SAFETY AND LOSS CONTROL DEPARTMENT

SAFETY PLAN/MANUAL

Management Safety Statement

In fulfilling its educational mission, the Houston Community College System recognizes a commitment to its employees and students to provide a safe and healthy workplace, free from recognized hazards to the greatest degree possible.

Since injuries and property loss through accidents are needless, costly, and preventable, the HCC System will strive for the elimination of all accidents and health hazards by the establishment of a safety and health program based on fundamental safety concepts.

Two of the safety program's basic responsibilities are the establishment of emergency procedures to diminish the effect of catastrophic events; and the prevention of accidents; whether they involve employee injuries, student injuries, or property damage. Administrators will therefore provide full support for all safety procedures, training, and hazard elimination practices necessary to achieve these goals.

Supervisory personnel are directly responsible for the instruction of all employees under their jurisdiction in regard to proper procedures and safe methods to be utilized in performing duties in the working and instructional environment; for taking immediate corrective measures to eliminate hazardous conditions; and for implementing practices for the prevention of all accidents.

Each employee (full-time or part-time administration, instructor or staff person) shall cooperate in every respect with the system's safety and loss control program. Some of the major points of the college system's program are as follows:

- Employees must follow recognized safe work practices as a condition of employment within HCCS. Students must abide by safe practices and procedures established for the classroom, or other instructional environment.
- Hazardous conditions and other safety concerns must be reported to the responsible supervisor immediately. Supervisors will take appropriate action to initiate corrective measures.

Each System employee has the responsibility for his or her own safety, as well as the safety of fellow employees and the student members of our college community. Employees must become familiar with the potential hazards of their jobs and do what is necessary to ensure their safety. By these means, we can achieve the safe working and learning environment due all members of our college community.

Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION DIRECTORY

INTRODUCTION

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SECTION II: EMERGENCY DIRECTION AND CONTROL

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Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION II: EMERGENCY DIRECTION AND CONTROL

I. PURPOSE

A. These procedures contain planning, procedural, and emergency preparedness guidelines established to provide orderly management of emergency events.

1. An emergency or a disaster may occur at any time of the day or night.
2. The succession of events in an emergency are not predictable, hence published support and operational plans will "serve only as a guide" and a checklist, and may require field modification in order to meet the requirements of the emergency.
3. Disasters may affect residents in the geographical location; therefore, city, county, and federal emergency services may be expected to be unavailable during the initial hours or days of an event.
4. A major emergency may be declared if information indicates that such a condition is developing or is possible

B. The basic emergency procedures contained herein are provided in order to enhance the protection of lives and property through effective planning and use of college and community resources.

C. Whenever an emergency affecting the college reaches proportions THAT CANNOT BE HANDLED BY ROUTINE MEASURES, the Chancellor and/or Campus President or designee may declare a state of emergency and these contingency guidelines may be implemented.

II. SCOPE

These procedures apply to all personnel employed by and all property owned or controlled by Houston Community College System.

III. PROCEDURES AND RESPONSIBILITIES

A. Employee Response to Emergency

1. most readily available and equipped to respond to the situation. Immediate response to safeguard life and property is made at the administrator, supervisor and employee levels
2. Factors involving the response to emergency situations include the nature, location, and extent of the event.
3. Additional factors include the impact on college or system operations/ facilities.
4. Considerable attention must be given to elements of risk posed to persons and property, including employees who may find themselves in a position to respond to such events.
5. Direction and coordination should flow from the highest authority level available consistent with their level of responsibility.

B. Administration Control

1. To the extent each situation permits the administration and management of emergency response decisions shall be made at the college and/or system administration levels.
2. The Chief of Police (or designee) shall have primary responsibility involving incidents posing immediate risk to live.
3. As the need for immediate action to protect life or property diminishes, the level of decision-making increases to higher authority.
4. As an event progresses, and as time permits, direction and coordination of the system/college response may be assumed by higher System and College Administration authorities.
5. The System and colleges must develop contingency and recovery plans for catastrophic events.

A. The Chancellor shall immediately cause notification of all necessary members of the Emergency Response Management Team, which consists of the following personnel:

1. Chancellor or designee
2. Presidents
3. Emergency Coordinator – Police Chief or designee
4. Human Resources
5. Student Affairs
6. Damage Control – Vice Chan./Director of Facilities & Planning
7. Public Relations
8. Safety Department

1. Operations Command Post – When an emergency occurs, or is eminent, it shall be the responsibility of the Police Chief to set up and staff an appropriate emergency command post as directed.
2. Executive Command Post – Pre-need identification shall be made for the establishment of a primary Executive Command Post. The Emergency Response Team shall staff the command post as directed by the Chancellor or designee.
    a. At least two alternate locations shall be identified in the event the primary location is unavailable.
    a. Availability of emergency power resources
    b. Communication resources – "outside" telephone.
    c. Safety considerations offered by facility during any anticipated event.
    d. Accessibility and accommodations for staff.
3. Consideration in selection shall be given to:

B. Team members may coordinate, as necessary, with the Emergency Coordinator for implementation and coordination of the district operation plan and support as it pertains to their area.

C. Team members are to be kept in constant communication with the Emergency Command Post. General responsibilities of the team members are listed below.

D. Emergency Command Posts

A. Responsible for the overall monitoring of the emergency responses.
B. Contacts members of the Emergency Response Team and apprises them of the nature of the emergency.
C. Works with Emergency Coordinator and others in assisting the emergency and preparing the specific response.
D. Declares and ends, when appropriate, the campus state of emergency.
E. Notifies and conducts liaison activities with the administration, governmental agencies, emergency response team, and others as necessary.
A. Establishes Emergency Command Post with direction from Chancellor.
B. Responsible for the overall direction of the emergency responses.
C. Determines the type and magnitude of the emergency and establishes the appropriate emergency command post.
D. Initiates immediate contact with the Chancellor and administration, begins assessment of situation.
E. Notifies and utilizes Police Department in order to maintain safety, security, and order.
F. Notifies and conducts liaison activities with appropriate outside organizations, such as fire, police, Office of Emergency Services, etc.
G. Insures that appropriate notification is made to off-campus personnel as necessary.
H. Performs other related duties as may be directed by virtue of the campus emergency.
I. The Emergency Coordinator, Damage Control and Risk Management departments prepare and submit a report to the Chancellor appraising the final outcome of the emergency regarding damage.

IV. EMERGENCY RESPONSE MANAGEMENT TEAM ACTIVATION
V. CHANCELLOR OR DESIGNEE
VI. EMERGENCY COORDINATOR
VII. HUMAN RESOURCES

(To be completed by HR)

VIII. STUDENT AFFAIRS

(To be completed by SA)

IX. ENVIRONMENTAL

(To be completed by Safety Department)

X. PURCHASING AND MATERIALS MANAGEMENT

A. Emergency procurement of materials and services can be arranged in direct support of any college system emergency.
A. Provides equipment and personnel to perform shutdown procedures, hazardous area control, barricades, damage assessment, debris clearance, emergency repairs and equipment protection.

B. Provides vehicles, equipment and operators for movement of personnel and supplies, assign vehicles as required by the Emergency Response Team for emergency use.

C. Obtains the assistance of utility companies as required for emergency operations.

D. Furnishes emergency power and lighting as required.

E. Surveys habitable space and relocates essential services and functions.

F. Provides facilities for emergency generator fuel during actual emergency or disaster periods.

G. Provides for storage of vital records at an alternate site; coordinates with building and area coordinators for liaison and necessary support.

A. Maintains the Police Department in a state of constant readiness.

B. Notifies college administrators of major emergencies.

C. Monitors campus emergency warning and evacuation systems.

D. Takes immediate and appropriate action to protect life and property and to safeguard records as necessary.

E. Obtains assistance from the city, county, state, and federal government as required.

F. Provides traffic control, access control, perimeter and internal security patrols and fire prevention services as needed.

G. Provides and equips an alternate site for Emergency Command Post.

XI. DAMAGE CONTROL

XII. CAMPUS POLICE AND COMMUNICATIONS

XIII. PUBLIC INFORMATION

(External Communication)

A. Establishes liaison with the new media for dissemination of information as requested by the Chancellor.

B. Establishes liaison with local radio and TV services for public announcements.

C. Arranges photographic and audio-visual services, if requested by the Chancellor.

D. Advises Chancellor or designee of all news concerning the extent of disaster affecting the College System.

E. Prepares news releases for approval and releases to the media information concerning the emergency.

XIV. RISK MANAGEMENT

A. Notifies insurance carrier, if applicable.

B. Responsible for working with adjusters/appraisers in evaluating scope of damages.

C. Assist injured employees as needed

D. Assist departments in recording losses and costs associated with temporary repairs or replacement of damaged items.

E. Notifies Chancellor of the extent of injury sustained to personnel and damage incurred to property.

XV. BUILDING/FACILITY COORDINATORS

Buildings may have Building/Facility Coordinator appointed by the President or designee. The Building/Facility Coordinator will have the following general responsibilities prior to and during an emergency:

A. Evaluate, survey and estimate their assigned building or activity in order to determine the impact a fire or tornado could have on their facility. Work orders to reduce hazards and minimize accidents should be promptly submitted to Facility Maintenance operation.

B. Important: Inform all students, staff and faculty to conform to building evacuation guidelines during any emergency and to report to a designated campus assembly area outside the building where a head count can be taken.

C. Building evacuation information shall be distributed to all employees with follow-up discussions, on-the-job training or explanations, as required. Contact the Safety Director for assistance.

D. Time shall be allowed for training employees in emergency techniques such as fire extinguisher usage and building evacuation procedures.

E. Maintain emergency telephone communications with officials from their own activity (or from an alternate site if necessary).

XVI. FACULTY, CHAIRS AND DEANS

A. Educate their students and/or employees concerning emergency procedures as well as evacuation procedures for their building and/or activity.

B. Inform their students and/or staff of emergency procedures as outlined in the appropriate safety and emergency plans.

A. Each building shall be under the direction of an appropriate number of Fire Wardens to provide direction for the evacuation of occupants in the event of an emergency requiring such a response.

B. Each Fire Warden shall be familiar with the fire safety plan, the location of exits and the location and operation of any available fire alarm systems or notification procedure established for their building.

XVII. FIRE WARDENS

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

ROBERT TRIBBLE
ENVIRONMENTAL SAFETY MANAGER
3100 MAIN – PHONE 713-718-7561
e-mail: robert.tribble@hccs.edu

SECTION III: NOTIFICATIONS AND CONTACTS

This listing will provide a ready reference of important numbers, and as a reminder of the individuals and offices we may need to notify concerning emergencies. This information should be included on the "Quick Reference Version" of this Safety Plan.

