



University of San Diego

**FIRE PREVENTION PLAN**  
**September 2005**

# FIRE PREVENTION PLAN

## Table of Contents

Introduction.....	1
University of San Diego Employees General Responsibilities .....	1
If You Discover A Fire .....	2
If You Hear a Fire Alarm.....	3
Fighting a Fire.....	5
How to Use A Fire Extinguisher.....	5
Using a Fire Extinguisher .....	5
Types of Fire Extinguisher.....	6
Fire Safety Tips.....	6
Reduce Fire Hazards.....	7
Be Prepared - Have a Plan .....	7
General Procedures for Storage, Handling, and Disposal of Hazardous Materials.....	8
General Chemical Handling Procedures .....	8
Compressed Gas Cylinders.....	10
Special Operations .....	10
Heating Operations .....	10
Mixing and Grinding Operations.....	10
Other Operations .....	10
Apparatus.....	11
Mechanically Ventilated Hoods .....	11
Heating Equipment.....	12
Motor-Driven Apparatus .....	12
Pressure Equipment .....	12
Hazard Identification .....	13
Explosion Hazard Protection .....	13
Fire Alarm Systems.....	14
Inspection and Maintenance .....	14
Fire Loss Prevention .....	14
Emergency Procedures .....	14
Clothing Fires .....	18
Fire Prevention Procedures.....	18
Training .....	18
Initial Fire Safety Training Documentation .....	20
Individual Employee Training Documentation.....	21

# **FIRE PREVENTION PLAN**

## **List of Attachments**

- A. Classification of Fires and Control Agents
- B. Definitions
- C. Exempt Amounts of Hazardous Materials
  - 1. Exempt Amounts of Hazardous Materials in Laboratories.
  - 2. Table 8001.13-A -  
Exempt Amounts of Hazardous Materials Presenting a Physical Hazard
  - 3. Table 8001.13-B -  
Exempt Amounts of Hazardous Materials Presenting a Health Hazard
  - 4. Table 7902.5-A -  
Exempt Amounts of Flammable and Combustible Liquids
- D. Fire and Life Safety Inspection Checklist for the University of San Diego Staff
- E. Building Evacuation Staging Area
- F. California Code of Regulations, Title 8, Section 3221

## **FIRE PREVENTION PLAN**

(General Industry Safety Order 3221)

### Introduction

The Fire Prevention Plan is a written plan designed to reduce the risk of a fire in the workplace. Cal/OSHA requires employers to establish such a plan. Most of the plan is focused on guidelines for the safe storage, handling and disposal of hazardous 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.

### **The Fire Safety Specialist (FSS) is: Barney Holland**

#### 1. University of San Diego Employees General Responsibilities:

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

- 1.1.1. Emergency Preparedness Manual
- 1.1.2. Injury and Illness Prevention Plan
- 1.1.3. New Employee Safety Training Booklet
- 1.1.4. Part Time and Temporary Employee Safety Training Booklet

#### 1.2. Hazard Communication Plan

1.2.1. Employees assigned to work in a laboratory or lab support area shall read and familiarize themselves with the above referenced information, in addition to the following safety related documents which may pertain to their job/tasks:

- 1.1.1. The Chemical Hygiene Plan
- 1.1.2. Radiation Safety Manual
- 1.1.3. Biosafety Manual

1.2.3. Employees shall not handle chemicals, toxic substances, radioactive materials, biological substances, carcinogens, or any other hazardous materials except as required by their assigned work.

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

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

1.2.6. 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.

- 1.2.7. Do not tamper with or remove lights or lighting fixtures. Maintenance personnel shall repair or adjust the lighting as needed.
- 1.2.8. 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 put it back on the hook. The extinguisher must be recharged. Contact the Fire Safety Officer.
- 1.2.9. If a fire, evacuation or other emergency occurs, follow all the instructions in the Emergency Preparedness Manual.
- 1.2.10. Do not block access to fire extinguishers, fire pull stations or other fire protection equipment.
- 1.2.11. Do not block or obstruct exit doors or lock them during business hours.
- 1.2.12. Do not block aisles or hallways.
- 1.2.13. Electrical control panels shall not be blocked or obstructed. There must always be a 36-inch clearance in front of this equipment.
- 1.2.14. 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.
- 1.2.15. Always practice good housekeeping:
  - 1.2.15.1. Keep floors clean and dry to prevent slipping hazards. Spills should be cleaned up immediately.
  - 1.2.15.2. Do not permit trash, garbage or waste containers to overflow.

## 2. If You Discover A Fire:

- 2.1. Remove anyone in the immediate area and close all doors as you leave. As you leave, warn other occupants by knocking on doors and shouting .
- 2.2. Activate the nearest fire alarm pull station to evacuate the building. Notify the Fire Department and call USD Public Safety at ext. 2222 from a safe location. Tell them where the fire is and give them any other information requested.
- 2.3. Evacuate the building by the nearest exit and report to the designated Evacuation Assembly Area (see Attachment E).
- 2.4. If there is smoke or heat, stay low to the floor. Crawl to the nearest exit, if need be.
- 2.5. **DO NOT USE ELEVATORS! USE STAIRWELLS.**

2.6. 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:

2.6.1. Call **911** and tell them your exact location and your situation. They will notify the Fire Department by radio.

2.6.2. Place a blanket or similar article along the bottom of the door to keep smoke out. If possible, wet the material first.

2.6.3. Retreat. Close as many doors between you and the fire as possible.

2.6.4. Hang a light-colored material or sign out the window to attract attention of rescue teams below.

**2.6.5.DO NOT JUMP!**

2.7. 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.

2.7.1 Conduct a final search of the building, if it is safe to do so.

2.7.2. Leave the area by the nearest stairwell that is clear of smoke.

2.7.3. Assemble outside in a pre-designated area. Do not re-enter the building until notified to do so by USD Public Safety or the San Diego Fire Department.

3. If You Hear a Fire Alarm:

3.1. Be aware of the following procedures when the fire alarm sounds in your building. You should also be familiar with your Building Safety Representative, your emergency exit routes, and your assembly area.

3.1.1. Leave the premises immediately if you hear a fire alarm. Always close your door. Do not use elevators. Take your keys with you.

3.1.2. State law requires occupants to evacuate a building when the fire alarm sounds. Go to your designated assembly area and report to the roll-taker for your department, floor, or building.

3.1.3. The Building Safety Representative, if available, may be approached for information by campus emergency responders, such as USD Police Department.

3.1.4. The City of San Diego Fire Department will assume command and control over all fire alarm conditions.

3.1.5. 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 may deem it appropriate to

silence the fire alarm immediately.

3.1.6. When the emergency condition is over, the City of San Diego Fire Department officer in charge will release the building to the FST, the USD Public Safety, or to an adviser from the Office of Environmental Health & Safety.

3.1.7. The USD police officer or the adviser from EH&S will then turn the building back over to the Building Safety Representative to allow the occupants to re-enter the building.

#### 4. Building Safety Representatives Emergency Evacuation Responsibilities

The evacuation of buildings at the University of San Diego is everyone's responsibility. However, some people have assumed responsibilities to assist during an emergency evacuation and make their building safer. The title given to these persons is Building Safety Representative (BSA), Alternate BSA, and Floor Safety Representative. Resident Directors and Resident Assistants assume this role in student residential buildings.

