the door and leave immediately.

6.3 If the fire is small, obtain the proper fire extinguisher. Enter the room and try to extinguish the flames. Direct the extinguisher at the base of the fire. Be careful to keep yourself between the fire and the door. Do not allow the fire to block your egress from the room.

6.4 If you are able to put out a fire successfully, remain near the site at a safe location to make a report to the City of San Diego Fire Department or USD Public Safety.

## **7. Using a Fire Extinguisher:**

7.1 If you have the proper extinguisher and the fire is small enough to extinguish safely, remember to use the PASS acronym, to use your extinguisher as follows:

7.1.1 **PULL** the safety pin at the top of the extinguisher.

7.1.2 **AIM** the nozzle, horn, or hose at the base of the flames.

7.1.3 **SQUEEZE** the handle of the extinguisher

7.1.4 **SWEEP** the nozzle from side to side until the fire goes out.

7.2 Move to within approximately 6-8 feet from the fire's base and squeeze the handle, thereby releasing the extinguisher's contents toward the base of the fire.



7.3 Continue extinguishing fire in a sweeping pattern across the base of the fire. As the fire dies out, move closer until it is completely extinguished. If unable to control the fire, evacuate immediately.

7.4 Do not turn your back to the fire, as it may be hot enough to re-ignite.

7.5 Once the fire is out, contact Facilities Management to clean-up broken glass, beakers, extinguishing powder, etc. and to replace the used fire extinguisher.

7.6. If in a lab, notify your Lab Manager about the fire and/or chemical spills.

## **8. Types of Fire Extinguishers:**

8.1 Fire extinguishers are categorized by the type of fires they put out.

8.1.1 Type A – Ordinary combustibles, such as wood, paper, cloth, and plastics.

8.1.2 Type B – Flammables liquids, such as gasoline, oils, paints, and grease.

8.1.3 Type C – Electrical fire, such as burning wires, switches, machinery, and appliances.

8.1.4 Type D – Metal fires such as sodium metal

8.1.5 Type K – Kitchen grease fire.

8.2 Types of fire extinguishers and their locations:

Dry-Chemical; Class ABC	-	Office Buildings, Classrooms, Shops
Clean Agent; Halotron	-	Computer, Electrical, and Server rooms
Wet-Chemical; Class K	-	Kitchens

8.3 Fire extinguishers have a label indicating what type of fire they can extinguish.

## **9. Fire Safety Tips:**

9.1 Know the exit routes from your office, floor, and building. Study these routes in advance. It is easy to become disoriented during an actual emergency (See sample Emergency Evacuation Plan).

9.2 Know where the nearest fire alarm and extinguisher are located. (See sample Emergency Evacuation Plan).

9.3 Public Safety Emergency phone numbers 2222 should be posted in close proximity to all telephones.

9.4 Keep a flashlight in your area for use during any emergency. Check the batteries at least quarterly.

9.5 Keep lanes of egress clear.

- 9.6 Do not use extension cords, ungrounded plugs, and multiple outlet adapters for various small appliances. These will overload the electrical outlet.
- 9.7 Store hazardous materials in limited quantities and keep them in an approved flammable liquid storage cabinet.
- 9.8 Keep fire doors closed at all times.
- 9.9 Smoking is not allowed on campus.
- 9.10 Never leave an open flame while cooking unattended.
- 9.11. Small fire can turn into large fires. Fire is a serious life-threatening occurrence. You must be prepared in advance for the threat of fire.

**NOTE: NEVER plan on the fire department rescuing you. If you can exit the building, do so immediately. Do not become part of the rescue problem. Never jump from any building that is on fire.**

## **10. Fire Hazard Reduction:**

### **10.1 General**

- 10.1.1 Store gasoline (as well as paints, solvents, and other flammable liquids) in an approved safety container or flammable liquids cabinet.
- 10.1.2 Keep scrap wood and other combustible materials away from structures.
- 10.1.3 Clean roof surfaces and gutters regularly.
- 10.1.4 Keep trees and shrubs pruned, especially dead wood.
- 10.1.5 Maintain a fuel break around all structures. Keep weeds “knocked down” around all permanent as well as temporary buildings.
- 10.1.6 Post “No Smoking” signs where appropriate.
- 10.1.7 Make sure that outdoor lawn equipment has effective spark arrestors (It’s better to use gasoline-powered equipment in the morning when humidity is high and temperatures are low).
- 10.1.8 A defensible space of 35 ft is kept clear of weeds and brush around all buildings.
- 10.1.9 Smoking is not allowed around gasoline or other fuels.
- 10.1.10 Internal combustion engines and motors are used during cooler times of day.
- 10.1.11 Hot Work Permits are always obtained prior to welding, cutting, and use of open flame devices.

### **10.2. Fire Hazards (Office Areas)**

- 10.2.1 Train employees in the proper use of fire extinguishers periodically.
- 10.2.2 Know the location of fire extinguishers, exits, and fire alarm pull stations.
- 10.2.3 Extension cords are for temporary use only and are not allowed to be:

- 10.2.3.1 Used for permanent wiring.
- 10.2.3.2 Covered by carpeting, chair mats, or rugs.
- 10.2.3.3. Plugged back to back to gain more length.
- 10.2.3.4. Run through holes in walls or partitions.
- 10.2.3.5. Used with power taps or surge protectors.
- 10.2.4 Use only approved space heaters. Plug directly into wall outlet and keep at least 3 feet clearance from combustible materials.
- 10.2.5 Do not overload electrical circuits.
- 10.2.6 Maintain work area free from debris and combustible storage.