EMERGENCY TELEPHONE NUMBERS

IMMEDIATE AND LIFE-THREATENING EMERGENCY

1. CALL DIRECT TO **911** (remember-dial "9" for outside line if necessary)
2. Stay on the telephone – DO NOT HANG UP UNTIL TOLD – give complete information for responding emergency personnel. Specify nature of emergency: "FIRE," "POLICE," "AMBULANCE (EMS)"
3. If time permits, **also call HCCS Police at 718-8888** (alternate-713-528-5115)

OTHER POLICE – SECURITY SERVICE

Reports of crime and requests for Police, Security and Safety services on Houston Community College property which are not immediately life threatening should be made to college authorities. HCC is party to a Memorandum of Understanding whereby HCCS Police are responsible for primary response and initial reporting of criminal activity on HCC property.

The HCCS POLICE DEPARTMENT	24-HOUR police and security COMMUNICATION CENTER	713-718-8888 713-528-51145
	ADMINISTRATIVE OFFICE FOR Chief of Police	713-718-7556
SAFETY DEPARTMENT	NON-BUSINESS HOURS and EMERGENCY ISSUES	713-718-8888
	ADMINISTRATIVE OFFICE for Director of Safety	713-718-7561

*Persons who have been identified as having the responsibility to respond to emergencies and problems involving HCCS facilities should provide the Director of Safety and Loss Control and the Chief of Police with written notification of their contact telephone numbers. These individuals are also responsible for sending notifications of any changes in their contact telephone numbers.

Chief of Police	Director of Safety and Loss Control
3100 Main – 4th Floor	3100 Main – 12th Floor
P.O. Box 667517	P.O. Box 667517
Houston, TX 77266-7517	Houston, TX 77266-7517
MC 1611 Telephone: 713-718-7556	MC 1125 Telephone 713-718-7561
Fax: 713-718-2042	Fax: 713-718-2123

SECTION 3-1: SYSTEM ADMINISTRATION

[Notifications made as necessary according to nature of emergency or event]

CHANCELLOR	713-718-5059
CHIEF FINANCIAL OFFICER	713-718-5129
VICE-CHANCELLOR, INSTITUTIONAL DEVELOPMENT	713-718-5115
VICE-CHANCELLOR, INSTRUCTION	713-718-5040
VICE-CHANCELLOR, WORKFORCE DEVELOPMENT	713-718-5037
EXECUTIVE DIRECTOR OF FACILITIES	713-718-8745
OFFICE OF PUBLIC RELATIONS	713-718-5119
POLICE LIEUTENANT FOR SYSTEM BUILDING	713-718-8888
CHIEF OF POLICE	713-718-8888
DIRECTOR OF SAFETY	713-718-7563
DIRECTOR OF MAINTENANCE	713-718-7576

Other Key Persons:

TITLE	TELEPHONE NUMBER
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

SECTION 3-2: CENTRAL COLLEGE ADMINISTRATION

[Notifications made as necessary according to nature of emergency or event]

PRESIDENT	713-718-6040
COLLEGE OPERATING OFFICER	713-718-6356

DEAN, ACADEMIC DEVELOPMENT	713-718-6081
DEAN, WORKFORCE DEVELOPMENT	713-718-6215
DEAN, STUDENT DEVELOPMENT	713-718-6075
College Safety Administrator*	
POLICE LIEUTENANT	713-718-8888 (Dispatch)
MAINTENANCE	713-718-6521

(*Individual who has been designated to serve as Safety representative)

Other Key Persons:

TITLE	TELEPHONE NUMBER
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

SECTION 3-3: NORTHEAST COLLEGE ADMINISTRATION

[Notifications made as necessary according to nature of emergency or event]

PRESIDENT	713-718-8010
COLLEGE OPERATING OFFICER	713-718-8040
DEAN, ACADEMIC DEVELOPMENT	713-718-8058
DEAN, WORKFORCE DEVELOPMENT	713-718-5316
DEAN, STUDENT DEVELOPMENT	713-718-8067
College Safety Administrator*	
POLICE LIEUTENANT	713-718-8032/713-718-8888
MAINTENANCE	

(*Individual who has been designated to serve as co-chair of College Safety Team)

Other Key Persons:

TITLE	TELEPHONE NUMBER
1.	
2.	

3.
4.
5.
6.
7.
8.
9.
10.

SECTION 3-4: NORTHWEST COLLEGE ADMINISTRATION

[Notifications made as necessary according to nature of emergency or event]

PRESIDENT	713-718-5721
COLLEGE OPERATING OFFICER	713-718-5726
DEAN, ACADEMIC DEVELOPMENT	713-718-5724
DEAN, WORKFORCE DEVELOPMENT	713-718-5778
DEAN, STUDENT DEVELOPMENT	713-718-5690
College Safety Administrator*	
POLICE LIEUTENANT	713-718-7555/713-718-8888
MAINTENANCE	

(*Individual who has been designated to serve as Safety representative)

Other Key Persons:

TITLE TELEPHONE NUMBER
1.
2.
3.
4.
5.
6.
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9.
10.

SECTION 3-5: SOUTHEAST COLLEGE ADMINISTRATION

[Notifications made as necessary according to nature of emergency or event]

PRESIDENT	713-718-7071
COLLEGE OPERATIONS OFFICER	713-718-7212

DEAN, ACADEMIC DEVELOPMENT	713-718-7065
DEAN, WORKFORCE DEVELOPMENT	713-718-7228
DEAN, HEALTH SCIENCE	713-718-7402
DEAN, STUDENT DEVELOPMENT	713-718-7049
College Safety Administrator*	
POLICE LIEUTENANT	713-718-7070-713-718-8888
MAINTENANCE	

Other Key Persons:

TITLE	TELEPHONE NUMBER
1.	
2.	
3.	
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SECTION 3-6: SOUTHWEST COLLEGE ADMINISTRATION

[Notifications made as necessary according to nature of emergency or event]

PRESIDENT	713-718-7748
COLLEGE OPERATING OFFICER	713-718-7735
DEAN, ACADEMIC DEVELOPMENT	713-718-7742
DEAN, WORKFORCE DEVELOPMENT	713-718-7913
DEAN, STUDENT DEVELOPMENT	713-718-7788
College Safety Administrator*	
POLICE LIEUTENANT	713-718-7739/713-718-8888
MAINTENANCE	

(*Individual who has been designated to serve as Safety representative)

Other Key Persons:

TITLE	TELEPHONE NUMBER
1.	
2.	

3.
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7.
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10.

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

ROBERT TRIBBLE
ENVIRONMENTAL SAFETY MANAGER
3100 MAIN – PHONE 713-718-7561
e-mail: robert.tribble@hccs.edu

SECTION IV: EMERGENCY PLAN FOR FIRE

All College facilities have developed fire and emergency evacuation plans. Each building has written plans based on uniform guidelines developed for all HCC facilities. These plans identify fire wardens and detailed emergency notification methods utilized in the building. Evacuation procedures and assembly areas are also identified.

The following sections provide procedural details of the uniform fire plan and general fire safety practice.

- Section 4-1: Fire Safety
- Section 4-2: Emergencies Involving Fire
- Section 4-3: Flammable and Combustible Materials

SECTION 4-1: FIRE SAFETY

Fire prevention guidelines are established to reduce the incidence of fires by eliminating opportunities for ignition of flammable materials and recommending practices that are conducive to a "fire-free" environment.

Fire Extinguishers

A portable fire extinguisher is a "first aid" device and is very effective when used while the fire is small. The use of a fire extinguisher that matches the class of fire, by a person who is well trained, can save both lives and property. Portable fire extinguishers must be installed in workplaces regardless of other fire fighting measures. The successful performance of a fire extinguisher in a fire situation largely depends on its proper selection, inspection, maintenance, and distribution.

Classification of Fires and Selection of Extinguishers

Fires are classified into five general categories, depending on the type of material or fuel involved. The type of fire determines the type of extinguisher that should be used to extinguish it.

- Class A fires involve materials such as wood, paper, and cloth which produce glowing embers or charred material.
- Class B fires involve flammable gasses, liquids, and greases, including gasoline and most hydrocarbon liquids that must be vaporized for combustion to occur.
- Class C fires involve fires in live electrical equipment or in materials near electrically powered equipment.
- Class D fires involve combustible metals, such as magnesium, zirconium, potassium, and sodium.
- Class K fires in cooking appliances that involve combustible cooking media (vegetable or animal oils and fats).

Extinguishers will be selected according to the potential fire hazard, the construction (materials) and occupancy of facilities, the asset to be protected, and other factors pertinent to the situation.

Location and Marketing of Extinguishers

Extinguishers will be conspicuously located, easily identified, and readily accessible for immediate use in the event of fire. They will be located along normal paths of travel and egress. Wall recesses and/or flush-mounted brackets will be used as extinguisher locations whenever possible. In most cases extinguishers will be located in hallways or in common areas and not in rooms. They shall be placed just outside of a room and allow accessibility to the room occupants as well as other occupants of the building.

Extinguisher should not be stored in locked rooms or offices where other extinguishers are not provided. Extinguishers will be clearly visible. In locations where visual obstruction cannot be completely avoided, directional arrows will be provided to indicate the location of extinguishers. Extinguisher classification markings will be located on the front of the shell above or below the extinguisher nameplate.

Condition

Portable extinguishers will be maintained in a fully charged and operable condition. They will be kept in their designated locations at all times when not being used. When extinguishers are removed for maintenance or testing, a fully charged and operable replacement unit will be provided. Discharged extinguishers will not be allowed to remain in an area where it might be mistaken for a fully charged and serviceable extinguisher.

Mounting and Distribution of Extinguishers

Extinguishers will be installed on hangers, brackets, or in cabinets so that the top of the extinguisher is not more than five (5) feet above the floor. Extinguishers having a gross weight not exceeding 40 pounds will be so installed that the top of the extinguisher is not more than 3-1/2 feet above the floor. Extinguishers mounted in cabinets or wall recesses will be placed so that the extinguisher operating instructions face outward. The location of such extinguishers will be made conspicuous by marking the cabinet or wall recess in a contrasting color that will distinguish it from the normal dŽcor.

Extinguishers must be distributed in such a way that the amount of time needed to travel to their location and back to the fire does not allow the fire to get out of control. National Fire Protection Association Standard, NFPA 10, requires that the travel distance for Class A and Class D extinguishers not exceed 75 feet. The maximum travel distance for Class B extinguishers is 50 feet because flammable liquid fires can get out of control faster than Class A fires. There is no maximum travel distance specified for Class C extinguishers (rated for electrical exposure), but they must be distributed on the basis of appropriate patterns for Class A and B material hazards. The maximum travel distance for Class K extinguishers where provided shall not exceed 30 feet. It is required that no extinguisher have a travel distance more than 75 feet.