##### 4.1 Their responsibilities are:

4.1.1 Insuring the safe and expedient evacuation of their building.

4.1.2. Knowing the location of the designated assembly area, and exits of their building.

4.1.3. Distributing information concerning evacuation plans, drills, and safety to all departments in their building.

4.1.4. Insuring clear access to exits and fire safety equipment.

4.1.5. Accounting of building occupants at the assembly area.

4.1.6. Reporting missing or injured persons to emergency personnel.

4.1.7. Providing, if requested, assistance to those with disabilities that may impede their safe evacuation.

4.1.8. Attend meetings with Risk Management and Environmental Health and Safety.

4.1.9. Never placing themselves in danger while performing these duties.

##### 4.2. Public Safety

Public Safety is responsible for light search and rescue and building evacuations. At no time will any Building Safety Representative remain in the building if their position becomes unsafe. All personnel shall remain at the assembly area until released by the proper authority. In the event of a major earthquake, which could present a hazard to an assembly area, personnel shall assemble at another area deemed safe by the Building Safety Representative. No one is to re-enter building once evacuated until given the "ALL CLEAR" from Public Safety or Fire Department officers.

##### 4.3 Departmental Responsibilities

Departments shall keep posted 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, administrators and resident students must know the location of designated assembly areas.

## 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 first! Training in the use of portable fire extinguishers is given to all new employees during New Employee Safety Orientation. Also this training can be obtained from the Office of Environmental Health & Safety. Contact the FST at ext. 2595 to arrange this training.

## 6. How to Use A Fire Extinguisher:

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 door and leave immediately.

6.3. If the fire is small, 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 at the site to make a report to the City of San Diego Fire Department or USD Police Department.

## 7. Using a Fire Extinguisher:

7.1 If you know you have the proper extinguisher and the fire is small enough to extinguish safely, remember 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 While firmly grasping the extinguisher's handle, briskly pull the locking pin, breaking the plastic tip or plastic tie wrap.

7.3 Firmly grasp the nozzle handle and point toward base of fire.

7.4. Move to within approximately ten (10) feet from fire's base and squeeze the handle, thereby releasing extinguisher's contents toward the base of the fire.

7.5 Continue extinguishing fire in a sweeping pattern across the base of the fire until the fire is out.

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

7.7. Once fire is out, alert others to all-clear condition, and clean-up broken glass, beakers, dry powder, etc. If there are chemical spills, call EH&S to clean them up.

7.8. Notify your Lab Manager about the fire.

## 8. Types of Fire Extinguisher:

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 fire such as sodium metal

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

8.3. If you're not sure about either the type of fire or the type of extinguisher, wait for the fire department at the designated staging area (See attachment E).

## 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 attachment E).

9.2. Know where the nearest fire alarm and fire extinguisher are located.

9.3. Make sure that emergency numbers are posted on your telephone. **Emergency phone numbers should be posted in close proximity to all telephones.** The following phone numbers should be listed: Fire/ Police/Emergency Medical Services (EMS)/Telephone Number 911.

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 circuit.

9.7. Store hazardous materials in limited quantities and keep them in an approved flammable liquid storage cabinet when storing more than 10 gallons.

9.8.Keep fire doors closed at all times.

9.9.Smoke only in permitted areas, outside the building, and discard ashes in approved ashtrays.

9.10.Never leave an open flame unattended.

9.11.Small fires can turn into large fires. Fire is a serious life-threatening occurrence. You must be prepared in advance for the threat of fire. Have a good working knowledge of the following areas of safety before a fire occurs.

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

#### 10. Reduce Fire Hazards:

10.1 Store gasoline (as well as paints, solvents and other flammable liquids) in an approved safety container or approved flammable liquid cabinet.

10.2.Keep scrap wood and other combustible materials away from structures.

10.3.Clean roof surfaces and gutters regularly.

10.4.Keep trees and shrubs pruned, especially dead wood.

10.5.Maintain a fuel break around all structures. Keep weeds "knocked down" around all permanent as well as temporary buildings.

10.6.Post "No Smoking" signs where appropriate.

10.7.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).

10.8.Keep an area of 30 feet around buildings clear of weeds and brush. This is called "defensible space."

10.9.Do not smoke around gasoline or other fuels.

10.10. Cool engine motors before refueling.

10.11.Use internal combustion engines and motors during cooler times of day.

#### 11. Be Prepared - Have a Plan:

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. (This is where practice makes perfect.)

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. When a chemical is ordered, steps will be taken to determine the hazards and to transmit that information to those who will receive, store, use, or dispose of the chemical.

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 area 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;
- or
- 12.1.7.3 in a separate inside storage area, as described in the Uniform 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 or 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 a six-month shelf life.
- 12.1.15. Storage facilities will be inspected quarterly to assure compliance with this plan.
- 12.1.16. Special consideration will be given to the classification of hazardous waste at the time of collection to avoid chemical incompatibilities.
- 12.1.17. Disposal of hazardous wastes will be according to applicable Local, State, and Federal regulations.
- 12.1.18 Contractors employed to remove hazardous wastes from the premises will be informed of the basic character and hazards of the waste.

## 12.2. Compressed Gas Cylinders

- 12.2.1. Compressed gas cylinders will be handled and stored according to UFC and Cal/OSHA standards.
- 12.2.2. Cylinders that are not necessary for current work requirements will be stored in a safe location outside the work area or returned to the vendor.
- 12.2.3. Cylinders containing gases that are corrosive to cylinders or cylinder valves (e.g., HCl or HF) or that may become unstable while stored in the cylinder will have a maximum retention period of **six months**, unless the manufacturer otherwise specifies a shorter period.
- 12.2.4. Cylinders of all gases having Health Hazard Ratings of 3 or 4 and cylinders of gases having a Health Hazard Rating of 2 with no physiological warning properties will be kept in a continuously Fume hood or other continuously ventilated gas cabinet.
- 12.2.5. All cylinders will be secured with a metal chain.
- 12.2.6. The quantity and size of cylinders in laboratory work areas containing oxygen, flammable gas, liquefied flammable gas, and gas with Health Hazard Ratings of 3 or 4 must be within the limits listed in Attachment C.

## 12.3. Special Operations

### 12.3.1. Operations

- 12.3.1.1. Regular reviews of operations and procedures will be conducted with special attention given to any change in materials, operations, or personnel.

### 12.3.2. Heating Operations

- 12.3.2.1. All heating of flammable or combustible liquids will be conducted to minimize fire hazards.
- 12.3.2.2. Unattended operations will be provided with override controls and automatic shutdown to prevent system failure that can result in fire or explosion.

### 12.3.3. Mixing and Grinding Operations

- 12.3.3.1. Mixing, grinding, and stirring operations involving flammable and combustible materials will be protected from ignition sources and will be provided with suitable ventilation. Care will be taken to avoid local overheating during grinding/mixing of solids. Care will be taken to avoid fire/explosion hazards from flammable/combustible materials.

### 12.3.4. Other Operations

12.3.4.1 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.

12.3.4.2 Flammable liquids will be stored in closed containers.

### 12.3.5 Apparatus

#### 12.3.5.1 Refrigeration and Cooling Equipment

**Each laboratory refrigerator, freezer, or cooler will be prominently labeled to indicate whether it is or is not suitable for storing flammable liquids.** Ensure adequate air space between explosion proof refrigerators and surrounding walls.