### **10.3. Reduce Fire Hazards (Kitchen Areas)**

- 10.3.1 Train employees in the proper use of fire extinguishers and their locations.
- 10.3.2 Know the location of nearest exits and fire alarm pull stations.
- 10.3.3 Train employees in operating the kitchen hood fire suppression systems.
- 10.3.4 Clean and maintain all grease filters.
- 10.3.5 Keep exit hallways clear of all objects.
- 10.3.6 Report damaged electrical wiring and equipment.
- 10.3.7 Maintain work areas free from debris and combustible materials.

### **10.4. Reduce Fire Hazards (Facilities Management Areas)**

- 10.4.1 Store flammable and combustible liquids in approved cabinets
- 10.4.2 Instruct employees in fire prevention and safety procedures.
- 10.4.3 Obtain “Hot Work” Permit before starting operations that include cutting, welding, use of open torch, brazing or similar work.
- 10.4.4 Oily rags and similar materials are to be stored in metal, metal-lined containers with tight fitting covers.
- 10.4.5 Keep floor areas clear of debris (wood shavings, sawdust).
- 10.4.6 Secure compressed gas cylinders (oxygen, acetylene, nitrogen) to prevent falling. Oxygen and acetylene cylinders are required to be separated at least 20 feet during storage.
- 10.4.7 Provide proper bonding and grounding when transferring flammable liquids.
- 10.4.8 Periodically inspect all electrical tools for defects. Remove from service any tools found defective.

## **11. Preparation and Planning:**

- 11.1 Have regular meetings to discuss the plan and practice if possible
- 11.2 Be able to describe your site’s location clearly. Remember to give closest crossroads and land marks, as well as directional location (north, south, east or west).

11.3. Your personal safety and that of the people working with you must be your first concern.

11.4. Try to remain calm and alert; think clearly and act decisively.

11.5 Call the emergency number and give the person on the other end as much information as possible.

11.6 Maintain good communications with the people you work with; give clear instructions and make sure everyone understands their role.

11.7 Cooperate with firefighters and law enforcement officers. You and your staff's safety is their number one concern.

## **12. General Procedures for Storage, Handling, and Disposal of Hazardous Materials**

### **12.1 General Chemical Handling Procedures**

12.1.1 All chemicals shall have a Safety Data Sheet (SDS) and shall be handled and stored as directed by the manufacturer.

12.1.2 Hazardous chemicals will not be brought into a work area unless design, construction, and fire protection of receiving and storage facilities are commensurate with the quantities and hazards of chemicals involved.

12.1.3 Safe storage facilities (fume hoods, flammable liquids cabinets, ventilated gas cabinets, explosion proof refrigerators, etc.) will be provided for materials having unique physical or hazardous properties, such as temperature sensitivity, water reactivity, or explosiveness.

12.1.4 Receiving, transporting, unpacking, and dispensing of chemicals and other hazardous materials will be carried out by trained personnel in such locations and manner as to minimize hazards from flammable, reactive or toxic materials.

12.1.5 Before a chemical material is used, the user will determine that information and facilities are available for safe disposal of hazardous materials and waste products.

12.1.6 Hazardous materials will not be stored or transferred from one vessel to another in any exit corridor.

12.1.7 Transfer of Class I liquids to smaller containers from bulk stock containers not exceeding 5 gallons (19 L) in capacity inside a laboratory building or laboratory work will be made:

12.1.7.1 in a fume hood; or

12.1.7.2 In an area provided with ventilation adequate to prevent accumulations or flammable vapor/air mixtures exceeding 10 percent of the lower flammable limit;

12.1.7.3 in a separate inside storage area, as described in the California Fire Code.

12.1.8 Transfer of Class I liquids from containers of 5 gallons (19 L) or more capacity will be carried out in:

12.1.8.1 a separate area outside the building; or

12.1.8.2 in a separate area inside the building which meets the requirements of NFPA 30.

12.1.9 Class I liquids will not be transferred **between metal containers** unless the containers are electrically interconnected by direct bonding or by indirect bonding through a common grounding system in the room; the maximum impedance of the bonding will not exceed **6 ohms**. Grounding and bonding wires can be fabricated in-house or purchased from safety catalogs.

12.1.10 Hazardous chemicals will be stored on shelves with lips to prevent the containers from sliding off the edge of the shelf.

12.1.11 Approved container types (FM or UL) and allowable quantity limits will be observed at all times.

12.1.12 Hazardous chemical inventories will be within the prescribed capacities of the storage facility. See the Attachment C for exempt quantities of hazardous materials.

12.1.13 Incompatible materials (i.e., oxidizers and flammables) will be segregated to prevent accidental contact with one another.

12.1.14 Containers of materials that may become hazardous upon prolonged storage will be dated when first opened. **At the end of six months, the material will be evaluated or tested for continued safe use. Material found safe that can be treated to make it safe may be re-dated and retained for an additional six-month period.** All other materials will be safely discarded. Ether is an example of a laboratory reagent with six-month shelf life.

12.1.15 Special consideration will be given to the classification of hazardous waste at the time of collection to avoid chemical incompatibilities.

12.1.16 Disposal of hazardous wastes will be according to applicable Local, State, and Federal regulations.

12.1.17 Contractors employed to remove hazardous wastes from the premises will be informed of the basic character and hazards of the waste.

12.1.18 Department managers are responsible for the control of accumulation of flammable or combustible waste materials.

## 12.2 Other Operations

12.2.1. Other operations, such as reactions at temperatures and pressures either above or below ambient conditions, will be conducted in a way that minimizes hazards. Shielding will be used whenever there is a reasonable probability of explosion or vigorous chemical reaction, and associated hazards, during charging, sampling, venting, and discharging of products.

12.2.2 Flammable liquids will be stored in closed labeled containers.

### **12.3 Apparatus**

#### **12.3.1 Refrigeration and Cooling Equipment**

12.3.2 Each laboratory refrigerator, freezer or cooler will be prominently labeled to indicate whether it is or is not suitable for storing flammable liquids.