Inspection and Maintenance

Fire extinguishers must be inspected monthly by the building manager or his/her designee. The HCCS Police Department has established a program to assist in this inspection process. This inspection should include a visual check of the:

1. Hose (not cracked)
2. Pressure gauge (in the green area)
3. Container (not damaged or dented)
4. Location (is the unit missing)
5. Proper mounting
6. Accessibility of the extinguisher
7. Current annual inspection tag

This requires an inventory of the extinguishers assigned to the building to be used as a checklist. A form listing all fire extinguishers by location for the purpose of conducting the monthly inspection will be provided. Once an extinguisher is selected, purchased, and installed, an inventory sheet for that extinguisher will be established. Copies of this documentation should be retained at the facility by the college operations officer or person in charge of the building or site.

Fire Safety Inspections/Housekeeping

The college operations officer and safety committees (or designees) are responsible for conducting general work site surveys on a basis established by agreement, not less than quarterly (insurance loss control recommends monthly). These surveys should include observations of work site safety and housekeeping issues and should specifically address proper storage of chemicals and supplies, unobstructed access to fire extinguishers, and emergency evacuation routes. Also, they should determine if an emergency evacuation plan is present in work areas and that personnel are familiar with the plan.

In addition, the HCC Safety Department and/or system insurance loss control representatives will conduct fire inspections on a random basis. All deficiencies noted during these inspections should be brought to the attention of the college operations officer immediately and a plan of action developed to correct the deficiency.

Storage

All storage rooms must be maintained in an orderly manner. Stored combustible materials should be kept to a minimum. This means the following good housekeeping practices must be employed:

- Loose storage (paper, books, or files) must be kept off floors and either put into boxes or stacked in an organized manner on shelves.
- Aisles at least 24" wide, must be maintained to access storage and must be clear and free of tripping hazards at all times. These aisles will also act as a route of escape in an emergency.
- Storage may not be stacked within 18" of a sprinkler head in areas that are protected by an automatic sprinkler system. In areas not protected by sprinklers, storage must be 24" from the ceiling.

Electrical Safety

The following good practices must be applied to all electrical appliances/equipment:

- All electrical appliances/equipment must be in good repair and cords and exterior cases must be free of damage.
- All appliances/equipment must be directly plugged into wall outlets or power strips equipped with either a fuse or circuit breaker.
- All building electrical equipment (e.g., circuit breakers, distribution panels, outlets, lights, etc.) must be free from damage and appropriately covered (e.g., wall plates or junction box covers in place, circuit breaker panel doors in place, etc.) and must be accessible (not blocked) at all times.
- All wiring must be routed above the ceiling or housed in conduit below the ceiling.
- Multi-plug adapters should not be used.
- Extension cords may only be used on a temporary basis.

Space Heaters

Only space heaters that are approved by Underwriter Laboratories (UL) or Factory Mutual (FM) can be used in offices, labs, or other enclosed areas. No fuel-supported heaters can be used. Heaters should have ceramic elements and a tilt switch. The heaters must be in good condition (no frayed cords, etc.). Areas where heaters are used must be open and free from combustible materials (i.e., paper, wood, cloth, etc.). Heaters must be turned off when the area is unoccupied.

Exits

- Exits, including main corridors, stairways and stairwells, shall not be obstructed in any manner and shall remain free of any material that would obstruct the exit or render the exit hazardous.
- All main building corridors must have a minimum 44" clear width maintained at all times.
- Storage may not be located in corridors, even temporarily.

Mechanical Rooms

Mechanical and electrical rooms are not storage rooms. They are only intended to house equipment that supplies services to the building (heating, cooling, electrical distribution, communications, etc.). Access to all equipment must be unimpeded and the spaces must be free of any extraneous material. Mechanical rooms must be locked at all times. Keys for these areas are under the control of the college operations officer and maintenance department.

Theatrical Productions

- No scenery, props, decorations, seating equipment, or other obstructions may be placed in a fashion that would prohibit the automatic fire curtain from dropping completely to the floor of the stage.
- No scenery, props, decorations, displays, seating equipment, or packing equipment may be placed so that it in any way obstructs an exit.
- Exit lights must be illuminated and visible during any production.
- Only non-combustible materials or fire retardant pressure-treated wood may be used for stage scenery or props on the audience side of the proscenium arch. Where possible, flame retardant materials should be used in set design.
- Non-flame retardant materials can be treated with flame retardant.
- Backdrops, curtains, draperies, decorations and similar furnishings/materials shall be flame resistant.

The use of pyrotechnics or theatrical smoke must have the approval of the Fire Marshal and the Director of Safety and Loss Control

SECTION 4-2: EMERGENCIES INVOLVING FIRE

QUICK REFERENCE

NOTIFICATION in the event of fire:

o Call 911 and be prepared to relay the exact physical street address:

(example)
"There is a fire at the Houston Community College building located at 1234 Smith St. near the corner of Main."

o Also, give specific location within a building:

"The fire is on the second floor in room 234."

o Call HCCS Police Department at 718-8888 and sound local fire alarm is available.

If you see or smell smoke or gas:
o Call HCCS Police at 718-8888
o Sound local fire alarm if available
o Initiate voice notification if no alarm available

If you encounter smoke or flames:
o Crawl low under the smoke to get to clean air
o Test doors before you open them by kneeling or crouching at the door.
o Reach up as high as you can and touch the door and knob with the back of your hand.
• Door is hot, use another escape route
• Door is cool, open it cautiously and continue along your escape route.
o Isolate FIRE by closing off doors if possible
• Evacuate using stairwells, not elevators
• Follow directions from those in authority
• **STAY CALM**
• Use fire extinguisher only if you have been trained and fire is small
o Once you are safe and immediate emergency procedures have been followed, notify appropriate administrative authority.

Fire Alarms

In the event of a fire emergency, a fire alarm will sound for the building. Some buildings do not have audible fire alarms. A plan to alert the occupants of the need to evacuate should be developed and shared with occupants.

Evacuation Routes

- Learn at least two escape routes, and emergency exits from your area.
- Never use an elevator as part of your escape route.
- Learn to activate a fire alarm.
- Learn to recognize alarm sounds.
- Take an active part in fire evacuation drills.

Emergency Egress

Every exit will be clearly visible, or the route to it conspicuously identified in such a manner that every occupant of the building will readily know the direction of escape from any point. At no time will exits be blocked. Stairwells shall not be used to store chairs, desk, supplies or any other materials. Any doorway or passageway that is not an exit or access to an exit but that may be mistaken for an exit, will be identified by a sign reading "Not An Exit" or a sign indicating its actual use (i.e., "Storeroom"). A readily visible sign will mark exits and accesses to exits. Each exit sign (other than internally illuminated signs) will be illuminated by a reliable light source. No exits shall be chained during periods the building is occupied.

Occupant Emergency Plan for Persons with Disabilities

The department supervisor is assigned the responsibility of developing a plan to assist persons with disabilities under their supervision. This plan should enlist the input of the disabled person. The plan should take into consideration the building, the work location, the type of disability, assistance needed, and the availability of assistance. No one is required to endanger him/herself in order to effect or assist with the evacuation of others, but everyone has the duty to ensure that other occupants are aware of the emergency. Similarly, it is expected that individuals will aid anyone requiring assistance to safely evacuate.

Areas of safe refuge should be identified within multi-story buildings (typically inside the protected emergency egress stairways), which wheelchair users can reach on their own, and where they can safely await assistance from public safety personnel in a position that does not impede or prevent emergency egress for others. Additional information for evacuation of disabled persons may be found in Section 5-2, Persons with Disabilities.

Note: Some individuals, confined to a wheelchair, can be injured by being lifted or carried by an untrained person.

Assembly Points

A sufficient number of assembly points shall be identified as part of the building's supplemented evacuation plan. Assembly pints are pre-identified locations where evacuees can safely assemble following an evacuation. Locations selected should be at least 300 feet from the evacuated building and away from emergency operations or support resources that may respond to the situation. Supervisors and other responsible authority may take "head counts' to assure that all persons are accounted for. Information and instruction should be made available at the assembly points concerning the emergency situation and what steps should be taken by employees and students.

GENERALLY

Should evacuation be necessary, go to the nearest exit or stairway and proceed to a pre-designated meeting area (assembly points) outside the building. Most stairways are fire-resistant and present barriers to smoke if the doors are kept closed. Do not use elevators. Should the fire involve the control panel of the elevator or the electrical system of the building, power in the building may be cut and you could be trapped between floors. Also, the elevator shaft can become a flue, lending itself to the passage and accumulation of hot gases and smoke generated by the fire.

Fire Emergency Procedures

If you discover a fire:

- Activate the nearest fire alarm.
- Notify the emergency responders by dialing 911. Give your location, the nature of the fire, the location of the fire, and your name.
- If no fire alarm system exists in the building, verbally sound the alarm as you exit the building.
- Fight the fire with a fire extinguisher **ONLY IF**:
    - The fire department has been notified of the fire, AND
    - The fire is small and confined to its area of origin, AND
    -
    - You have a way out and can fight the fire with your back to the exit, AND
    - You have the proper extinguisher, in good working order, AND
    - You know how to use it.

If you are not sure of your ability or the fire extinguisher's capacity to contain the fire, get out and leave the fire fighting to the experts.

If you hear a fire alarm or call to evacuate:

- Evacuate the area. Close windows, turn off gas jets, and close doors as you leave.
- Leave the building and move away from exits and out of the way of emergency operations.
- Assemble in a designated area.
- Report to the supervisor so he/she can determine that all personnel have evacuated your area.
- Remain outside until competent authority (fire department, HCCS Police, Security, HCCS administrator) states that it is safe to re-enter.

SECTION 4-3: FLAMMABLE AND COMBUSTIBLE MATERIALS

Substitution

In some instances relatively safe materials may be substituted for flammable liquids in order to reduce the risk of fires. This should be done wherever possible. Any substituted material should be stable and nontoxic and should either be nonflammable or have a high flashpoint.

Storage

Flammable and combustible liquids require careful handling at all times. The proper storage of flammable liquids within a work area is very important in order to protect personnel from fire and other safety and health hazards.

Definitions:

o "Flashpoint" means that the minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with the air near the surface of the liquid.

o "Flammable liquid" means any liquid having a flashpoint below 100 degrees Fahrenheit. This includes Class I liquids.

"Class IA" shall include liquids having flashpoints below 73 degrees Fahrenheit and having a boiling point below 100 degrees Fahrenheit.

"Class IB" shall include liquids having flashpoints below 73 degrees Fahrenheit and having a boiling point at or above 100 degrees Fahrenheit.

"Class IC" shall include liquids having flashpoints at or above 73 degrees Fahrenheit and below 100 degrees Fahrenheit.

o "Combustible liquid" means any liquid having a flashpoint at or above 100 degrees Fahrenheit. This includes Class II and Class III liquids.

"Class II liquids" shall include those with flashpoints at or above 100 degrees Fahrenheit and below 140 degrees Fahrenheit.

"Class IIIA liquids" shall include those with flash points at or above 140 degrees Fahrenheit and below 200 degrees Fahrenheit.

"Class IIIB liquids" shall include those with flashpoints at or above 200 degrees Fahrenheit.