12.3.5.2 Refrigerators, freezers, and other cooling equipment used to store or cool flammable liquids will be explosion proof and installed per the manufacturers' instructions.

#### 12.3.5.3 Fume Hoods

12.3.5.4 Air exhausted from fume hoods and other special local exhaust systems will not be recirculated.

12.3.5.5 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.

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

12.3.5.7 Air exhausted from 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.

12.3.5.8 Airflow indicators will be installed on laboratory hoods.

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

12.3.5.10 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:

12.3.5.10.1 .visual inspection of the physical condition of the hood interior,

- 12.3.5.10.2 sash, and duct work;  
face velocity;
- 12.3.5.11. verifications of inward airflow over the entire hood face;
- 12.3.5.12 .changes in work area conditions that may affect hood performance;

12.3.5.11. Deficiencies in hood performance will be corrected or:

- 12.2.5.11.1 The activity within the hood will be restricted to the capability of the hoods; or the hood will not be used.

12.3.5.12. A label will be affixed to each hood containing the following information from the last inspection:

- 12.3.5.12.1 inspection interval;
- 12.3.5.12.2 last inspection date;
- 12.3.5.12.3 average face velocity;
- 12.3.5.12.4 inspector's name.

## 12.4 Heating Equipment

12.4.1. 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.

12.4.2. 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.

## 12.5. Motor-Driven Apparatus

12.5.1. Electric motors 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.

## 12.6. Pressure Equipment

12.6.1. 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.

12.6.2. 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.

12.6.3. 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.

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

## 12.7. Hazard Identification

12.7.1. 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.

## 12.8. Explosion Hazard Protection

12.8.1. When a work area is considered to contain an explosion hazard, appropriate protection will be provided to protect the occupants of the work area and adjoining areas.

12.8.2. Protection will be provided by one or more of the following:

12.8.3. Limiting amounts of flammable or reactive chemicals with unknown characteristics used in or exposed by experiments

12.8.4. Special preventative or protective measures for the reactions, equipment, or materials themselves (e.g., high speed fire detection with deluge sprinklers, explosion-resistant equipment or enclosures, explosion suppression, explosion venting directed to a safe location)

12.8.5. Explosion-resistant walls or barricades around the work area containing the explosion hazard

12.8.6. Remote control of equipment to minimize personnel exposure;

12.8.7. Sufficient deflagration venting in outside walls to maintain the integrity of the walls separating the hazardous laboratory work area or unit from adjoining areas;

12.8.8. Conducting work in a detached or isolated building, or outdoors.

12.8.8.1. Appropriate doors, gates, fences or other barriers, properly posted,

will be provided to prevent or restrict access to work areas and containing an explosion hazard and to the space between explosion vents and fragment barriers.

12.8.8.2. Inspection of all protective construction devices and systems will be conducted at least annually with appropriate maintenance to assure integrity and operability.

12.8.8.3. Explosion shields and special explosion-containing hoods will be inspected prior to each use for deterioration, especially transparent shields and sight panels in special explosion-containing hoods.

### 13. Fire Alarm Systems

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

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

3.4. 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.

3.5. The fire alarm system will alert the alarm company who will notify the local fire department or the alarm will notify the fire department directly.

### 14. Inspection and Maintenance

3.6. The FST is responsible for the maintenance and testing of the designated devices and systems and will assure all deficiencies are corrected in a timely fashion.

3.7. Inspection of all protective construction devices and systems will be conducted at least annually with appropriate maintenance to assure integrity and operability.

3.8. The following protective devices and systems are to be tested:

3.9. Fire Alarms (when installed)

3.10. Fire Extinguishers

### 15. Fire Loss Prevention

#### 15.1 Emergency Procedures

1.1.2. 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 system.

- 1.1.2. Upon activation of the fire alarm system, all designated personnel will proceed to carry out their assigned tasks.
- 1.1.2. 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.
- 1.1.2. Once outside the building, all personnel will proceed to the evacuation assembly area. **(See Attachment E).**
- 1.1.2. The following listed 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.

Area:

Name:

Alternate:

Equipment to be shut down:

Area:

Name:

Alternate:

Equipment to be shut down:

Area:

Name:

Alternate:

Equipment to be shut down:

Area:

Name:

Alternate:

Equipment to be shut down:

## 15.2 Clothing Fires

15.2.1. In case of a clothing fire, the following procedures are to be followed:

15.2.1.1 The most important procedure in case of ignition of another person's clothing is to immediately knock the individual to the floor and roll that person around to smother the flames. Rolling on the floor not only smothers the fire, but also helps to keep flames out of the victim's face and reduces inhalation of smoke.

15.2.1.2 Do not allow the person to run! Running will result in more severe, often fatal burns.

15.2.1.3 Safety showers, fire blankets, and fire extinguishers are of secondary importance. They should be used only when immediately nearby.

## 15.3. Fire Prevention Procedures

15.3.1. Open flame and spark producing equipment will be operated within work guidelines established by the FSO.

15.3.2.. Smoking will be permitted only in designated outside areas.

15.3.3. The use of portable electric cords (extension cords) will be minimized at all times. Portable electric cords will not be permanently installed.

15.3.4. Maintenance procedures developed and used by facilities personnel will be reviewed and approved by the FSO, as applicable:

15.3.4.1. utilities - steam, gas, electrical;

15.3.4.2. air supply and exhaust systems;

15.3.4.3. fire protection equipment;

15.3.4.4. detectors and alarms;

15.3.4.5. pressure and temperature relief valves;

15.3.4.6. waste disposal systems;

15.3.4.7. fire doors.

## 16. Training

16.1 At the time of their initial job assignment, employees are apprised of the fire hazards of the materials and processes to which they are exposed. Additional training is provided any time

their job assignment changes to include new or additional fire hazards, and whenever that new or additional fire hazards are brought to the attention of management.

- 16.2 Upon initial job assignment, supervisors will review with each employee those portions of the Fire Prevention Plan that employee must know to protect the employee in case of an emergency. Pertinent portions of the Fire Prevention Plan are reviewed whenever the employee's job assignment changes or is modified to include new hazards or new procedures which the employee must know in order to protect the employee in case of an emergency.
- 16.3 The written Fire Prevention Plan is maintained by the office of Environmental Health & Safety (EH&S) and is kept in the EH&S office. The Fire Prevention Plan is available to all employees at all times. Pertinent portions of the Fire Prevention Plan may be copied and kept in the specific work areas.
- 16.4 The Fire Prevention Plan will be reviewed and evaluated annually. Appropriate modifications will be incorporated to assure the plan complies with all pertinent regulations.



**INDIVIDUAL EMPLOYEE TRAINING DOCUMENTATION  
INITIAL TRAINING**

Name of Instructor \_\_\_\_\_

Training Subject \_\_\_\_\_

Training Materials Used \_\_\_\_\_

Name of Employee \_\_\_\_\_

Date of Hire / Assignment \_\_\_\_\_

I, \_\_\_\_\_ hereby certify that I received training in the following areas:  
*PRINT NAME HERE*

\_\_\_\_\_ The potential fire hazards in general in the work area and associated with my job assignment

\_\_\_\_\_ The Fire Prevention Plan sections and procedures which I must know to protect myself in case of an emergency involving fire in my work area

\_\_\_\_\_ My right to ask any questions, or provide any information to the employer on fire prevention and safety

\_\_\_\_\_ Disciplinary procedures USD will use to enforce compliance with the Fire Prevention Plan procedures

I understand this training and agree to comply with the Fire Prevention Plan for all work areas.