12.3.3 Refrigerators, freezers, and other cooling equipment used to store or cool flammable liquids will be explosion proof and installed per the manufacturers' instructions. Ensure adequate air space between explosion proof refrigerators and surrounding walls.

### **12.4 Fume Hoods**

12.4.1 Air exhausted from fume hoods and other special local exhaust systems will not be re-circulated.

12.4.2 Fume hood face velocities will be sufficient to prevent the escape of contaminants generated in the hood. The hood will provide confinement of the possible hazards and protection for personnel.

12.4.3 Ducts from ventilated hoods and from local exhaust systems will be constructed entirely of noncombustible materials.

12.4.4 Air exhausted from the ventilated hoods and special exhaust systems will be discharged above the roof at a location, height, and velocity sufficient to prevent reentry of hazardous chemicals.

12.4.5 Airflow indicators are installed on laboratory hoods.

12.4.6 For new installations, fume hoods will not be located adjacent to a single means of access to an exit or high traffic area.

12.4.7 When installed or modified and at least annually thereafter, fume hoods and special exhaust systems will be inspected and tested. The following inspections and tests, as applicable, will be made.

12.4.7.1 visual inspection of the physical condition of the hood interior, sash, and duct work;

12.4.7.2 face velocity;

12.4.7.3 verifications of inward airflow over the entire hood face;

12.4.7.4 changes in work area conditions that may affect hood performance;

12.4.7.5 Deficiencies in hood performance will be corrected or:

12.4.7.6 The activity within the hood will be restricted to the capability of the hoods, or the hood will not be used.

12.4.7.7 A label is affixed to each hood containing the following information from the last inspection:

12.4.7.7.1.1. inspection interval;

12.4.7.7.1.2. last inspection date;

12.4.7.7.1.3. average face velocity;

12.4.7.7.1.4. inspector's name.

## **12.5 Heating Equipment**

12.5.1 Burners, induction heaters, ovens, furnaces, and other heat-producing equipment will be located a safe distance from areas where temperature-sensitive and flammable materials and combustible gases are handled. Oven and furnace will be installed per manufacturers' instructions.

12.5.2 Heating equipment such as ovens, furnaces, environmental chambers, and other heated enclosures, will not be used to heat, or test flammable or combustible liquids or aerosols containing flammable gases unless the equipment is designed or modified to prevent an internal explosion.

## **12.6 Motor-Driven Apparatus**

12.6.1. Electric motor used to drive stirrers in open containers of flammable liquids or combustible liquids heated above their flash points will be suitable for use in Class I, Division 2 locations.

## **12.7 Pressure Equipment**

12.7.1 Pressure vessels require specialized design beyond the scope of normal workshop practice. Equipment used at pressures above 15 psig (103.4 kPa gage) will be designed and constructed by qualified individuals for use at the expected temperature, pressure, and other operating conditions affecting safety.

12.7.2 Pressure equipment will be fitted with a suitable pressure relief device, such as a rupture disc or a relief valve. The pressure relief device will be vented to a safe location.

12.7.3 Equipment operated at pressures above 15 psig (103.4 kPa gage), will be operated and maintained according to manufacturers' instructions, the design limitations of the equipment, and applicable codes and regulations. Such equipment will be inspected on a regular basis. Any significant change in the condition of the equipment will be documented,

such as corrosion, cracks, distortion, scale formation, general chemical attack, any weakening of the closure, or any inability of the equipment to maintain pressure. This equipment will be removed from service immediately and will not be returned to service until approved by a qualified person.

12.7.4 Any pressure equipment that has been found to be degraded will be derated or discarded, whichever is appropriate.

## **12.8 Hazard Identification**

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

## **13. Fire Detection and Suppression Systems**

13.1 Fire alarm systems and fire detection systems, where required by the California Fire Code will be installed and maintained according to applicable standards.

13.2 Signal transmission for alarm units designed to activate signals at more than one location will be verified at each location during each inspection of the alarm system.

13.3 The fire alarm system, where required, will be so designed that all personnel endangered by the fire condition or a contingent condition will be alerted.

13.4 The fire alarm system will alert USD Public Safety dispatch and an offsite fire alarm monitoring company who will notify the local fire department.

## **14. Inspection and Maintenance**

14.1 The Safety and Fire Prevention Technician is responsible for the maintenance and testing of the designated devices and systems and will assure all deficiencies are corrected in a timely fashion.

14.2 Inspection of all fire suppression and detection devices and systems will be conducted according to recognized standards with appropriate maintenance to assure integrity and operability.

14.3 The following protective devices and systems are to be inspected, tested and maintained:

14.3.1 Fire Alarms & Smoke Detectors (when installed) – Annually.



- 14.3.2 Fire Extinguishers – Monthly Inspection, Annual Service, 6-Year Service, & 12 Year Hydrostatic Test.
- 14.3.3 Automatic Fire Sprinkler Systems – Quarterly, Annually, & Every 5 Years.
- 14.3.4 Standpipe Hose Stations – Quarterly, Annually, and Every 5 Years.
- 14.3.5 Pre-Engineered Fire Extinguishing – Semi-Annually.
- 14.3.6 Fire Pump – Weekly, Semi-Annually, and Annually.
- 14.3.7 Private Fire Hydrants – Quarterly, Annual, and Every 5 Years.
- 14.3.8 Overhead Rolling Fire Doors & Horizontal Doors – Annually.