Storage Inside Buildings

Approved metal storage cabinets should be utilized for storage of flammable substances where appropriate. Where approved storage cabinets or rooms are not provided, inside storage will comply with the following basic conditions:

• The storage of any flammable or combustible liquid shall not physically obstruct a means of egress from the building or area.

• Containers of flammable or combustible liquids will remain tightly sealed except when transferred, poured or applied.

• Remove only that portion of liquid in the storage container required to accomplish a particular job.

• If a flammable and combustible liquid storage building is used, it will be a one-story building devoted principally to the handling and storing of flammable or combustible liquids. The building will have 2-hour fire-rated exterior walls having no opening within 10 feet of such storage.

• Flammable paints, oils, and varnishes in 1 or 5-gallon containers, used for building maintenance purposes, may be stored temporarily in closed containers outside approved storage cabinets or room if kept at the job site for less than 10 calendar days.

• Portable containers used for storage of gasoline must be a Type I or Type II safety can. Proper bonding procedures must be followed where warranted.

Elimination of Ignition Sources

All nonessential ignition sources must be eliminated where flammable liquids are used or stored. The following is a list of some of the more common potential ignition sources:

• Open flames, such as cutting and welding torches, furnaces, matches, and heaters—these sources should be kept away from flammable liquids operations.
• Cutting or welding on flammable liquids equipment should not be performed unless the equipment has been properly emptied and purged with a neutral gas such as nitrogen.
• Chemical sparks—these sparks can result as a reaction of two or more substances.
• Electrical sources of ignition such as d.c. motors, switches, and circuit breakers—these sources should be eliminated where flammable liquids are handled or stored. Only approved explosion-proof devices should be used in these areas.
• Mechanical sparks—these sparks can be produced as a result of friction. Only non-sparking tools should be used in areas where flammable liquids are stored or handled.
• Static sparks—these sparks can be generated as a result of electron transfer between two contacting surfaces. The electrons can discharge in a small volume, raising the temperature to above the ignition temperature. Every effort should be made to eliminate the possibility of static sparks. Also, proper bonding and grounding procedures must be followed when flammable liquids are transferred or transported.

Removal of Incompatibles

Materials that can contribute to a flammable liquid fire should not be stored with flammable liquids. Examples are oxidizers and organic peroxides, which, on decomposition, can generate large amounts of oxygen.

Flammable Gases

Generally, flammable gases pose the same type of fire hazards as flammable liquids and their vapors. Many of the safeguards for flammable liquids also apply to flammable gases; other properties such as toxicity, reactivity, and corrosiveness also must be taken into account. Also, a gas that is flammable could produce toxic combustion products. Compressed gas cylinders must be properly stored, segregated and secured.

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

ROBERT TRIBBLE
ENVIRONMENTAL SAFETY MANAGER
3100 MAIN – PHONE 713-718-7561
e-mail: robert.tribble@hccs.edu

SECTION V: EVACUATION PROCEDURES

- Section 5-0:Occupant Instructions for Reporting Fires and Evacuation Procedures

- Section 5-1: Fire Exit Drill Procedures
- Section 5-2: Planning for Persons with Disabilities
    - o Evacuation Assistance Registry Form
- Section 5-3: Mobility Impaired

These procedures are established as a model for implementation at all HCC Facilities. The procedures for responding to reports of fire and other evacuations provide standard guidelines at all buildings. Slight procedural modifications may be necessary according to the life safety features of buildings.

SECTION 5-0: Occupant Instructions for Reporting Fires and Evacuation Procedures

(Review written fire plan for your building)

I. NOTIFICATION

A. If the following is reported to you, or if you see smoke or flames, or smell something burning, or hear a fire alarm, IMMEDIATELY:

- **Call the Fire Department – Dial (9) – 911.**
- **Call the HCC Police Dispatch (located @ 3100 Main) – 713-718-8888.**
- **If time permits, call the Building Fire Safety Director: _____.**
- **Activate the Fire Alarm Pull Station or Notification Procedure for the building,** if the alarm is not sounding.
- Report any change in conditions to the Fire Department, HCC Police Dispatch, and the Building Fire Safety Director.

B. If you think you smell a peculiar or unfamiliar odor, immediately:

- Call the HCC Police Dispatch – 713-718-8888.
- Call the Building Fire Safety Director: _____.
- Call the Building Coordinator: _____.

C. Information to be given to the Fire Department:

- What is the emergency: (alarm, smoke, flames, etc.)
- Address: (address of building) at intersection with (nearest cross-street name)
- Type of occupancy: (describe occupancy)
- What floor: _____; room #: _____; telephone # calling from _____.
- Let the Dispatcher hang up first!

D. Notification or Alarm System Procedures **(to be described in your building fire plan)**:

- Describe the type of fire or alarm system in place at this building.
- How is notification of a fire or other emergency to be relayed to the occupants.

II. EVACUATION – EMERGENCY PROCEDURE RESPONSE ACTIONS

STAGE ONE – <u>ALARM ONLY</u> – Emergency procedures – in the event of an alarm only:

- Minimum procedure: Prepare to evacuate by going to the nearest emergency exit stairwell door; if there is any evidence of fire, evacuate the floor to a safe area.
- Report any change in conditions to the Fire Department, HCC Police Dispatch and Fire Safety Director.

STAGE TWO – EVIDENCE OF FIRE – If there is report of smoke, flames, or smell of something burning, IMMEDIATELY:

• Isolate the fire (if inside a room, close the door if you can do so safely).
• If notifications have not been completed, activate the Fire Alarm Pull Station; if the alarm is not sounding, call the Fire Department, Building Fire Safety Director, and HCC Police Dispatch.
• Evacuate using exit/stairs to a safe area.
• In "high-rise" buildings – relocation to three (3) or more levels below the fire floor is generally adequate. ALL OTHER BUILDINGS SHOULD EVACUATE ALL FLOORS AT THIS STAGE (EVIDENCE OF FIRE CONDITION).
• Fire extinguishment is optional and only if all of the above has been completed and you have been trained in portable fire extinguisher use.

FLOOR FIRE WARDENS WILL GIVE FURTHER DIRECTIONS

• Return to work area from STAGE ONE without evacuation.
• Proceed with evacuation and enter stairwell to relocate.
• Continue to designate Assembly Points.

ASSEMBLY POINTS

• **Primary assembly point** in the event of an evacuation shall be [*DESIGNATE THE PRIMARY ASSEMBLY POINT FOR THE BUILDING/FLOOR/AREA]*
• **Secondary assembly point** [*DESIGNATE A SECONDARY ASSEMBLY POINT]*

III. OTHER EVACUATIONS

In some events it may be necessary that evacuations be initiated by voice notifications. The fire alarm system would not be activated. Also, some HCC buildings do not have fire alarm systems installed.

In any event, a voice call to evacuate will be immediately complied with by all building occupants. Evacuation procedures outlined in the Fire Plan will be followed with the evacuation of the building and all floors. Instructions given at the time of the event will take precedence.

IV. RECOVERY FROM AN EVENT

1. While at the designated Assembly Point remain alert for additional instructions and avoid interference with responding emergency personnel.
2. Do not leave the evacuation Assembly Point without notifying the Fire Warden or your supervisor of your departure.

3. Do not re-enter an evacuated area without permission from fire department personnel or responsible building authority.
4. Building Fire Team members, fire department or other responsible authority must have issued clear instructions for building re-entry following an evacuation.

SECTION 5-1: FIRE EXIT DRILLS PROCEDURES

I. Purpose – The purpose of fire exit drills is to ensure the efficient and safe use of the exit facilities available in the case of an emergency. Proper drills ensure orderly exit under control and prevent the panic that has been responsible for much of the loss of life in the major fire disasters of history. Order and control are the primary purposes of the drill. Speed in emptying buildings, while desirable, is not in itself an object, and should be made secondary to the maintenance of proper order and discipline.

II. Responsibility – Fire exit drills shall be designed and conducted according to the occupancies specified below and in cooperation with college administration, department heads and chairs. Responsibility for the planning and conduct of drills shall be assigned by campus management and safety to competent persons qualified to exercise leadership. A written record of all drills conducted shall be maintained, including a critique of the event. This record should be maintained in file at the building by the Campus/Building Manager or the Fire Safety Director for the building.

III. General Guidelines – Drills should include suitable procedures to make sure that all persons in the building, or all persons subject to the drill, actually participate. If a fire exit drill is considered merely as a routine exercise from which some persons may be excused, there is a grave danger that in an actual fire, the drill will fail in its intended purpose.

A. All drills should be pre-planned and pre-announced. Surprise drills tend to limit productive learning, breed apprehension, and cause passivity to future alarms. Any alarm not preceded by plan or announcement shall be treated as an actual fire condition.

B. Fire exit drills shall be held with sufficient frequency to familiarize all occupants with the drill procedure and to have the conduct of the drill a matter of established routine. Drills should be carefully planned to simulate actual fire conditions. Not only should they be held at varying times, but different means of exit should be used based upon an assumption that if some given stairway is unavailable by reason of fire or smoke, all the occupants must be led out by some other route.

C. Fire exit drills should be designed to familiarize the occupants with all available means of exits, particularly emergency exits that are not habitually used during the normal occupancy of the building.

D. Fire Exit Signs – Adequate posting of fire exit signs is a responsibility that each campus must address. Where these building features are not readily discernible, a highly visible graphic design should be conspicuously posted with the following information:

- Evacuation routes
- Identification of “you are here” location
- Location of the pull stations
- Location of portable extinguisher
- Location of fire hose stations, if equipped

A. The usefulness of a fire exit drill and the extent to which it can be carried depends upon the character of the occupancy. Drills are most effective in occupancies such as classrooms, where the occupant load of the building is under discipline and subject to

habitual control. In buildings where the occupant load is of a changing character and not under discipline, such as a student study or lounge, no regularly organized fire exit drill is possible. In such cases, the fire exit drills must be targeted to the regular employees who can be thoroughly schooled in the proper procedure and can be trained to properly direct other occupants of the building in case of fire.

B. In most of our college occupancies, regular employees should be rehearsed in the proper procedure in case of fire. At any given time, employees present in a building would be better able to assist Fire Wardens as an "Action Team" in responding to an emergency. Such training is always advisable in all occupancies whether or not regular fire exit drills can be held.

C. The following sections address some of the special fire exit drill details that should be observed for specific occupancy classes.