\_\_\_\_\_  
Employee Signature

\_\_\_\_\_  
Date

## ATTACHMENT A

### Classification of Fires and Control Agents

- A. **Class A Fire:** 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 Fire:** 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 Fire:** 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 Fire:** combustible metals such as magnesium, titanium, zirconium and sodium. Specialized techniques, extinguishing agents and extinguishing equipment have been developed to control and extinguish fires as 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.
- E. Fire Control Agents

The following agents are commonly available in portable fire extinguishing units and are used for the indicated class of fire(s):

1. **PLUS-FIFTY C:** a sodium-bicarbonate-based dry chemical agent for use on Class B (flammable liquids and gases) and Class C (involving electrical equipment) fires. PLUS-FIFTY C is a free-flowing, water repellent, non-conductive agent that is up to 2½ times more effective than CO<sub>2</sub> on Class B fires.
2. **PURPLE-K:** a potassium-based dry chemical agent which is a most effective agent for Class B fires. PURPLE-K has excellent holding powers and greatly reduces the possibility of the fire re-flash.

## ATTACHMENT A

### Classification of Fires and Control Agents

3. **FORAY:** an ammonium phosphate-based dry chemical agent for use on Class A (wood, paper, cloth) as well as Class B and C fires. FORAY is a multi-purpose agent that is up to four times as effective (pound for pound) as water on Class A fires.
  4. **MET-L-X:** a sodium chloride-based dry powder for use on Class D (metal) fires. MET-L-X is free-flowing, moisture repellent and will adhere to metal surfaces (most important), it can be applied to a vertical surface).
  5. **NA-X:** a sodium carbonate-based dry powder for use on Class D (metal) fires. NA-X is a non-conductive, non-abrasive white powder for use on fires involving sodium, potassium and sodium-potassium alloy (NaK).
  6. **Halon 1211:** 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.
  7. **Carbon Dioxide:** a colorless, odorless, electrically non-conductive gaseous "clean" agent which is effective on Class B and C fires.
  8. **Water:** the most common and readily available fire extinguishing agent. Water is effective on Class A fires.
- F. Prohibited Types of Portable Fire Extinguishers
1. Vaporizing liquid extinguishers containing carbon tetrachloride or chlorobromomethane will not be installed or used in any location for fire protection use.
  2. Soda-acid, foam, loaded stream, antifreeze and water fire extinguishers of the inverting types will not be recharged or placed in service for fire protection use.

## ATTACHMENT B

### Definitions

**CONTAINER** - a vessel of 60 United States gallons or less capacity used for transporting or storing flammable or combustible liquids. Pipes, piping systems, engines and engine fuel tanks are not considered to be containers

**COMBUSTIBLE LIQUID** - a liquid having a flash point at or above 100°F. Combustible liquids are subdivided as follows:

1. **Class II liquids** - those liquids having flash points at or above 100°F and below 140°F
2. **Class III-A liquids** - those liquids having flash points at or above 140°F and below 200°F
3. **Class III-B liquids** - those liquids having flash points at or above 200°F

**COMBUSTIBLE WASTE MATTER** - includes magazines; books; trimmings from lawns, trees or flower gardens; pasteboard boxes; rags; paper; straw; sawdust; packing material; shavings; boxes; rubbish; and refuse that will ignite through contact with flames of ordinary temperatures

**CONTROL AREA** - a space within a building where the exempt amounts may be stored, dispensed, used or handled

**DEFLAGRATE** - to burn rapidly with intense heat and sparks

**EXIT** : a continuous and unobstructed means of egress to a public way, and will include aisles, doors, doorways, gates, corridors, exterior exit balconies, ramps, Stairwells, smoke proof enclosures, horizontal exits, exit passageways, exit courts and yards

**EXTENSION CORD and PORTABLE FLEXIBLE CORD** - flexible cord of any length which has one male connector on one end and one or more female connectors on the other, and no built-in over-current protection.

**FIRE** - the combustion of material other than deliberate combustion for cooking, heating, recreation, incineration or purposes incidental to normal operation of a property.

**FIRE HAZARD** - any thing or act which increases or may cause an increase of the hazard or menace of fire to a greater degree than that customarily recognized as normal by persons in the public service regularly engaged in prevention, suppressing or extinguishing fire or any thing or act which may obstruct, delay, hinder or interfere with the operations of the fire department or the egress of occupants in the event of fire.

**FLAMMABLE GAS** - a gas that will burn in air

## ATTACHMENT B

### Definitions

**FLAMMABLE LIQUID** - a liquid having a flash point below 100°F and having a vapor pressure not exceeding 40 psia at 100°F. Class I liquids include those having flash points below 100°F and are subdivided as follows:

1. **Class I-A liquids** - include those having a flash point below 73°F and having a boiling point below 100°F
2. **Class I-B liquids** - include those having a flash point below 73°F and having a boiling point at or above 100°F
3. **Class I-C liquids** - include those having a flash point at or above 73°F and below 100°F

**FLAMMABLE LIQUID STORAGE ROOM** - a room for the storage of flammable and combustible liquids that is constructed according to the requirements of the Uniform Fire Code

**FLAMMABLE MATERIAL** - (a) material that will readily ignite from common sources of heat and (b) material that will ignite at a temperature of 600°F or less

**FLASH POINT** - the minimum temperature at which a liquid gives off vapors in sufficient concentration to form an ignitable mixture with air near the surface of the liquid within the vessel

**FLEXIBLE CORD** – multi-conductor flexible sheathed cable which is used for extension cords, as the connection means for appliances, and for permanent use by connecting pieces of equipment or devices to each other or to the premises wiring system where flexibility or portability is required

**INSIDE STORAGE ROOM** - a storage room that meets the requirements of NFPA 30 for the storage of limited quantities of flammable and combustible liquids within the facility

**LABORATORY HOOD** - a ventilated enclosure designed to capture, contain, and exhaust fumes, gases, vapors, mists, and particulate matter generated within the hood interior

**LABORATORY UNIT** - an enclosed space used for experiments or tests. A laboratory unit may or may not include offices, lavatories, and other contiguous rooms maintained for or used by laboratory personnel, and corridors within the unit. It may contain one or more separate laboratory work areas. It may be an entire building. A laboratory unit is classified as A, B, or C according to established limitations

**MIXING** - the combining, blending or bringing together within the same container, tank or vessel flammable or combustible liquids or other materials whereby flammable vapors may be liberated to the atmosphere

**NFPA** - the National Fire Protection Association

**RECEPTACLE** - an electrical outlet designed for use with a plug or connector for the purpose of

## ATTACHMENT B

### Definitions

supplying electrical power to an appliance

**RUBBISH** - waste material including, but not limited to, garbage, waste paper and debris from construction or demolition

**SAFETY CAN** - an approved container, of not more than five gallon capacity (19 L), having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure

**SMOKING** - the carrying or use of lighted pipe, cigar, cigarette or tobacco in any form

**STORAGE** - the keeping, retention or leaving of flammable or combustible liquids in closed containers, tanks or similar vessels

**STORAGE CABINET** - a cabinet for the storage of limited quantities of flammable and combustible liquids constructed in accordance with NFPA 30

**TANK** - a vessel containing more than 60 US gallons

**UL** - Underwriters Laboratories Inc.

## **ATTACHMENT C**

### **Exempt Amounts of Hazardous Materials in Control Areas.**

Quantities of hazardous materials must be less than the limits specified in Table 8001.13-A to 8001.13-D "Exempt Amount of Hazardous Materials Presenting a Physical Hazard or Health Hazard" from the 2001 Uniform Fire Code. If these quantities are exceeded, special rooms must be constructed to store these materials. These rooms are described in the 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

## Exempt Amounts of Hazardous Materials in Control Areas.

Table 8001.15-A

### Exempt Amounts of Hazardous Materials Presenting a Physical Hazard, Maximum Quantities per Control Area

**TABLE 8001.15-A—EXEMPT AMOUNTS OF HAZARDOUS MATERIALS PRESENTING A PHYSICAL HAZARD  
MAXIMUM QUANTITIES PER CONTROL AREA<sup>1</sup>**  
When two units are given, values within parentheses are in cubic feet (cu. ft.) or pounds (lbs.)  
(Apply table as specified in Section 8001.15.)

CONDITION	Material	Class	STORAGE <sup>2</sup>			USE <sup>3</sup> —CLOSED SYSTEMS			USE <sup>3</sup> —OPEN SYSTEMS	
			Solid Lbs. <sup>4</sup> (cubic feet)	Liquid Gal- lons <sup>5</sup> (pounds)	Gas Cubic Feet	Solid Lbs. (cubic feet)	Liquid Gallons (pounds)	Gas Cubic Feet	Solid Lbs. (cubic feet)	Liquid Gallons (pounds)
			× 0.4536 for kg × 0.0283 for m <sup>3</sup>	× 3.785 for L × 8.4536 for kg	× 0.0283 for m <sup>3</sup>	× 0.4536 for kg × 0.0283 for m <sup>3</sup>	× 3.785 for L × 8.4536 for kg	× 0.0283 for m <sup>3</sup>	× 0.4536 for kg × 0.0283 for m <sup>3</sup>	× 3.785 for L × 8.4536 for kg
1.1	Combustible liquid <sup>6,5A,7A,9</sup>	—	—	—	—	—	—	—	—	
1.2	Combustible fiber <sup>17</sup> (loose) (baled)	—	(100) (1,000)	N.A. N.A.	N.A. N.A.	(100) (1,000)	N.A. N.A.	N.A. N.A.	(20) (200)	
1.3	Cryogenic, flammable or oxidizing <sup>17</sup>	—	N.A.	45	N.A.	N.A.	45	N.A.	N.A.	
2.1	Explosives <sup>12,17</sup>	—	1 <sup>10,13</sup>	(1) <sup>10,13</sup>	N.A.	1/4	(1/4)	N.A.	1/4	
3.1	Flammable solid <sup>17</sup>	—	125 <sup>6,10</sup>	N.A.	N.A.	14	N.A.	N.A.	14	
3.2	Flammable gas <sup>17</sup> (gaseous) (liquefied)	—	N.A. N.A.	N.A. 15 <sup>6,10</sup>	750 <sup>6,10</sup> N.A.	N.A. N.A.	N.A. 15 <sup>6,10</sup>	750 <sup>6,10</sup> N.A.	N.A. N.A.	
3.3	Flammable liquid <sup>5A,7A,9</sup> Combination I-A, I-B, I-C <sup>5A,7A,9,13</sup>	—	—	—	—	—	—	—	—	
4.1	Organic peroxide, detonatable	—	1 <sup>10,12</sup>	(1) <sup>10,12</sup>	N.A.	1/4 <sup>12</sup>	(1/4) <sup>12</sup>	N.A.	1/4 <sup>12</sup>	
4.2	Organic peroxide	I	5 <sup>6,10</sup>	(5) <sup>6,10</sup>	N.A.	1 <sup>6</sup>	(1) <sup>6</sup>	N.A.	1 <sup>6</sup>	
		II	50 <sup>6,10</sup>	(50) <sup>6,10</sup>	N.A.	50 <sup>6</sup>	(50) <sup>6</sup>	N.A.	10 <sup>6</sup>	
		III	125 <sup>6,10</sup>	(125) <sup>6,10</sup>	N.A.	125 <sup>6</sup>	(125) <sup>6</sup>	N.A.	25 <sup>6</sup>	
		IV	500 <sup>6,10</sup>	(500) <sup>6,10</sup>	N.A.	500 <sup>6</sup>	(500) <sup>6</sup>	N.A.	100 <sup>6</sup>	
		V	N.L.	N.L.	N.A.	N.L.	N.L.	N.A.	N.L.	
4.3	Oxidizer	4	1 <sup>10,12</sup>	(1) <sup>10,12</sup>	N.A.	1/4 <sup>12</sup>	(1/4) <sup>12</sup>	N.A.	1/4 <sup>12</sup>	
		3 <sup>16</sup>	10 <sup>6,10</sup>	(10) <sup>6,10</sup>	N.A.	2 <sup>6</sup>	(2) <sup>6</sup>	N.A.	2 <sup>6</sup>	
		2	250 <sup>6,10</sup>	(250) <sup>6,10</sup>	N.A.	250 <sup>6</sup>	(250) <sup>6</sup>	N.A.	50 <sup>6</sup>	
		1	4,000 <sup>6,10</sup>	(4,000) <sup>6,10</sup>	N.A.	4,000 <sup>6</sup>	(4,000) <sup>6</sup>	N.A.	1,000 <sup>6</sup>	
4.4	Oxidizer— <sup>88</sup> (gaseous) <sup>6,10,17</sup> (liquefied) <sup>6,10,17</sup>	—	N.A. N.A.	N.A. 15	1,500 N.A.	N.A. N.A.	N.A. 15	1,500 N.A.	N.A. N.A.	
5.1	Pyrophoric <sup>17</sup>	—	4 <sup>10,12</sup>	(4) <sup>10,12</sup>	50 <sup>10,12</sup>	1 <sup>12</sup>	(1) <sup>12</sup>	10 <sup>10,12</sup>	0	
6.1	Unstable (reactive) <sup>17</sup>	4	1 <sup>10,12</sup>	(1) <sup>10,12</sup>	10 <sup>10,12</sup>	1/4 <sup>12</sup>	(1/4) <sup>12</sup>	2 <sup>10,12</sup>	1/4 <sup>12</sup>	
		3	5 <sup>6,10</sup>	(5) <sup>6,10</sup>	50 <sup>6,10</sup>	1 <sup>6</sup>	(1) <sup>6</sup>	10 <sup>6,10</sup>	1 <sup>6</sup>	
		2	50 <sup>6,10</sup>	(50) <sup>6,10</sup>	750 <sup>6,10</sup>	50 <sup>6</sup>	(50) <sup>6</sup>	750 <sup>6,10</sup>	10 <sup>6</sup>	
		1	N.L.	N.L.	N.L. <sup>6,10</sup>	N.L.	N.L.	N.L.	N.L.	
		7.1	Water reactive	3	2 <sup>6,10</sup>	(2) <sup>6,10</sup>	N.A.	3 <sup>6</sup>	(3) <sup>6</sup>	N.A.
2	50 <sup>6,10</sup>	(50) <sup>6,10</sup>	N.A.	50 <sup>6</sup>	(50) <sup>6</sup>	N.A.	10 <sup>6</sup>	(10) <sup>6</sup>		
1	N.L.	N.L.	N.A.	N.L.	N.L.	N.A.	N.L.	N.L.		