## **15. Fire Loss Prevention**

### **15.1 Emergency Procedures**

- 15.1.1 Upon discovery of a fire, immediately activate the alarm system. Do not attempt to fight the fire before activation of the alarm system. Do not assume someone else will activate the alarm system.
- 15.1.2 Upon Activation of the fire alarm system, all designated personnel will proceed to carry out their assigned tasks.
- 15.1.3 Upon activation of the fire alarm system, all personnel who have not been assigned fire alarm related tasks will immediately proceed to evacuate the building.
- 15.1.4 Once outside the building, all personnel will proceed to the designated Evacuation Assembly Area **(See Attachment B)**
- 15.1.5 If safe to do so designated persons will be responsible for shutting down the equipment in the area indicated. The “Alternate” will proceed to shut down the equipment in the event the primary person is not in the area at the time the fire alarm is activated.

## **16. Hot Work Program**

### **16.1 Hot Work Permits (See Attachment E)**

- 16.1.1 Before commencing in hot work that involves welding, cutting, brazing, soldering, grinding, burning, using fire or spark producing tools, or produce a spark of ignition, a hot work permit must be obtained from the Safety and Fire Prevention Technician located in the EHS Office.
- 16.1.2 After a hot work permit is obtained, the SFPT will examine the work area to ensure no potential fire hazards exist. This includes:
  - Ensuring the fire sprinkler system is in operation.
  - There are no flammable liquids or un-purged tanks in the area.
  - The job is confined to the area described on the permit.

- Floors are clean.
- All combustibles have been located 35 feet from the job area and/or protected.
- All floor and wall openings within 35 feet have been covered tightly.
- Fire watchers have been assigned to the area and know how to give alarm.
- Ample extinguishing equipment for immediate use has been provided.
- All cutting & welding equipment was found to be in good repair.

16.1.3 The hot work permit shall be posted by work area.

16.1.4 After the hot work is completed, the fire watch must stay for at least 30 minutes to ensure the area is fire safe. The maintenance technicians must sign the final check-up and return the permit to the SFPT to be filed.

## 17. Clery Act Compliance

17.1 In order to be compliant with the Clery Act, the University of San Diego should identify one or more officials to be responsible for determining the cause of each reported fire. The Safety and Fire Prevention Technician will be responsible for the investigations of fires not known to be accidental in university owned residences to determine if they were a result of an act of arson or not.

17.2 The SFPT or person designated to conduct investigations should receive basic training in arson investigation. Any training received by the institutional fire investigator should be documented and retained by the University of San Diego as evidence of good-faith attempts to meet disclosure requirements.

17.3 Clery Act Definitions:

*Fire:* Any instance of open flame or other burning in a place not intended to contain the burning or in an uncontrolled manner.

*Arson:* Fires determined through investigation to have been willfully or maliciously set.

17.4 Fire Investigation Process

17.4.1. When a report of fire is received by public safety, the emergency procedures shall be followed by the occupants of the affected building. The Department of Public Safety will assist with the evacuations and the questioning of residents about the fire's origin. The fire department will extinguish the fire, if not already done so by occupants.

- b. After the emergency is mitigated, and the fire area is safe, the scene of the fire should be examined. The goal of the investigator is to determine cause, origin and if arson has occurred. The institution is still responsible for determining arson even though a fire investigator from the Authority Having Jurisdiction (AHJ) may already be examining the scene.
- c. If the fire was determined to be arson, then a timely warning should be issued to the campus community within 48 hours. Within 2 days of the arson determination, an entry must be made to the daily crime log, and an update to the fire log's "nature of fire" is made.
- d. The University's investigator should then make an official report of their findings.

## **18. Training**

- 18.1. The written Fire Prevention Plan is maintained by the Safety and Fire Prevention Technician. The Fire Prevention Plan is kept in the Environmental Health and Safety office and is available on the EHS website.
- 18.2. The Fire Prevention Plan will be reviewed and evaluated annually. Appropriate modifications will be incorporated to assure the plan complies with all pertinent regulations.

## Attachment A

### Classification of Fires and Control Agents

A. **Class A:** Ordinary combustible materials such as wood, cloth, and paper. The most commonly used extinguishing agent is water which cools and quenches. Fires in these materials are also extinguished by special dry chemicals for use on Class A, B, & C fires. These provide a rapid knock down of flame and form a fire-retardant coating which prevents re-flash.

B. **Class B:** Vapor-air mixtures over the surface of flammable liquids such as grease, gasoline, and lubricating oils. A smothering or combustion inhibiting effect is necessary to extinguish Class B fires. Dry chemical, foam, vaporizing liquid, carbon dioxide, and water fog all can be used as extinguishing agents depending on the circumstances of the fire.

C. **Class C:** Electrical equipment where non-conducting extinguishing agents must be used. Dry chemical, carbon dioxide, and vaporizing liquids are suitable. Because foam, water (except as a spray), and water-type extinguishing agents conduct electricity, their use can kill or injure the person operating the extinguisher, and severe damage to electrical equipment can result.

D. **Class D:** Combustible metals such as magnesium, titanium, zirconium, and sodium. Specialized techniques, extinguishing agents, and extinguishing equipment have been developed to control and extinguish fires of this type. Normal extinguishing agents generally should not be used on metal fires as there is a danger in most cases of increasing the intensity of the fire because of a chemical reaction between some extinguishing agents and the burning metal. These types of materials are not found at USD.

## **Attachment A cont.**

E. **Class K:** Kitchen fires involving grease, cooking oils and fats.

F. **Halon/Halotron:** A colorless, odorless, electrically non-conductive gaseous “clean” agent which is effective on Class A, B, and C fires and is recommended for protection of delicate electronic equipment and irreplaceable materials.