IV. Fire Exit Drills in Specific Campus Occupancies

1. **Educational Occupancies**—Classrooms, lecture halls, laboratories, administrative buildings, workshops or vocational areas

a. All educational buildings on campus must hold one fire exit drill per year, preferably during the first four weeks of the semester.

b. Faculty and staff (forms an Action Team) shall work in cooperation with Fire Wardens, the college operation officer, the Building Fire Safety Director, and other safety personnel in scheduling drills before the semester begins to allow for curriculum planning.

c. Evacuation instructions are to be conspicuously posted in each classroom, hallway, and stairwell to provide the necessary evacuation information and ensure orderly egress from the building. Signs should also specify that elevators must not be used to exit and should delineate alternative routes.

d. Classroom faculty and staff should be familiar with the easiest exit to be used in the fire drill and the alternative exits available.

e. Faculty and staff should close (not lock) doors and windows and take responsibility for checking facilities for complete evacuation.

f. All personal belongings within reach should be taken from classrooms by students.

g. Handicapped students should inform faculty or staff at the start of the semester of any special requirements with respect to locations and procedures that will best facilitate those students' egress from the building in an emergency.

h. In general, wheelchair users should go to the stairwell that is furthest from the fire and wait for help.

i. Police/security and responding fire department should be notified that stairwells be checked first.

j. Other handicapped persons should be assisted by students, faculty or staff. Fire Wardens or employees immediately available to act as Action Team members should be alert to assist those in need.

2. Assembly Occupancies – Theaters, auditoriums, lecture halls

a. Because actual fire drills are not practical for places of non-continuous assembly where the students or public body changes with each program, employees or attendants (Fire Wardens or Action Team members) of such places should be schooled in the duties they are to perform in case of fire in order to be of greatest service in effecting orderly exit of assemblages.

b. An adequate number of competent attendants must be on duty when assembly occupancy is used. These attendants would comprise an Action Team in the event of an emergency or evacuation.

c. Employees expected to utilize portable fire extinguishers should be instructed in the proper use of portable fire extinguishers and other manual fire suppression equipment provided; otherwise, they should evacuate with other occupants.

d. An audible announcement may be made prior to the start of each program to notify occupants of the location of the exits to be used in the case of an emergency.

e. Signs with directions for speedy and orderly egress should be posted at aisle ends and at all entrances and exits.

3. Day-Care Occupancies

a. An approved fire evacuation plan shall be executed not less than once per month in campus day-care centers pending sever weather. Fire safety should be included in the curriculum of the day-care center taught by knowledgeable staff to ensure preparedness by children and staff.

b. Large uncomplicated signs should be strategically placed and explained to children prior to a fire exit drill to help educate them in orderly egress.

c. A fire exit drill coordinator shall be assigned to coordinate the fire drill efforts and to maintain written records of the drills and critiques thereof.

d. Staff shall be instructed to check each room for children and shall have responsibility for a specific group of children during a fire drill. Upon exiting a room, doors and windows should be closed but not locked.

e. Roll call will be taken immediately after exiting the building to ensure that all children have evacuated and are present.

f. Area fire authorities should be consulted to confirm that fire exit drills are being executed in the safest and most efficient manner for a specific building.

4. Administrative Occupancies

a. Due to the stable nature of administrative buildings, fire exit drills should be held at least annually following the guidelines set forth in the section on educational occupancies above.

b. Special consideration must be given to handicapped employees and non-employee guests in the building.

c. Awareness by the immediately available staff (Action Team) of the needs of individuals will help to facilitate easy egress.

5. High Rise Buildings

a. Any building seven (7) stories or higher

b. Must hold two documented fire drills annually (every 6 months).

SECTION 5-2: PLANNING FOR PERSONS WITH DISABILITIES

All persons are required to leave any facility where a fire alarm is activated and **EVIDENCE OF FIRE** conditions exits. Evacuation shall be as prompt as possible via the nearest available exit. In facilities without alarm systems, all persons must leave whenever it becomes clear that an emergency exists that necessitates evacuation for their own safety.

No one is expected to endanger him/herself in order to effect or assist with evacuation of others, but everyone has a duty to ensure that other occupants are aware of an emergency. Similarly, it is expected that individuals will aid anyone requiring assistance to safely evacuate. Individuals with impairments that may hinder immediate evacuation may be positioned in an area of safe refuge at or near a stairwell farthest from any identifiable existing hazard. Immediate notification to emergency responders by those assisting the impaired individual should be accomplished.

Arrangements for Evacuation

Arrangements can be made to reasonably assure that assistance with evacuation is provided to anyone who is known to require such assistance. Contact the instructor or staff member in charge of the classroom or facility.

When no prior arrangements are made, assistance may not be available at the time an emergency occurs. Security or others in the building may not be aware that assistance is needed at the time of an emergency.

Persons with disabilities may not be readily identifiable to others. Anyone with a disability not readily apparent should inform his/her instructor or the person in charge of a facility that assistance with evacuation might be required to ensure it is available in the event of an emergency.

When assistance arrangements are made, there is no requirement to make them public. However, procedures must be in place to ensure such information is available at the time of need. An Evacuation Assistance Registry for fire and emergency evacuation planning has been implemented for employees and students at all HCC facilities. Each college ADA Counselor and the HCC Safety Office (713-718-7563) can provide registry forms and information.

Responsibility for Arrangements

Arrangements for assistance are usually best accomplished through establishing a personal relationship between the individual requiring assistance and one or more of his/her peers in the form of a "buddy" plan.

Redundant arrangements should be made to ensure the needed assistance is provided if the primary provider is absent when an emergency occurs. Volunteers can usually be readily arranged.

Assistance with making arrangements should be sought from the instructor or staff member responsible for the classroom or area.

Evacuation and Alternatives

The emergency evacuation alarm systems in most facilities (if equipped) include visual and audible signaling devices that alert hearing-impaired persons to alarm conditions. When these systems are not installed or otherwise not available, a brief note or other communication to the hearing or visually impaired person(s) should be provided by others present.

Elevators cannot safely be used for emergency egress, and are often programmed to cease operating when a fire alarm is activated and return to the first floor. A wheelchair can constitute and unacceptable impedance to the ability of others using the stairway to evacuate and may be dangerous to the occupant and those assisting on stairs. The wheelchair may therefore have to be abandoned and alternatives for safe evacuation sought.

There are specific techniques to enable two persons to safely carry a third while descending stairs, but these must be learned and practiced prior to an actual emergency and are therefore impractical for untrained occupants of a transient nature, such as students. Emergency responders are better trained in assisting with evacuation of this nature. College facilities with multi-story buildings may consider acquiring one or more "stair chairs" which are designed for safely moving disabled individuals down flights of stairs. Training in the use of this type of equipment must be provided in advance of emergency use.

Area of Safe Refuge

Areas of safe refuge (typically inside the protected emergency egress stairways) should be identified within multi-story buildings. Areas identified as such, must be those which wheelchair users can reach on their own and where they can safely await assistance from public safety personnel. Users must be in a safe position that does not impede or prevent emergency egress for others.

Security and other emergency responders should be made aware of anyone needing assistance by other occupants who have evacuated. At many college sites, the stairway landing in most buildings is large enough to accommodate at least one wheelchair occupant and still be viable as a means of emergency egress for others.

While not all stairways full qualify as "areas of safe refuge" as defined by code, they are usually substantially safer than any other area of the building and preferable to remaining in an area where exposure to heat, smoke and products of combustion are a hazard.

Pre-identifying and trying out an "area of safe refuge" as an acceptable alternative to assisted evacuation, pending response by emergency personnel, is recommended.

Evacuation Assistance Registry Program

I. IDENTIFICATION OF NEED

A. The needs of persons having any mobility impairment should be considered prior to events requiring building occupants to respond to emergency actions and evacuation measures.
B. It is necessary for Fire Wardens to notify the Building Fire Safety Director of any mobility-impaired tenants (occupants) that may require special assistance in the event of an evacuation.
C. A list of individuals needing assistance during an emergency must be maintained and updated as necessary as part of the building fire planning.
D. The following program is established to aid in accomplishing this task.

II. PLANNING & REGISTRY

A. STAFF:

1. Individuals who feel they may need assistance or have special needs during an emergency or building evacuation may register with the HCCS Safety Department.

   a. Participation and information is a voluntary act of disclosure on the part of the individual.

   b. Individuals may make their own pre-need emergency response plans and discuss those procedures with the Director of Safety.

2. The following information is requested for participation in this program:

3. Submit information on provided "Evacuation Assistance Registry" forms to the HCCS Safety Department at Mail Code 1125.

   a. Name and department or class schedule

   b. Floor and office or classroom number or designation in the building.

   c. Telephone number in the building.

   d. Description of the anticipated assistance requested.

   e. Description of any equipment or special procedure necessary to meet your safety needs.

   f. Name and telephone number of an emergency contact person off-premises, and your relationship to that contact person.

B. STUDENT:

1. Prior to an emergency, faculty teaching classes will:

   a. At first class meeting, take time to inform the class about the following:

      - Building fire alarm notification method
      - Building fire alarm response procedure
      - Emergency exits (evacuation route)
      - Assembly points in the event of building evacuation

   b. Determine if there are any students who may need assistance during an emergency evacuation.

      - Provide information to the student about where building emergency response planning for mobility-impaired individuals is coordinated.
      - Coordinate initial gathering and recording of information from those students desiring to participate in the assistance registry program established for mobility-impaired individuals.
      - Encourage those students to establish a "buddy system." This will help ensure immediately available assistance is coordinated in the event of an emergency. Instructors may participate in expediting this process.

   c. Submit information on provided "Evacuation Assistance Registry" forms to the Disability Counselor at each college. Forms may be obtained by contacting the Disability Counselors. If you have any questions contact the ADA Coordinator at 713-718-5165 or the HCC Safety Department at 713-718-7563.

III. DISTRIBUTION

1. Information from the forms provided by this process will be compiled into a format and be readily available to emergency responders, including the appropriate Building Coordinator, Fire Wardens and Instructors.

2. The HCC Police Communication Center will maintain information from the submitted forms in a manner that will provide ready access in the event of an emergency.

EVACUATION ASSISTANCE REGISTRY EVACUATION ASSISTANCE REGISTRY

HOUSTON COMMUNITY COLLEGE SYSTEM

For Fire and Emergency Evacuation Planning For Fire and Emergency Evacuation Planning

BUILDING: BUILDING: COLLEGE: COLLEGE:

Employee □ Student . [STUDENTS MUST COMPLETE A NEW FORM FOR EACH ENROLLMENT TERM]

Name: Employee/Student Identification Number:

Work Schedule (employees)

Room Number / Office Location	Hours	Telephone Number

Class Schedule in Building (students)

Room Number or Location	Class Meeting Days	Class Meeting Hours
1.		
2.		
3.		

Briefly describe assistance required:

What planning (if any) have you undertaken for an emergency event occurring at this location:

Describe any special procedure or equipment necessary during an anticipated emergency event:

PRIMARY EMERGENCY ASSISTANCE CONTACT PERSON NOT AT LOCATION:

Name: Telephone:

Relationship:

One information sheet for each building you anticipate occupying during scheduled periods. This information is voluntarily provided for public safety use at the above location. Information may be distributed as necessary to fire safety team members and emergency responders.

_____ _____

SIGNATURE DATE

This information will be maintained by the HCCS Police Communication Center and incorporated into the Fire Safety Plans at the named building. Routing as outlined in Fire Plan, Section Two "A*ssisting the Mobility Impaired*.