N.A.—Not applicable. N.L.—Not limited.

<sup>1</sup>Control areas shall be separated from each other by not less than a one-hour fire-resistive occupancy separation. The number of control areas within a building having Group M Occupancies and buildings or portions of buildings having Group S Occupancies with storage conditions in accordance with Section 8001.14 shall not exceed two. The number of control areas in buildings with other uses or with other Group S Occupancy storage conditions shall not exceed four. See Sections 204 and 8001.10.2.

<sup>2</sup>The aggregate quantity in use and storage shall not exceed the quantity listed for storage. Quantities shall not exceed limits set forth in Section 8001.15.2.

<sup>3</sup>The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid hazardous materials within a single control area of Group M Occupancies used for retail sales may exceed the exempt amounts when such areas are in compliance with Section 8001.14.

<sup>4</sup>For flammable and combustible liquids, see Article 79. See also Section 8001.1.1, Exception 2.

<sup>5</sup>For aerosols, see Article 88.

<sup>6</sup>Quantities may be increased 100 percent in sprinklered buildings. When Footnote 10 also applies, the increase for both footnotes may be applied.

<sup>7</sup>For storage and use of flammable and combustible liquids in Groups A, B, E, F, H, I, M, R, S and U Occupancies, see also the Building Code.

<sup>8</sup>For wholesale and retail sales use, see Section 7902.5.10.2.

<sup>9</sup>Spray application of any quantity of flammable or combustible liquids shall be conducted as set forth in Article 45.

<sup>10</sup>Quantities may be increased 100 percent when stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in Sections 8001.3.2, 8003.3.1.3.2 and 8003.3.1.3.3. When Footnote 6 also applies, the increase for both footnotes may be applied.

<sup>11</sup>The quantities permitted in a sprinklered building are not limited.

<sup>12</sup>Permitted in sprinklered buildings only. None is allowed in unsprinklered buildings.

<sup>13</sup>One pound (.454 kg) of black sporting powder and 20 pounds (9 kg) of smokeless powder are permitted in sprinklered or unsprinklered buildings.

<sup>14</sup>See definitions of Group H, Divisions 2 and 3 Occupancies in Section 216.

<sup>15</sup>See Article 79.

<sup>16</sup>A maximum quantity of 200 pounds (90.7 kg) of solid or 20 gallons (75.7 L) of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment. Storage containers and the manner of storage shall be approved.

# ATTACHMENT C

## Exempt Amounts of Hazardous Materials in Control Areas.

Table 8001.15-B

### Exempt Amounts of Hazardous Materials Presenting a Health Hazard, Maximum Quantities per Control Area

<sup>17</sup>For any amount, see Articles 28, 30, 45, 46, 48, 50, 74, 75, 76, 77 and 78 as applicable for the hazard category.

<sup>18</sup>Unless the actual weight of the pyrotechnic composition of the fireworks, 1.4G is known, 25 percent of the gross weight of the fireworks, including packaging, may be used to determine the weight of the fireworks for the purpose of this table.

**TABLE 8001.15-B—EXEMPT AMOUNTS OF HAZARDOUS MATERIALS PRESENTING A HEALTH HAZARD  
MAXIMUM QUANTITIES PER CONTROL AREA<sup>1,2</sup>**  
When two units are given, values within parentheses are in pounds (lbs.)  
(Apply table as specified in Section 8001.15.)

MATERIAL	STORAGE <sup>3</sup>			USE <sup>4</sup> —CLOSED SYSTEMS			USE <sup>5</sup> —OPEN SYSTEMS	
	Solid Pounds <sup>4,6,8</sup>	Liquid Gallons <sup>4,6,8</sup> (pounds)	Gas Cubic Feet <sup>6</sup>	Solid Pounds <sup>5</sup>	Liquid Gallons <sup>5</sup> (pounds)	Gas Cubic Feet <sup>6</sup>	Solid Pounds	Liquid Gallons (pounds)
	× 0.4536 for kg	× 3.785 for L × 0.4536 for kg	× 0.028 for m <sup>3</sup>	× 0.4536 for kg	× 3.785 for L × 0.4536 for kg	× 0.028 for m <sup>3</sup>	× 0.4536 for kg	× 3.785 for L × 0.4536 for kg
1. Corrosives	5,000	500	810 <sup>6</sup>	5,000	500	810 <sup>6</sup>	1,000 <sup>5</sup>	100 <sup>5</sup>
2. Highly toxics <sup>11</sup>	10	(10)	20 <sup>12</sup>	10	(10)	20 <sup>12</sup>	3 <sup>5</sup>	(3) <sup>5</sup>
3. Irritants <sup>7</sup>	N.L.	N.L.	810 <sup>6,9</sup>	N.L.	N.L.	810 <sup>6</sup>	5,000 <sup>9</sup>	500 <sup>9</sup>
4. Sensitizers <sup>7</sup>	N.L.	N.L.	810 <sup>6,9</sup>	N.L.	N.L.	810 <sup>6,9</sup>	5,000 <sup>9</sup>	500 <sup>9</sup>
5. Other health hazards <sup>7</sup>	N.L.	N.L.	810 <sup>6,9</sup>	N.L.	N.L.	810 <sup>6,9</sup>	5,000 <sup>9</sup>	500 <sup>9</sup>
6. Toxics <sup>11</sup>	500	(500)	810 <sup>6</sup>	500	(500)	810 <sup>12</sup>	125 <sup>5</sup>	(125) <sup>5</sup>

N.L. = Not Limited.

<sup>1</sup>Control areas shall be separated from each other by not less than a one-hour fire-resistive occupancy separation. The number of control areas within a building having Group M Occupancies and buildings or portions of buildings having Group S Occupancies with storage conditions in accordance with Section 8001.14 shall not exceed two. The number of control areas in buildings with other uses or with other Group S Occupancy storage conditions shall not exceed four. See Sections 204 and 8001.10.2.

<sup>2</sup>See Section 8001.1.1, Exception 2.

<sup>3</sup>The aggregate quantity in use and storage shall not exceed the quantity listed for storage. Quantities shall not exceed limits set forth in Sections 8001.15.2 and 8001.15.3.

<sup>4</sup>The aggregate quantity of nonflammable solid and nonflammable or noncombustible liquid health hazard materials within a single control area of Group M and Group S Occupancies may exceed the exempt amounts when such areas are in compliance with Section 8001.14.

<sup>5</sup>Quantities may be increased 100 percent in sprinklered buildings. When Footnote 6 also applies, the increase for both footnotes may be applied.

<sup>6</sup>Quantities may be increased 100 percent when stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in Sections 8001.3.2, 8003.3.1.3.2 and 8003.3.1.3.3. When Footnote 5 also applies, the increase for both footnotes may be applied.