G. Locations of different types of fire extinguishers:

1. Dry Chemical ABC fire extinguisher is the most common fire extinguisher throughout campus and are within 75’ of travel distance apart. These fire extinguishers are either located in cabinets or mounted to the wall with a bracket. They are also found in elevator, electrical and machine rooms.
2. Halon/Halotron fire extinguishers are utilized in computer rooms, or areas with high value asset equipment or electronics.
3. Class K fire extinguishers are located in the different kitchens to be used in the event of a fire involving grease, cooking oils and fats.

## Attachment B

### **Building Evacuation – Assembly Area**

**March 2023**

The following list of USD buildings with their corresponding emergency evacuation assembly area. In the event an evacuation of the building you work or live in is required proceed to the evacuation assembly area. Do not enter until the “All Clear” is given.

<b><u>Building Name</u></b>		<b><u>Assembly Area Location</u></b>
Avila & Durango	-	Parking Lot near West Parking Structure
Belanich Engineering Center (BEC)/Loma Hall	-	South & East Parking Lot
Bradford Lee Bosley Café and Fitness Center	-	Front of Mata'yuum Crossroads
Coronado & Barcelona	-	Parking lot near West Parking Structure
Camino Hall Main Floor	-	Paseo de Colachis
Camino Hall Lower Level	-	Grassy Area North of Sacred Heart Hall
Copley Library Main Entrance	-	Paseo de Colachis
Copley Library Lower Level	-	Area between Learning Commons and Camino Hall
Degheri Alumni Center	-	Southwest Parking Lot
E-Waste Collection Center	-	Lawn Area near Marian Way
Facilities Management Complex	-	Grassy area next to tennis courts
Field House	-	Eagan Plaza
Fowler Park/Cunningham Field	-	Manchester Valley Field
Founders Hall	-	Area in front of School of Nursing
Guadalupe Hall	-	Front of Maher Hall on East end
Hogan West Tennis Center	-	Grassy area west of Mother Rosalie Hill Hall
Hughes Administration Center	-	Colachis Plaza, Fountain Area
Immaculata Church	-	Colachis Plaza, Fountain Area
Jenny Craig Pavilion 1 <sup>st</sup> Floor	-	North Parking Lot
Jenny Craig Pavilion 2 <sup>nd</sup> and 3 <sup>rd</sup> Floor	-	Eagan Plaza
Joan B. Kroc Institute for Peace and Justice	-	Joan B. Kroc IP&J East Courtyard
Knauss School of Business	-	Joan B. Kroc IP&J East Courtyard
Learning Commons	-	Mother Rosalie Hill Hall Parking Lot/Sidewalks
Legal Research Center	-	Area in front of UC
Legal Research Center Basement		Grassy area adjacent to Degheri Alumni Center
Maher Hall	-	Plaza de San Diego
Manchester Child Development Center	-	Northeast corner, on sidewalk

## Attachment B con't

Manchester Hall	-	Paseo de Colachis
Ministry Center	-	Paseo de Colachis
Mother Rosalie Hill Hall	-	Joan B. Kroc IP&J East Courtyard
Hahn School of Nursing/ Beyster Institute for Nursing Research (BINR)	-	In front of Founders Hall
Olin Hall	-	Across courtyard, in front of Camino Hall
Sacred Heart Hall	-	Paseo de Colachis
Shiley Center for Science & Technology	-	Joan B. Kroc IP&J East Courtyard
Saints Tekakwitha/Serra Hall	-	Plaza San Diego, west end of Maher Hall
Sports Center	-	South Parking Lot
Student Health Center	-	Parking Lot, West of University Copy and Graphics Shop
Student Life Pavilion	-	Front of Legal Research Center/ Degheri Alumni Center
University Center 1 <sup>st</sup> Floor	-	Tecolote Path/Memorial Garden
University Center 2 <sup>nd</sup> Floor	-	South of Torero Way/Maher Hall
University Copy/Mail Center	-	Parking Lot, North of the Immaculata
Warren Hall 1 <sup>st</sup> Floor people using wheel chairs	-	East Parking Lot
Warren Hall 2 <sup>nd</sup> & 3 <sup>rd</sup> Floor	-	East area of Plaza de San Diego
Weight Room	-	Parking Lot, North of Sports Center
<b><u>Resident Halls</u></b>		<b><u>Assembly Area Location</u></b>
Camino Hall 2 <sup>nd</sup> Floor.	-	Paseo de Colachis
Founders Hall 2 <sup>nd</sup> Floor	-	Paseo de Colachis
Maher Hall	-	Plaza de San Diego
Manchester Village 1714 & 1720	-	Manchester Valley Field
Valley Residence A	-	North End of Valley Field
Valley Residence B	-	Mid Area of Valley Field
Mata'yuum Crossroads	-	East End of Valley Field
San Antonio de Padua	-	South End of Valley Field
San Buenaventura	-	West Side of Valley Field

## Attachment B con't

<u>Alcala Vista Apartments</u>		
Cuyamaca 1508	-	Parking Lot, West Side of Building
Cuyamaca 1506	-	Parking Lot, southwest side of building
Laguna 1502	-	Parking Lot, southeast side of building
Laguna 1504	-	Parking Lot, east side of building
Palomar 1510	-	Parking Lot, northeast side of building
Palomar 1512	-	Parking Lot, north side of building
Borrego	-	Parking Lot, east side of building
University Terrace Apartments	-	West Side of Goshen Street
Presidio Terrace Apartments	-	Sidewalk alongside Linda Vista Road



## Attachment C

### Exempt amounts of Hazardous Materials in Control Areas

Quantities of hazardous materials must be less than the limits specified in Table 5003.1.1(1) to 5003.1.1(4) “Maximum Quantity Per Control Area of Hazardous Materials Posing a Physical or Health Hazard” from the 2016 California Fire Code. If these quantities are exceeded, special rooms must be constructed to store these materials. These rooms are described in the California Building Code as “H Occupancies.” Companies can control their construction costs by limiting their quantities of hazardous materials to the exempt limits, and thereby avoid the cost of these expensive “H” rooms.