Submit: EMPLOYEE form to HCC Safety Dept., MC-1113 (responsible for distribution)

STUDENT form to respective College Disability Support Services Counselors (responsible for distribution)

Office Use Only / Remove After:

SECTION 5-3: MOBILITY-IMPAIRED

I. MOBILITY-IMPAIRED – EVACUATION PROCEDURE

A. Mobility impaired occupants may require special assistance in the event of an evacuation. Occupants not requiring assistance should evacuate first. This avoids the possibility of persons in need of assistance being bumped and/or falling down, thus slowing evacuation and/or causing injury.

B. If there is any evidence of fire, persons having mobility impairment should be positioned near the fire exit/stairwell that is located farthest away from the fire, or an appropriate area of refuge or assistance.

2. The individual or the person assisting should telephone the HCCS Police 24-Hour Dispatch Center and provide information on their location and the nature of assistance needed.
3. Additionally, another assistant volunteer should proceed to exit to a place of safety and personally contact police/security or other emergency responder and request assistance for the mobility-impaired individual. Information concerning the exact location should be provided.

C. If fire conditions pose a personal threat, the fire warden or person assisting should enter into the exit/stairwell with the person(s) needing special assistance and wait for the Fire Safety Team and/or Fire Department.

D. If fire conditions pose a personal threat in the stairwell, the mobility-impaired person(s) should be evacuated to a safe location.

E. For false alarms or an isolated and contained fire, a person with a disability may not have to evacuate. The decision to evacuate will be made by the Fire Safety Team and/or the Houston Fire Department.

II. ASSISTING THE MOBILITY-IMPAIRED

A. Floor Fire Wardens will coordinate obtaining assistance.
B. Based on pre-planned assistance arrangements.
C. Unplanned needs.
D. The Fire Plan has established a pre-planning registry for building occupants anticipating a need for assistance during an emergency or evacuation.
E. Contact the HCC Director of Safety at 713-718-7563 or the Building fire Safety Director at [*TELEPHONE NUMBER*] for additional information.
F. Information voluntarily provided for this purpose would become part of Fire Plan information made available to responding firefighters, building fire Wardens and emergency response personnel.
G. Information may be contained in material deposited at:

1. The building designated Fire Command Center/Fire Depository box,
2. Building Fire Safety Director Office
3. HCC Director of Safety Offices, and
4. HCCS Police 24-Hour Dispatch Center located at 3100 Main, telephone 713-718-8888.

H. Information will be marked "Confidential" and reasonable effort will be made to maintain this privacy.

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

ROBERT TRIBBLE
ENVIRONMENTAL SAFETY MANAGER
3100 MAIN – PHONE 713-718-7561
e-mail: robert.tribble@hccs.edu

SECTION VI: MEDICAL EMERGENCIES

1. Major Medical Emergencies

o Action should be taken in cases of life-threatening situations such as:

1. A person being unconscious;
2. Having cardiac arrest;
3. Severe bleeding or choking.

o Attempts should be made to assist the victim. Upon observation of the medical emergency, take the following actions:

1. If you are able, render first aid/ CPR or obtain assistance of someone who is accessible and willing to manage the situation.
2. Call or have someone call 911 for EMS
3. State the nature or type of emergency
4. Give the location of building, floor, room

o Identify the person and any other pertinent information that will help prepare responders:

1. Age
2. Sex
3. Symptoms victim is exhibiting
4. Pre-existing health condition
5. Medication the victim may be taking
6. Stay with victim until emergency personnel arrive

o Have another individual in the area meet the emergency personnel upon their arrival to expedite their locating the victim inside the building.

o When time permits, contact the president and/or dean's office so that they can assist as needed (refer to ***Notifications and Contacts, Section III***).

o Following the medical emergency, prepare a brief report regarding the actions taken in response to the emergency. Copies of this report should be sent to the president, College Safety Team Leaders, and HCCS Safety and Loss Control Department.

o Injuries that are not life threatening, but have occurred on college property.

2. Medical Emergencies with Injuries (general)

1. First aid should be provided within the scope of knowledge and skill by anyone who is readily accessible and willing to manage the situation.
2. Contact HCCS Police at 713-718-8888, the dean and/or the president to report the incident (refer to ***Notifications and Contacts, Section III***).
3. If necessary, HCCS Police will assist the injured person in arranging transportation to a hospital.

o College personnel will not, as college representatives, provide personal transportation for injured or ill persons. Call EMS at 911.

3. A preliminary investigation will be made by college police for any reported injury accident occurring on college property. The police/security officer will identify witnesses and injured parties. Factual information and objective observations related to the accident will be included in a written report.
4. Instructors shall submit a report to their department chair concerning circumstances of student injuries occurring in class activities.
5. Initial reports should be forwarded to the administrator immediately responsible for the instructional or operational program for appropriate distribution.
6. Supervisors remain responsible for reporting employee injuries and sickness in compliance with System Worker's Compensation policies.
7. The HCCS Worker's Compensation carrier provides a Preferred Provider Organization (PPO) consisting of Hospitals, Physicians, Urgent Care Centers and other services of numerous specialties. This MANAGED CARE service is coordinated by: ***Managed Care Intracorp, 1-800-842-0309***

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

ROBERT TRIBBLE
ENVIRONMENTAL SAFETY MANAGER
3100 MAIN – PHONE 713-718-7561
e-mail: robert.tribble@hccs.edu

SECTION VII: SEVERE WEATHER ALERT/EMERGENCY CLOSINGS

- School Closing Notification System – HCCS subscribes to the School Closing Notification System. Access to closures affecting HCC campuses is provided at **www. school-closings.net**.
- Recommendations for hurricane preparedness can be found in **Section XVI: Hurricane Planning.**
- Section 7-1: TORNADO/SEVERE WINDS

A decision to dismiss classes or close a campus will be made by the Chancellor and/or college presidents when weather or other conditions pose a potentially serious threat to the health or safety of the College's students and/or employees.

- The Chancellor, or his/her representative, will make the decision after consultation with VC for Institutional Development, Executive Director of Human Resources, and appropriate college personnel and representatives of public health or safety agencies.
- If conditions affect only a college or single facility (not entire system), the decision may be made by the college president. The president will notify the Chancellor (or his/her representative) at the Houston Community College System of the decision to close the campus.

The following personnel listed, in priority order, are the only people authorized to make this official notice.

SYSTEM: Chancellor
Vice Chancellors

COLLEGE: President
Deans
College Operations Officer

DURING NON-BUSINESS HOURS – The decision to close college campuses for day classes will be made by 5:00 AM, or as soon thereafter as possible. The decision to close or extend closings of college campuses for evening classes will be made by 2:00 PM, or as soon thereafter as possible. These timelines will allow necessary time for notification channels to be activated. Decisions to close college campuses due to severe weather or other safety considerations will include canceling all scheduled activities and events.

The decision will be communicated using the following process:

1. Upon notification from the Chancellor, the president will notify the respective deans and college operations officer,
    - who will in turn notify their staff and/or department heads;
    - who then will notify the faculty and staff who report to them.

2. Notification will be made to the Safety and Security Department 24-hour communication center – 713-718-8888.
3. The Chancellor (or designee) will notify the Executive Director of Communications (or designee) who will be the person responsible for activating The School Closing Notification System. Information on campus closings will be posted at http://school-alerts.com/ and provided to local TV and radio stations for public broadcast.
4. Radio stations and local television stations will be notified and should be monitored to serve as the principal source of information when a potential widespread emergency condition is present.

- ***Television stations: Channel 2, Channel 11, Channel 13, Channel 26, Channel 45 and Channel 48.***
- ***Radio stations: KTRH 740 AM, KPRC 950 AM, KLAT 1010 AM, AND KQQK 106.5 FM.***

DURING BUSINESS HOURS

In addition to appropriate steps contained in the above, the following applies:

1. If classes are in session and offices occupied, the notification may be done in person or by telephone.
2. Notification will be made to the Safety and Security Department 24-hour communication center – 713-718-8888.
3. Should the decision be made to close the college, employees should prepare work and classroom areas as necessary to lessen potential property loss from the adverse event, such as:
   - Disconnect all electrical equipment: computer, TV, VCR, typewriter, calculator, and science equipment.
   - Move delicate or electrical equipment away from windows toward the interior walls to the extend possible.
   - Secure (close and lock) windows and doors when leaving and turn off all lights.
4. All building occupants must follow campus-closing instructions given at the time of the event.

SECTION 7-1: TORNADO/SEVERE WINDS

- Seek shelter inside buildings or other secure location. **Avoid glass and exposure to flying debris.**
- Occupants of buildings should move to the main or lower floor as quickly as possible.
- If time does not allow for movement, cover should be taken away from glass windows and under protective items such as tables.
- Once individuals have reached a shelter or "take cover" location, they should assume a seated position on the floor with their heads down and their hands over their heads; or place themselves under a desk or between fixed seating (if available) with heads lower than the backs of the sets.
- Hallways and stairwells away from glass are also acceptable shelters and cover areas.
- Once the hazard has stabilized, exit from the building to the Evacuation Assemble Point for the facility.
- Stay away from downed power lines and damaged structures.

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SECTION VIII: TERRORISTIC THREATS

- Section 8-1: Bomb Threat Procedure
- Section 8-2: Bomb Threat Call Check List
- Section 8-3: Suspicious Package/Letter

SECTION 8-1: BOMB THREAT PROCEDURE

In the event you are contacted by phone regarding a bomb threat, these steps should be followed:

1. Remain calm, listen and take notes.
2. Remember what you hear!
3. Keep the caller talking while you notify someone near you that you are on a bomb threat call and to reach security.
4. If the call is received on a telephone instrument with caller ID display, **RECORD THE DISPLAYED NUMBER.**
5. Try to gets as much information as possible. Questions could include:

    - o Where is the bomb?
    - o What does it look like?
    - o Building in question?
    - o Why did you choose this building?
    - o Time of setting?
    - o Why would you want to hurt innocent people?
    - o Could you repeat the message?
    - o Can you tell me the reason you are doing this?

6. Record a description of the caller's voice:
    - o Male, female
    - o Juvenile, adult
    - o Local, foreign, southern, etc.
    - o Speech impediment, slurring
    - o Excited, quiet, calm
    - o Education level
7. Listen for background noises such as trains, streets, aircraft, etc.
8. Immediately call the HCCS Police at 713-718-8888.
9. Do not discuss the call with anyone but appropriate authority-in-charge to prevent alarming others.
10. The HCCS Police will contact the Houston Police Department, or other agency, for necessary assistance concerning the call, regardless of the validity of the threat.
11. Response to be implemented will be based on the content of the bomb threat and course of action selected by the authorities.
    - o Do not sound an alarm
    - o Decision for the type of response procedures will be made by police or college authorities
    - o If evacuation plan is implemented, procedures outlined in ***SECTION V: Evacuation Procedures*** will be followed.