<sup>7</sup>Irritants, sensitizers and other health hazards do not include commonly used building materials and consumer products that are not otherwise regulated by this code.

<sup>8</sup>See also applicable federal and state OSHA guidelines.

<sup>9</sup>The quantities allowed in a sprinklered building are not limited when exhaust ventilation in accordance with Sections 8003.1.4, 8004.1.11, 8004.2.2.2 and 8004.2.3.3, as applicable to the material condition, is provided.

<sup>10</sup>The quantities allowed in a sprinklered building are not limited when exhaust ventilation in accordance with Sections 8003.1.4, 8004.1.11, 8004.2.2.2 and 8004.2.3.3 and spill control and secondary containment in accordance with Sections 8003.1.3, 8004.1.4, 8004.2.2.5 and 8004.2.3.6, as applicable to the material condition, is provided.

<sup>11</sup>For special provisions, see Sections 8003.3, 8003.12, 8004.2.3.7 and 8004.3.5.

<sup>12</sup>Permitted only when located in approved gas cabinets, exhausted enclosures or gas rooms. See Sections 8003.3.1.3.2, 8003.3.1.3.3 and 8003.3.1.3.4.

<sup>13</sup>Licensed, sealed sources for instruments, calibration devices and equipment are exempt. Licensing requirements and determination of whether a source is sealed or nonsealed shall be as set forth in Nuclear Regulatory Commission regulations.

Individual containers shall not exceed a quantity of 2 mCi ( $7.4 \times 10^7$  becquerels) for alpha emitters, 200 Ci ( $7.4 \times 10^{12}$  becquerels) for beta emitters and 0.1 Ci ( $3.7 \times 10^9$  becquerels) for gamma emitters.

CI = curies, mCi = millicuries

## ATTACHMENT C

### Exempt Amounts of Hazardous Materials in Control Areas.

Table 7902.5-A

#### Exempt Amounts of Flammable and Combustible Liquids- Maximum Quantities Stored per Control Area

**TABLE 7902.5-A—EXEMPT AMOUNTS OF FLAMMABLE AND COMBUSTIBLE LIQUIDS—  
MAXIMUM QUANTITIES STORED PER CONTROL AREA<sup>1,2,3</sup>**  
(See Section 7902.5.7)

TYPE OF LIQUID	EXEMPT AMOUNTS (gallons) = 3.785 for L	
Flammable		
Class I-A	30	
Class I-B	60	
Class I-C <sup>4</sup>	90	
Combination I-A, I-B, I-C <sup>4</sup>	120 <sup>4</sup>	
Combustible		
Class II	120	
Class III-A	330	
Class III-B	13,200 <sup>5</sup>	

<sup>1</sup>Control areas shall be separated from each other by not less than a one-hour fire-resistive occupancy separation. The number of control areas within a building used for retail or wholesale sales shall not exceed two. The number of control areas in buildings with other uses shall not exceed four. See Sections 204 and 8001.8.2.

<sup>2</sup>Quantities are allowed to be increased 100 percent when stored in approved storage cabinets. When footnote 3 applies, the increase for each footnote is allowed.

<sup>3</sup>Quantities are allowed to be increased 100 percent in buildings equipped with an approved automatic sprinkler system. When footnote 2 applies, the increase for each footnote is allowed.

<sup>4</sup>Combinations shall not contain more than the exempt amounts of any individual class.

<sup>5</sup>Quantities permitted in a building equipped with an approved automatic sprinkler system are not limited.

**TABLE 7902.5-B—EXEMPT AMOUNTS OF FLAMMABLE AND COMBUSTIBLE LIQUIDS IN  
WHOLESALE AND RETAIL SALES USES—  
MAXIMUM QUANTITIES STORED PER CONTROL AREA<sup>1</sup>**  
(See Section 7902.5.7.1)

TYPE OF LIQUID	EXEMPT AMOUNTS (gallons) = 3.785 for L		
	Sprinklered <sup>2</sup> per Footnote 2 and Arrangement <sup>3</sup>	Sprinklered per Tables 7902.5-B through 7902.5-J	Unsprinklered
Flammable, Class I-A	60	60	30
Flammable and combustible, Combination Class I-B, I-C, II and III-A	7,500 <sup>4</sup>	15,000 <sup>4</sup>	1,600
Combustible, Class III-B	Unlimited	Unlimited	13,200

<sup>1</sup>Control areas shall be separated from each other by not less than a one-hour fire-resistive occupancy separation. The number of control areas within a building used for retail or wholesale sales shall not exceed two. The number of control areas in buildings with other uses shall not exceed four. See Sections 204 and 8001.8.2.

<sup>2</sup>To be considered as sprinklered, buildings shall be protected with approved automatic sprinkler systems with designs providing minimum densities as follows:

For uncased commodities on shelves 6 feet (1828.8 mm) or less in height where the ceiling height does not exceed 18 feet (5486 mm), quantities are those permitted with a minimum sprinkler design density of 0.19 gpm per square foot (7.74 ltr/L min/m<sup>2</sup>) over the most remote 1,500-square-foot (139.3 m<sup>2</sup>) area.

For cased, palletized or racked commodities where storage is 4 feet 6 inches (1372 mm) or less in height and where the ceiling height does not exceed 18 feet (5486 mm), quantities are those permitted with a minimum sprinkler design density of 0.21 gpm per square foot (8.56 L/min/m<sup>2</sup>) over the most remote 1,500 square foot (139.3 m<sup>2</sup>) area.

<sup>3</sup>When wholesale and retail sales or storage areas exceed 50,000 square feet (4645 m<sup>2</sup>) in area, exempt amounts are allowed to be increased by 2 percent for each 1,000 square feet (92.9 m<sup>2</sup>) of area in excess of 50,000 square feet (4645 m<sup>2</sup>), up to a maximum of 100 percent of the table amounts. A control area separation is not required. The cumulative amounts, including amounts attained by having an additional control area, shall not exceed 10,000 gallons (113,562 L).

## ATTACHMENT D

### FIRE AND LIFE SAFETY INSPECTION CHECKLIST FOR UNIVERSITY OF SAN DIEGO STAFF

	Item	Yes	No	Comment
1	Are corridors/hallways clear of all obstructions?			
2	Are stairwell/Stairwells clear of all obstructions?			
3	Are the electrically illuminated exit signs working (lighting)?			
4	Are exit stairwell doors (fire doors) being kept closed?			
5	Can interior exit doors be opened in one motion and without use of a key or special knowledge or effort?			
6	If your building has a fire alarm system, are the hand-pulls visible (no obstruction)?			
7	Are storage rooms being kept in a neat and orderly manner?			
8	Are your fire extinguishers visible (no obstructions)?			
9	Are extension cords being used in lieu of permanent wiring?			
10	Are flammable materials being stored under stairwells / staircases?			
11	Are space heaters being used?			
12	Are more than 10 gallons of flammable liquids stored outside a flammable storage cabinet?			
13	Are more than 60 gallons of flammable liquids stored in a flammable storage cabinet?			
14	Are flammable liquids being stored in glass containers greater than 1 gallon?			
15	Is approved flammable liquid storage cabinet available?			
16	Are extension cords being used in place of permanent wiring?			
17	Are extension cords in good condition and UL-listed?			
18	Are extension cords tacked or stapled an to the wall or woodwork?			
19	Does the extension cord create a trip hazard?			
20	Are electrical outlets overloaded?			
21	Are combustible materials stored near heat sources such as a water heater, furnace, floor heater, or space heater?			
22	Are work areas kept in clean and orderly condition?			
23	Are lamps with quartz halogen bulbs in use?			
24	Are your building fire prevention and emergency action plans up to date?			
25	Are the staff aware of disabled persons(s) in their area who may need assistance out of the building?			
26	Are employees aware of the campus fire alarm			