#### Attachment C: Maximum Allowable Quantity

TABLE 5003.1.1(1)—continued  
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD<sup>a, b, c, d</sup>

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE <sup>b</sup>			USE-CLOSED SYSTEMS <sup>b</sup>			USE-OPEN SYSTEMS <sup>b</sup>	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Inert Gas	Gaseous Liquefied	NA NA	NA NA	NA NA	NL NL	NA NA	NA NA	NL NL	NA NA	NA NA
Organic peroxide	UD	H-1	1 <sup>a, c</sup>	(1) <sup>a, c</sup>		0.25 <sup>b</sup>	(0.25) <sup>b</sup>		0.25 <sup>b</sup>	(0.25) <sup>b</sup>
	I	H-2	5 <sup>d, e</sup>	(5) <sup>d, e</sup>		1 <sup>d</sup>	(1) <sup>d</sup>		1 <sup>d</sup>	(1) <sup>d</sup>
	II	H-3	50 <sup>d, e</sup>	(50) <sup>d, e</sup>	NA	50 <sup>d</sup>	(50) <sup>d</sup>	NA	10 <sup>d</sup>	(10) <sup>d</sup>
	III	H-3	125 <sup>d, e</sup>	(125) <sup>d, e</sup>		125 <sup>d</sup>	(125) <sup>d</sup>		25 <sup>d</sup>	(25) <sup>d</sup>
	IV V	NA NA	NL NL	NL NL		NL NL	NL NL		NL NL	NL NL
Oxidizer	4	H-1	1 <sup>a</sup>	(1) <sup>a</sup>		0.25 <sup>c</sup>	(0.25) <sup>c</sup>		0.25 <sup>c</sup>	(0.25) <sup>c</sup>
	3 <sup>a</sup>	H-2 or H-3	10 <sup>d, e</sup>	(10) <sup>d, e</sup>	NA	2 <sup>d</sup>	(2) <sup>d</sup>	NA	2 <sup>d</sup>	(2) <sup>d</sup>
	2	H-3	250 <sup>d, e</sup>	(250) <sup>d, e</sup>		250 <sup>d</sup>	(250) <sup>d</sup>		50 <sup>d</sup>	(50) <sup>d</sup>
	1	NA	4,000 <sup>d, f</sup>	(4,000) <sup>d, f</sup>		4,000 <sup>d</sup>	(4,000) <sup>d</sup>		1,000 <sup>d</sup>	(1,000) <sup>d</sup>
Oxidizing gas	Gaseous Liquefied	H-3	NA	NA (150) <sup>d, e</sup>	1,500 <sup>d, e</sup> NA	NA	NA (150) <sup>d, e</sup>	1,500 <sup>d, e</sup> NA	NA	NA
Pyrophoric	NA	H-2	4 <sup>b, f</sup>	(4) <sup>b, f</sup>	50 <sup>a, f</sup>	1 <sup>f</sup>	(1) <sup>f</sup>	10 <sup>a, f</sup>	0	0
Unstable (reactive)	4	H-1	1 <sup>b</sup>	(1) <sup>b</sup>	10 <sup>b</sup>	0.25 <sup>b</sup>	(0.25) <sup>b</sup>	2 <sup>c, e</sup>	0.25 <sup>b</sup>	(0.25) <sup>b</sup>
	3	H-1 or H-2	5 <sup>d, e</sup>	(5) <sup>d, e</sup>	50 <sup>d, e</sup>	1 <sup>d</sup>	(1) <sup>d</sup>	10 <sup>d, e</sup>	1 <sup>d</sup>	(1) <sup>d</sup>
	2	H-3	50 <sup>d, e</sup>	(50) <sup>d, e</sup>	750 <sup>d, e</sup>	50 <sup>d</sup>	(50) <sup>d</sup>	750 <sup>d, e</sup>	10 <sup>d</sup>	(10) <sup>d</sup>
	1	NA	NL	NL	NL	NL	NL	NL	NL	NL
Water reactive	3	H-2	5 <sup>d, e</sup>	(5) <sup>d, e</sup>		5 <sup>d</sup>	(5) <sup>d</sup>		1 <sup>d</sup>	(1) <sup>d</sup>
	2	H-3	50 <sup>d, e</sup>	(50) <sup>d, e</sup>	NA	50 <sup>d</sup>	(50) <sup>d</sup>	NA	10 <sup>d</sup>	(10) <sup>d</sup>
	1	NA	NL	NL		NL	NL		NL	NL

For SF: 1 cubic foot = 0.02832 m<sup>3</sup>, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

NA = Not Applicable, NL = Not Limited, UD = Unclassified Detonable.

a. For use of control areas, see Section 5003.8.3.

b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.

c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited providing the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuff or consumer products and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. [SFM] In other than Group I occupancies, maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

**TABLE 1116.7(1)**  
**EXEMPT AMOUNTS OF HAZARDOUS MATERIALS, LIQUIDS AND CHEMICALS**  
**PRESENTING A PHYSICAL HAZARD BASIC QUANTITIES PER LABORATORY SUITE<sup>1</sup>**  
 When two units are given, values within parentheses are in cubic feet (cu. ft) or pounds (lb)