        If the evacuation is due to a bomb threat, be alert to make a note of any unusual packages that may be in or near your office area.

        Do not touch the package but report it to authorities immediately.

BOMB THREAT GENERAL INFORMATION

This information is designed to help prepare for the potential threat of explosives-related violence. While the ideas set forth herein are applicable in most cases, they are intended only as a guide. The information provided is compiled from a wide range of sources, including the actual experiences of special agents of the Bureau of Alcohol, Tobacco and Firearms (ATF). This material is condensed from *Bomb Threats and Physical Security Planning* published by the U.S. Department of the Treasury Bureau of Alcohol, Tobacco and Firearms and adapted for use in the Houston Community College Safety Manual.

If there is one point that cannot be overemphasized, it is the value of being prepared. Do not allow a bomb incident to catch you by surprise. By developing a bomb incident plan and considering possible bomb incidents in your security plan, you can reduce the potential for personal injury and property damage.

Bombs

Bombs can be constructed to look like almost anything and can be placed or delivered in any numbers of ways. The probability of finding a bomb that looks like the stereotypical bomb is almost nonexistent. The only common denominator that exists among bombs is that they are designed or intended to explode.

Most bombs are homemade and are limited in their design only by the imagination of, and resources available to, the bomber. Remember, when searching for a bomb, suspect anything that looks unusual. Let the trained bomb technician determine what is or is not a bomb.

Bomb Threats

Bomb threats are delivered in a variety of ways. The majority of threats are called in to the target. Occasionally these calls are through a third party. Sometimes a threat is communicated in writing or by a recording.

Two logical explanations for reporting a bomb threat are:

1. The caller has definite knowledge or believes that an explosive or incendiary bomb has been or will be placed and he/she wants to minimize personal injury or property damage. The caller may be the person who placed the device or someone who has become aware of such information.
2. The caller wants to create an atmosphere of anxiety and panic which will, in turn, result in a disruption of the normal activities at the facility where the device is purportedly placed.

Whatever the reason for the report, there will certainly be a reaction to it. Through proper planning, the wide variety of potentially uncontrollable reactions can be greatly reduced.

Security and maintenance personnel should be alert for people who act in a suspicious manner, as well as objects, items, or parcels that look out of place or suspicious. Surveillance should be established to include potential hiding places (e.g., stairwells, rest rooms, and any vacant office space) for unwanted individuals.
Doors or access ways to such areas as boiler rooms, mailrooms, computer areas, switchboards, and elevator control rooms should remain locked when not in use. It is important to establish a procedure for the accountability of keys. If keys cannot be accounted for, locks should be changed.

Good housekeeping is also vital. Trash or dumpster areas should remain free of debris. A bomb or device can easily be concealed in the trash. Combustible materials should be properly disposed of, or protected if further use is anticipated.

Responding to Bomb Threats

Instruct all personnel, especially those at the telephone switchboard and/or receptionist duties, in what to do if a bomb threat call is received.

A calm response to the bomb threat caller could result in obtaining additional information. This is especially true if the caller wishes to avoid injuries or deaths. If told that the building is occupied or cannot be evacuated in time, the bomber may be willing to give more specific information on the bomb's location, components, or method of initiation.

The bomb threat caller is the best source of information about the bomb. When a bomb threat is called in:

- o Keep the caller on the line as long as possible. Ask him/her to repeat the message. Record every word spoken by the person.
- o If the caller does not indicate the location of the bomb or the time of possible detonation, ask him/her for this information.
- o Inform the caller that the building is occupied and the detonation of a bomb could result in death or serious injury to many innocent people.
- o Pay particular attention to background noises, such as motors running, music playing, and any other noise that may give a clue as to the location of the caller.
- o Listen closely to the voice (male, female), voice quality (calm, excited), accents, and speech impediments. Immediately after the caller hangs up, report the threat to the person designated by management to receive such information.
- o Report the information immediately to the police department, fire department, ATF, FBI, and other appropriate agencies. The sequence of notification should be established in the bomb incident plan.
- o Remain available, as law enforcement personnel will want to interview you.

Written Threats

When a written threat is received, save all materials, including any envelope or container. Once the message is recognized as a bomb threat, further unnecessary handling should be avoided. Every possible effort must be made to retain evidence such as fingerprints, handwriting or typewriting, paper, and postal marks. These will prove essential in tracing the threat and identifying the writer. While written messages are usually associated with generalized threats and extortion attempts, a written warning of a specific device may occasionally be received. It should never be ignored.

Decisions

Ignoring the threat completely can result in some problems. While a statistical argument can be made that very few bomb threats are real, it cannot be overlooked that bombs have been located in connection with threats. If employees learn that bomb threats have been received and ignored, it could result in morale problems and have a long-term adverse effect on your business. Also, there is the possibility that if the bomb threat caller feels that he/she is being ignored, he/she may go beyond the threat and actually plant a bomb.

Evacuating immediately on every bomb threat is an alternative that on face value appears to be the preferred approach. However, the negative factors inherent in this approach must be considered. The obvious result of immediate evacuation is the disruptive effect on your business. If the bomb threat caller knows that your policy is to evacuate each time a call is made, he/she can continually call and force your business to a standstill. An employee, knowing that the policy is to evacuate immediately, may make a threat in order to get out of work. A student may use a bomb threat to avoid a class or miss a test. Also, a bomber wishing to cause personal injuries could place a bomb near an exit normally used to evacuate and then call in the threat.

Initiating a search after a threat is received and evacuating a building after a suspicious package or device is found is the third, and perhaps the most desired, approach. It is certainly not as disruptive as an immediate evacuation and will satisfy the requirement to do something when a threat is received. If a device is found, the evacuation can be accomplished expeditiously while at the same time avoiding the potential danger areas of the bomb.

Search Teams

It is advisable to use more than one individual to search any area or room, no matter how small. Searches can be conducted by supervisory personnel, area occupants or trained explosive search teams. There are advantages and disadvantages to each method of staffing the search teams.

Using supervisory personnel to search is a rapid approach and causes little disturbance. There will be little loss of employee working time, but a morale problem may develop if it is discovered that a bomb threat has been received and workers were left unaware. Using a supervisor to search will usually not be as thorough because of his/her unfamiliarity with many areas and his/her desire to get on with business.

Using area occupants to search their own areas is the best method for a rapid search. The occupants' concern for their own safety will contribute toward a more thorough search. Furthermore, the personnel conducting the search are familiar with what does or does not belong in a particular area. Using occupants to search will result in a shorter loss of work time than if all were evacuated prior to search by trained teams. Using the occupants to search can have a positive effect on morale, given a good training program to develop confidence. Of course, this would require the training of an entire work force, and ideally the performance of several practical training exercises. One drawback of this search method is the increased danger to unevacuated workers.

The search conducted by a trained team is the best for safety, morale and thoroughness, though it does take the most time. Using a trained team will result in a significant loss of production time. It is a slow operation that requires comprehensive training and practice. Without the probability of a creditable threat, the availability of trained teams for bomb threat searches may be limited.

The decision as to who should conduct searches lies with management, and should be considered and incorporated into the bomb incident plan.

Suspicious Object Located

It is imperative that personnel involved in a search be instructed that their only mission is to search for and report suspicious objects. Under no circumstances should anyone move, jar or touch a suspicious object or anything attached to it. The removal or disarming of a bomb must be left to the professionals in explosive ordnance disposal. When a suspicious object is discovered report the location and an accurate description of the object to the police/security officer.

Handling of the News Media

It is of paramount importance that all inquiries from the news media be directed to one individual appointed as spokesperson. All other persons should be instructed not to discuss the situation with outsiders, especially the news media.

The purpose of this provision is to furnish the news media with accurate information and to see that irresponsible statements from uninformed sources do not precipitate additional bomb threat calls.

SECTION 8-2: BOMB THREAT CALL CHECK LIST

Telephone number call received on: _____

Number displayed on Caller ID: _____
CALL: Local _____ Long Distance _____ Unknown _____
1. **CALLER'S IDENTITY/NAME:**
Sex: Male _____ Female _____ Est. Age _____
Organization: _____ Telephone No.:_____
Address: _____
2. **BOMB FACTS:**
a. Time of Detonation (when it will go off): _____
b. Location (where it is planted): Building _____ Area _____
c. Method of Detonation (how it will explode):
Remote Control ____ Pressure Release ____ Timer ____ Movement ____
d. Type of Explosive: _____
e. Container (what it looks like): Box ____ Bottle ____ Can ____ Carton ____
Paper Bag ____ Briefcase ____ Package ____ Other ____
f. Method of Delivery: In person ____ U.S. Mail ____ Messenger ____ Other ____
g. Time of Delivery: _____ a.m. _____ p.m.
3. **VOICE CHARACTERISTICS:**
a. Tone, Speech, Language: Loud ____ Fast ____ Excellent ____ Soft ____ Slow ____
Good ____ High Pitch ____ Distinct ____ Fair ____ Low Pitch ____
Distorted ____ Poor ____ Raspy ____ Stutter ____ Pleasant ____ Nasal ____
Cursing ____
b. Accent, Manner: Local ____ Calm ____ Emotional ____ Not Local ____

Foreign ____ Coherent ____ Irrational ____ Incoherent ____ Deliberate ____
Righteous ____ Laughing ____
Ethnic/ Regional Accent: _____
4. **BACKGROUND NOISES:** Office Machines ____ Voices ____ Quiet ____ Factory Machines ____ Street Traffic ____ Music ____ Airplanes ____ Mixed ____
Animals ____Trains ____
5. **POINTS TO REMEMBER:** Keep caller talking. Ask caller to speak louder, slower, and so on. Do not interrupt! Ask caller to repeat…keep conversation going…make notes.

6. Write out the message in its entirety on the reverse side.
7. Your name: _____ Telephone: _____
Work Location: _____

8. **Time call received:** _____a.m./p.m. Date: _____

9. **Reported to:** _____

(Give copy of this completed form to investigating authority)

SECTION 8-3: SUSPICIOUS PACKAGE/LETTER

Office mail handlers and others who come into initial contact with letters and packages delivered to HCC facilities should follow these awareness and procedural guidelines.

Additional considerations include not eating or having foodstuff in the immediate area of mail opening and handling operations. Good hygiene practices during and after mail handling should be followed as a matter of practice.

General Mail Handling

- Do NOT open suspicious package or mail.
- Open all non-suspicious mail with a letter opener or a method that is least likely to disturb contents.
- Do not blow into envelopes.
- Keep hands away from nose and mouth while engaged in mail handling activities.
- Wash hands after handling mail.

Characteristics of Suspicious Package and Letters

- Crystals, powder, or powder-like residue on the surface.
- Suspicious or threatening language on the outside of package or letter.
- Restrictive endorsements such as "Personal" or Confidential".
- Distorted handwriting block-printed or poorly typed addresses.
- Rigid, uneven, irregular, or lopsided package.
- Package with soft spots, bulges, or excessive weight.
- Excessive postage.
- Misspelled addressee's name, title, or location.
- Protruding wires or aluminum foil.