## ATTACHMENT D

### FIRE AND LIFE SAFETY INSPECTION CHECKLIST FOR UNIVERSITY OF SAN DIEGO STAFF

	evacuation procedures?			
27	Are the fire extinguishers blocked or inaccessible?			
28	Do the exits/corridors have at least 36" aisles?			
29	Are exits blocked, improper lighting, doors locked			
30	Are all electrical panels clear area of at least 36" around and in front of them.			
31	Is there a minimum of 18" between stored materials and sprinkler heads?			
32	Do all shelves that store chemicals have seismic restraints or lips?			
33	Are items taller than 60" or with a height three times greater than its base seismically anchored?			
34	Are chemicals stored higher than eye level?			
35	Are all containers or hazardous substances labeled in accordance with the Hazard Communication Standard (8CCR 5194)?			
36	Are all compressed gas cylinders secured with welded chain or steel straps to immovable objects to prevent them from falling or being knocked over?			
37	Are more than two cylinders (when capped) chained together?			
38	Are individual cylinders secured when fitted with a regulator?			
39	Are cylinders not actually in use (not equipped with a regulator) capped?			
40	Are chemicals stored with other incompatible chemicals?			
41	Are flammable liquids stored away from ignition and heat sources?			

**ATTACHMENT E****BUILDING EVACUATION STAGING AREA**

	Building	Staging Area
1	Camino Hall 1 <sup>st</sup> and 2 <sup>nd</sup> Floors	Across street, in front of Olin Hall.
2	Camino Hall Basement	Lawn Area, West Side of Camino Hall.
3	Camino Dorm	Across street, in front of Olin Hall.
4	Copley Library	Across street, Olin parking lot.
5	Deghuri Alumni Center	South parking Lot
6	Facilities Management Complex	Across street, Lawn Area, West Side of Camino Hall.
7	Founders Hall	Across street, in front of School of Nursing.
8	Founders Dorm	Across street, in front of School of Nursing.
9	Guadalupe Hall	Across street, in front of Maher Hall on East End.
10	Deghuri Alumni Center	South Parking Lot.
11	Hughes Hall	Across street, Fountain area
12	Immaculata Church	Across street, Fountain area
13	Jenny Craig Pavilion	Courtyard near Field house
14	Joan Kroc Center	East Courtyard
15	Loma Hall (Bookstore, Mail Center)	Lawn Area, East Side of Law School.
16	Law School	Lawn Area, Parking Lot East Side
17	Manchester Conference	Across street, in front of Camino and Founders patio center fence.
18	Olin Hall	Across street, in front of Camino Hall.
19	Legal Research Center	Parking Lot, West Side of Law School.
20	Maher Hall	West University Center Parking Lot
21	Maher Dorm	West University Center Parking Lot
22	New Facilities Shops	Lawn Area, North of Camino
23	School of Nursing	Across street, in front of Founders Hall
24	Print Shop and Procurement	Immaculata Parking Lot
25	Sacred Heart Hall	Lawn Area, North of Camino Hall

## ATTACHMENT E

### BUILDING EVACUATION STAGING AREA

26	Serra Hall	Across street, in front of Maher Hall on West End.
27	Science and Technology	Jaon Kroc Fountain Area
28	University Center 1 <sup>st</sup> Floor	Open Area, East Side Loading Dock
29	University Center 2 <sup>nd</sup> Floor	Across street, North end of Law School Parking Lot
30	University Office Park	Parking Lot North of Buildings

### MISSION HOUSING COMPLEX ASSEMBLY AREA

	Building	Staging Area
1	Phase "A"	North end of sports field.
2	Phase "B"	South End of sports field.
3	Santa Clara De Asis	Mid area of sports field.
4	Santa Cruz	Mid area of sports field.
5	Santa Barbara	Mid area of sports field.
6	San Buena Ventura	Mid area of sports field.
7	San Carlos Borromeo	Mid area of sports field.
8	San Antonio De Padua	West Side of sports Ffield
9	Crossroads	East end of sports field.

### ALCALA VISTA APARTMENTS ASSEMBLY AREA

	Building	Staging Area
1	Cuyamaca 1508	Parking lot, West side of building
2	Cuyamaca 1506	Parking lot, Southwest side of building
3	Laguna 1502	Parking lot, Southeast side of building
4	Laguna 1504	Parking lot, East side of building
5	Palomar 1510	Parking lot, Northeast side of building
6	Palomar 1512	Parking lot, North side of building

**ATTACHMENT E**

**BUILDING EVACUATION STAGING AREA**

1	Fieldhouse	Fieldhouse parking lot
2	Sports Center	Parking Lot South Side
3	Weight Room	Parking lot, North side
4	Manchester Child Development Center	South Side, Walk up hill
5	Manchester Village	Football Practice Field

## ATTACHMENT F

### CALIFORNIA CODE OF REGULATIONS, TITLE 8, SECTION 3221

Subchapter 7. General Industry Safety Orders

Group 1. General Physical Conditions and Structures Orders

Article 2. Standard Specifications

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#### ***§3221. Fire Prevention Plan.***

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(a) Scope and Application. This section applies to all fire prevention plans. The fire prevention plan shall be in writing, except as provided in the last sentence of subsection (d)(2) of this section.

(b) Elements. The following elements, at a minimum, shall be included in the fire prevention plan:

(1) Potential fire hazards and their proper handling and storage procedures, potential ignition sources (such as welding, smoking and others) and their control procedures, and the type of fire protection equipment or systems which can control a fire involving them;

(2) Names or regular job titles of those responsible for maintenance of equipment and systems installed to prevent or control ignitions or fires; and

(3) Names or regular job titles of those responsible for the control of accumulation of flammable or combustible waste materials.

(c) Housekeeping. The employer shall control accumulations of flammable and combustible waste materials and residues so that they do not contribute to a fire emergency. The housekeeping procedures shall be included in the written fire prevention plan.

(d) Training.

(1) The employer shall apprise employees of the fire hazards of the materials and processes to which they are exposed.

(2) The employer shall review with each employee upon initial assignment those parts of the fire prevention plan which the employee must know to protect the employee in the event of an emergency. The written plan shall be kept in the workplace and made available for employee review. For those employers with 10 or fewer employees, the plan may be communicated orally to employees and the employer need not maintain a written plan.

(e) Maintenance. The employer shall regularly and properly maintain, according to established procedures, equipment and systems installed in the workplace to prevent accidental ignition of combustible materials.

NOTE: Authority and reference cited: Section 142.3, Labor Code.

#### HISTORY

1. New section filed 9-8-81; effective thirtieth day thereafter (Register 81, No. 37). For prior history, see Registers 77, No. 20; 76, No. 29; and 75, No. 25.