CONDITION		STORAGE			USE CLOSED SYSTEMS			USE OPEN SYSTEMS		
MATERIAL	CLASS	Solid Pounds (cu. ft)	Liquid Gallons (lb)	Gas (cu. ft)	Solid Pounds (cu. ft)	Liquid Gallons (lb)	Gas (cu. ft)	Solid Pounds (cu. ft)	Liquid Gallons (lb)	Gas (cu. ft)
1.1 Combustible liquid	II	—	120 <sup>2</sup>	—	—	120	—	—	30	—
	III-A	—	330 <sup>2</sup>	—	—	330	—	—	80	—
	III-B	—	13,200 <sup>2</sup>	—	—	13,200	—	—	3,300	—
1.2 Combustible dust lbs (1000 cu. ft)	I	—	—	—	1	—	—	1	—	—
1.3 Combustible fiber (loose) (baled)		(100) (1,000)	—	—	(100) (1,000)	—	—	(20) (200)	—	—
1.4 Cryogenic, flammable or oxidizing		—	45	—	—	45	—	—	10	—
2.1 Explosives		12	(1) <sup>2</sup>	—	1/4	(1/4)	—	1/4	(1/4)	—
3.1 Flammable solid		125 <sup>2</sup>	—	—	25	—	—	25	—	—
3.2 Flammable gas (gaseous) (liquefied)		—	—	750 <sup>2</sup>	—	—	750 <sup>2</sup>	—	—	—
3.3 Flammable liquid combination I-A, I-B, I-C	I-A	—	30 <sup>2</sup>	—	—	30	—	—	10	—
	I-B	—	60 <sup>2</sup>	—	—	60	—	—	15	—
	I-C	—	90 <sup>2</sup>	—	—	90	—	—	20	—
		—	120 <sup>2</sup>	—	—	120	—	—	30	—
4.1 Organic peroxide, unclassified, detonatable		1 <sup>2</sup>	(1) <sup>2</sup>	—	1/4	(1/4)	—	1/4	(1/4)	—
4.2 Organic peroxide	I	5 <sup>2</sup>	(5) <sup>2</sup>	—	(1)	(1)	—	1	1	—
	II	50 <sup>2</sup>	(50) <sup>2</sup>	—	50	(50)	—	10	(10)	—
	III	125 <sup>2</sup>	(125) <sup>2</sup>	—	125	(125)	—	25	(25)	—
	IV	500	(500)	—	500	(500)	—	100	(100)	—
	V	N.L.	N.L.	—	N.L.	N.L.	—	N.L.	N.L.	—
4.3 Oxidizer	4	1 <sup>2</sup>	(1) <sup>2</sup>	—	1/4	(1/4)	—	1/4	(1/4)	—
	3	10 <sup>2</sup>	(10) <sup>2</sup>	—	2	(2)	—	2	(2)	—
	2	250 <sup>2</sup>	(250) <sup>2</sup>	—	50	(250)	—	50	(50)	—
	1	1,000 <sup>2</sup>	(1,000) <sup>2</sup>	—	1,000	(1,000)	—	200	(200)	—
4.4 Oxidizer, Gas (gaseous) (liquefied)		—	—	1,500 <sup>2</sup>	—	—	1,500 <sup>2</sup>	—	—	—
5.1 Pyrophoric		4 <sup>2</sup>	(4) <sup>2</sup>	50 <sup>2</sup>	1	(1)	10 <sup>2</sup>	0	0	0
6.1 Unstable (reactive)	4	1 <sup>2</sup>	(1) <sup>2</sup>	10 <sup>2</sup>	1/4	(1/4)	2 <sup>2</sup>	1/4	(1/4)	0
	3	5 <sup>2</sup>	(5) <sup>2</sup>	50 <sup>2</sup>	1	(1)	10 <sup>2</sup>	1	(1)	0
	2	30 <sup>2</sup>	(50) <sup>2</sup>	250 <sup>2</sup>	50	(50)	250 <sup>2</sup>	10	(10)	0
	1	125 <sup>2</sup>	125 <sup>2</sup>	750 <sup>2</sup>	125	(125)	750 <sup>2</sup>	25	(25)	0
7.1 Water (reactive)	3	5 <sup>2</sup>	(5) <sup>2</sup>	—	5	(5)	—	1	(1)	—
	2	50 <sup>2</sup>	(50) <sup>2</sup>	—	30	(50)	—	10	(10)	—
	1	125 <sup>2</sup>	(125) <sup>2</sup>	—	125	(125) <sup>2</sup>	—	25	(25)	—

1. A laboratory suite is a space up to 10,000 square feet (929 m<sup>2</sup>) bounded by not less than a one-hour fire-resistive occupancy separation within which the exempt amounts of hazardous materials may be stored, dispensed, handled or used. Up through the third floor and down through the first basement floor, the quantity in this table shall apply. Fourth, fifth and sixth floors and the second and third basement floor level quantity shall be reduced to 75 percent of this table. The seventh through 10th floor and below the third basement floor level quantity shall be reduced to 50 percent of this table.
2. Quantities may be increased 100 percent when stored in approved exhausted gas cabinets, exhausted enclosures or fume hoods.

# CONSTRUCTION REQUIREMENTS FOR EXISTING BUILDINGS

**TABLE 1116.7(2)**  
**EXEMPT AMOUNTS OF HAZARDOUS MATERIALS, LIQUIDS AND CHEMICALS**  
**PRESENTING A HEALTH HAZARD MAXIMUM QUANTITIES PER LABORATORY SUITE<sup>1</sup>**  
*When two units are given, values within parentheses are in pounds (lbs.)*

MATERIAL	STORAGE			USE CLOSED SYSTEMS			USE OPEN SYSTEMS	
	Solid lb	Liquid Gallons (lb)	Gas (cu. ft)	Solid lb	Liquid Gallons (lb)	Gas (cu. ft)	Solid lb	Liquid Gallons (lb)
1. Corrosives	5,000	500	650 <sup>2</sup>	5,000	500	650	1,000	100
2a. Highly toxics <sup>2</sup>	40	10	65	5	1	65	2	1/4
2b. Toxics	500	50	650 <sup>2</sup>	500	50	650	5	1/2
3. Irritants	5,000	500	650	5,000	500	650	1,000	100
4. Sensitizers	5,000	500	650	5,000	500	650	1,000	100
5. Other health hazards	5,000	500	650	5,000	500	650	1,000	100

1. A laboratory suite is a space up to 10,000 square feet (929 m<sup>2</sup>) bounded by not less than a one-hour fire-resistive occupancy separation within which the exempt amounts of hazardous materials may be stored, dispensed, handled or used. Up through the third floor and down through the first basement floor, the quantity in this table shall apply. Fourth, fifth and sixth floors and the second and third basement floor level quantity shall be reduced to 75 percent of this table. The seventh through 10th floor and below the third basement floor level quantity shall be reduced to 50 percent of this table.
2. Permitted only when stored or used in approved exhausted gas cabinets, exhausted enclosures or fume hoods. Quantities of high toxics in use in open systems need not be reduced above the third floor or below the first basement floor level. Individual container size shall be limited to 2 pounds (0.91 kg) for solids and 1/4 gallon (0.95 L) for liquids.

## Attachment D

### FIRE and LIFE SAFETY HAZARD CHECKLIST

A. Extinguishers	Yes	No	N/A
1. Are your fire extinguishers visible and have no obstructions?			
2. Are the fire extinguishers accessible and not blocked?			
<b>B. Exiting</b>			
1. Are corridors/hallways clear of all obstructions?			
2. Are stairwells clear of obstructions?			
3. Are the electrically illuminated exit signs working?			
4. Are exit stairwell doors and fire doors being kept closed? (i.e. No door stops)			
5. If your building has a fire alarm system, are pull stations visible and accessible?			
6. Combustible materials are cleared from heat sources such as water furnaces, floor heaters, or space heaters?			
7. There are no flammable/combustible materials being stored under stairwells or cases?			
8. Are exits clear and not blocked, locked or have improper lighting?			
<b>C. Electrical</b>			
1. Are extension cords being used in lieu of permanent wiring?			
2. Are extension cords in good condition and UL-Listed?			
3. Are extension cords not tacked or stapled to the wall or woodwork?			
4. Are there trip hazards created by extension cords?			
5. Are electrical outlets being overloaded?			
6. Are space heaters being used with tip over switch? (it should turn off when tipped over)			
7. Are portable electric space heaters plugged directly into a permanent receptacle?			
8. Are portable electric space heaters being used 3 feet away from any combustible materials?			
<b>D. Housekeeping and Storage</b>			
1. Are work areas kept in clean and orderly conditions?			
2. Is there a minimum of 18" between stored materials and sprinkler heads?			

3. Is there a minimum 24" of clearance below ceiling without sprinklers?			
4. Is artwork and teaching material limited on the walls of corridors to not more than 50% of wall area?			
<b>F. Hazardous Materials (if applicable)</b>			
1. Are less than 10 gallons of flammable liquids being stored inside of a flammable liquid storage cabinet?			
2. Is approved flammable liquid storage cabinet available?			
3. Are chemicals stored with other compatible chemicals?			
4. Are more than two cylinders not actually in use (not equipped with regulator) capped?			
5. Are individual cylinders secured when fitted with a regulator?			
6. Are more than two cylinders (when capped) chained together?			
7. Are flammable liquids stored away from other heat sources?			
8. Are all compressed gas cylinders secured with welded chain or steel straps to immovable objects to prevent them from falling or being knocked over?			
9. Are all containers or hazardous substances labeled in accordance with Hazard Communication Standard (8CCR 5194*)			
Comments/Corrections:			

**PERMIT**

**FOR CUTTING AND WELDING**  
**IMPORTANT – Follow precautions indicated \***

Building: \_\_\_\_\_  
 Permit issue date: \_\_\_\_\_  
 Dept./area: \_\_\_\_\_  
 Work to be done: \_\_\_\_\_

Floor: \_\_\_\_\_

Permit expires: \_\_\_\_\_  
 Operator name: \_\_\_\_\_  
 Assigned fire watch name: \_\_\_\_\_

Signed by: \_\_\_\_\_  
 (Individual responsible for authorizing welding and cutting)  
 Title: \_\_\_\_\_

Time started: \_\_\_\_\_

Completed: \_\_\_\_\_

\* Complete this Hotwork Permit (by tabbing through each highlighted area and typing in each field) including having the precautions followed, signed by someone in authority and hang this permit in the vicinity of the hotwork operation. Areas not highlighted are intended to be completed on-site using pen. Once the hotwork is completed and the area observed and signed off as being safe, sign this permit and retain it for review by Travelers Risk Control.

**File for Travelers Risk Control Consultant's Review**

**IMPORTANT!** To save a copy of this form once filled in, you must choose File/Save As from the top menu bar, give it a unique name and save a copy to your computer. You may also print out a completed copy by clicking on the Print Form button.

**DANGER**

**PRECAUTIONS TO PREVENT FIRES**  
**DO NOT CUT OR WELD UNTIL THE FOLLOWING PRECAUTIONS HAVE BEEN TAKEN**

Check each item below:

- The work area was personally examined.
- Sprinkler system is in operation.
- There are no flammable liquids or un-purged tanks in the area.
- The job will be confined to the area described on permit.
- Floors are clean.
- All combustibles have been located 35 feet from the job area and/or protected.
- All floor and walls openings within 35 feet have been covered tightly.
- Fire watchers have been assigned to the area and know how to give alarm.
- Ample extinguishing equipment for immediate use has been provided.
- All cutting & welding equipment was found to be in good repair.

**FINAL CHECK-UP**

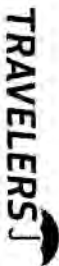
The work area was observed for at least 30 minutes after work was completed and found fire safe.

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_



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