If You Receive or Discover a Suspicious Package or Letter

- Do NOT open the package or letter.
- Do NOT shake, empty, or otherwise disturb its contents.
- Put the package down and do not handle it further.
- If you do not have any container, then COVER the envelope or package with anything (e.g., clothing, paper, trash can, etc.) and do not remove this cover.
- Do NOT touch or try to clean up any spilled substance.
- Alert others nearby – noting names of those in the area for later recall.
- Do NOT remove ANY items from the area.
- Isolate and leave the area and gently close the door.
    - After leaving the area;
        - Wash hands well with soap and water.
        - Contact your supervisor and HCC Police – 713-718-8888.
        - Limit movements within the building to prevent spread of potentially harmful substance.

Designated Responders or Other Appropriate Authority

- HCC Police will evaluate and take appropriate action determined by situation.
  - o Resolve concern over suspicious appearance, but otherwise harmless package/letter.
  - o Initiate other emergency measures for protection of occupants and building.
  - o Notify other local, state or federal authority as warranted.
  - o Initial criminal investigation.

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

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Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION IX: DISRUPTIVE OR DISORDERLY CONDUCT

1. Incidents involving complaints or minor misconduct by students, visitors, or other non-employee individuals should be initially resolved by faculty/staff personnel where at all possible.
2. The college dean, campus coordinator, or other supervisor on duty should be responsible for assisting faculty/staff personnel if they are unable to immediately resolve the incident/complaint.
    - o College Police will respond to complaints/incidents if the situation or conduct warrants police intervention.
    - o Factors that might indicate police involvement may include violations of law and other conduct that has escalated beyond the capabilities of the faculty or staff.
    - o Any student, faculty, or staff member should call College Police immediately when conduct may endanger personal safety or property.
3. Report incidents or obtain police/security service by calling:
    - o HCCS Police/Security: 713-718-8888
    - o Administrative Office of Chief of Police: 713-718-7555

Conduct may be governed by one or more of the following:

- o ***Board Policy***
- o ***HCC Student Handbook, Section on Discipline***
- o ***Texas Education Code, Chapter 51, Higher Education***
    - ***Subchapter E: Protection of Buildings and Grounds***
    - ***Subchapter E-1: Maintaining Campus Order During Periods of Disruption***
- o ***Texas Penal Code, Title 9, Offenses Against Public Order and Decency***

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Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION X: ARMED PERSON ON CAMPUS

1. Anyone having knowledge that an armed person is present on campus should immediately alert the HCCS Police of the situation. **HCCS Police – 713-718-8888**
2. Be prepared to provide the following information to the police:
    - o Location of the armed person
    - o How the person is armed, i.e. rifle, pistol, knife, etc.
    - o Actions (and purpose, if known) of armed individual
    - o A complete description of the individual
    - o Whether or not any shots have been fired
    - o Your name and where you can be located if needed

Texas handgun licensing laws do not permit the carrying of handguns on college property (Texas Penal Code, Section 46.03(f), Places Weapons Prohibited)

3. After notifying the police, notify the president and/or dean's office of the situation – ***Section III, Notifications and Contacts.***
    - o Unless otherwise directed, persons on campus should remain in their office or classroom with doors closed and locked, if possible.
    - o If there is danger of shots being fired or if shots have been fired, all persons should lie on the floor and remain as calm as possible.
    - o Individuals should remain in a safe place until assured that any danger has been resolved.
4. Any student, faculty or staff member should call college police immediately when conduct may endanger personal safety or property.

Conduct may be governed by one or more of the following:

- o ***Board Policy***
- o ***Texas Education Code, Section 4.31, Exhibition of Firearms***
- o ***Texas Penal Code, Section 42.01, Disorderly Conduct***
- o ***Texas Penal Code, Chapter 46, Weapons***

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Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION XI: ACCIDENT PREVENTION AND INSPECTION PLAN

I. Purpose – The Safety and Compliance Self-Audit Program is established as an element of the loss prevention strategies for the College System. One objective is to provide a structured method to strengthen and demonstrate the safe working and learning environments found within Houston Community College facilities. Other objectives include issues related to Board Policy CG (LOCAL) Safety Program and the requirement of the SACS accreditation standards for the implementation of a comprehensive safety program. Additionally, all employers have a general duty to provide a safe workplace and comply with relevant workplace safety and regulatory agency rules.

II. Responsibility – Safety Programs depend on the cooperation and active support of all employees. Employees have a responsibility to conduct their work activities in a safe manner and follow recognized safe practices in all work-related activities. Supervisors will provide the encouragement necessary to ensure a quality safety and hazard identification program fro their areas of responsibility. Administrators will realize their leadership responsibilities in the area of creating and supporting safe workplaces.

a. The building manager (campus manager, building coordinator, etc.) is designated as the Responsible Person for receiving and coordinating the General Facility & Operations inspection and facilitating action to resolve any deficiencies.

b. The building fire safety director is designated as the Responsible Person for receiving and coordinating the Fire Drill Exercise Checklist inspection and associated tasks.

c. The department chairperson is designated as the Responsible Person for receiving and coordinating his/her program area(s) inspection and facilitating action to resolve any deficiencies.

d. The Responsible Person may delegate the task or a portion of the task however, is to remain responsible for the credibility and due diligence of the inspection process.

a. Workforce Instructional Department – Lab & Equipment Areas (shops).

b. Workforce Instructional Department – Health Careers Lab & Equipment Areas.

c. Academic Instructional Department – Science, Physics, Etc. Lab & Equipment.

d. Academic Instructional Department – Arts.

e. General Facility & Operations – Classroom, Office and Common Areas.

a. The HCC Safety Office will determine frequency of required self-audits. The Safety Office staff will be available to provide assistance in the interpretation of the standards represented by the checklist items.

b. The number of self-audits shall not be less than twice each calendar year as applied to the separate physical environments of each facility and program area.

c. Responsible Persons shall take audit accountability for items commonly associated with their area of control. Others may be enlisted to assist in completion of the self-audit. The Responsible Person shall coordinate and exercise control for the timely completion of the self-audit instrument.

d. Where necessary, each Responsible Person will request, coordinate or develop

correction action measures for deficiencies noted.

a. Checklists will contain 100 to 125 items structured to evaluate compliance levels of the building or program operation. Initial checklist may contain slightly more until some items are edited out where it is determined they do not apply to a particular program. These items will be eventually replaced with relevant items to maintain an equable number of items between checklists.

b. Items contained in checklists are based on federal, state or local regulatory requirements and accepted safe practices applicable in the college workplace and instructional environments.

c. Items are representative, not exhaustive, of safety practices that may be found in the respective environments. From time to time, items may be exchanged with others of equal safety importance.

a. The Safety Office (system) will manage the Self-Audit Program. The Self-Audit checklist will be distributed by the Safety Office and returned within two weeks.

b. All facilities (General Facility & Operations) will complete inspection three times each calendar year. The schedule will include March 1st, July 1st, and November 1st.

c. Instructional programs will complete a self-audit twice each year on a schedule coordinated with the HCC Safety Office.

d. The Safety Office will review the completed checklist and enter the results. Safety achievements will be documented. Deficiencies will be tracked. Management reports will be produced.

e. Checklists may be modified from time to time to accurately reflect the requirements and risks associated with specific facility or program experience.

f. The Safety Office will conduct random quality control audits based on results submitted.

a. The Worker's Compensation Insurance and liability carriers for the College System conduct independent safety inspections.

b. Regulatory and code enforcement inspections are conducted by local and state jurisdiction authorities.

c. These inspections are normally not announced and may be part of the jurisdiction code enforcement program, or in response to specific complaints.

III. Applicability – The Self-Audit Program is initially established with five major categories of safety/compliance checklists. Inclusion in a category is based on the identification of physical safety, fire & life safety code or environmental compliance issues associated with the program activity or facility.

IV. Procedure – Audits are intended to provide a clear picture at a moment in time of how the area defined has achieved or maintained specified criteria. This internal check of safety and regulatory compliance performance also serves as a structured guide to instruct and reinforce implementation of these measures.

1. Each physically separate building will be treated as such for audit purposes.
2. Each instructional program with identifiable safety concerns and associated laboratory/shop areas shall be treated as an audit area.

1. Campus Manager/Building Coordinator – responsible for inspection of offices, libraries and classrooms (other than laboratories and shops), common grounds and building features (hallways, stairs, ceilings, floors, mechanical rooms and

equipment, etc.).

2. Department Chairs – responsible for their program areas, equipment, materials, safety procedures, laboratories and shops.

V. Self-Audit Instrument (checklists)

VI. Management of Program

VII. External Safety Inspections

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SECTION XII: HAZARD COMMUNICATION

- Section 12-1 Workplace Chemical Awareness
- Section 12-2 Asbestos Exposure
- Section 12-3 Pest Control Information
- Section 12-4 Material Safety Data Sheet (MSDS) Guidelines
    - o MSDS content explanation
    - o Should be immediately available to employees in their work place
    - o The first source for building a file of MSDS information is your chemical or product supplier
    - o The HCCS Safety Office will assist you in locating MSDS(s) on request
- Section 12-5 Chemical Inventory Form (blank copy-available from Safety Office 713-718-7563)
- Section 12-6 Bloodborne Pathogens

Department work area chemical inventory may be placed in "SECTION ADDENDUM" immediately following this section in the Safety Manual.

SECTION 12-1: WORKPLACE CHEMICAL AWARENESS HAZARD COMMUNICATION COMPLIANCE PROCEDURES

I. PURPOSE AND SCOPE

These procedures establish the method for chemical hazard communication compliance at Houston Community College System. Outlined are the responsibilities for inventory, training, hazardous chemical labeling and material safety data sheet maintenance within the college system. It applies to all System locations where any hazardous chemical or extremely hazardous substance is received, stored, used or reacted; including academic laboratories and facility operations. This procedure applies to all HCCS staff and faculty as well as subcontractors on HCCS controlled property.

The intent and purpose of these procedures is to assure that employer practices are established to provide information regarding hazardous chemicals in the workplace to employees who may be exposed to those chemicals while performing their job tasks. (THCA Sec. 502.002 (6)).

II. DEFINITIONS

A. Article: A manufactured item that is formed to a specific shape or design during manufacture; that has end-use functions dependent in whole or in part on its shape or design during end-use; and that does not release, or otherwise result in exposure to, a hazardous chemical under normal conditions of use. (THCA 502.003(1))

B. Chemical name: The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature; or a name that clearly identifies the chemical for the purpose of conducting a hazard evaluation. (THCA 502.003(4))

C. Common name: Means a designation of identification, such as a code name, code number, trade name, brand name, or generic name, used to identify a chemical other than by its chemical name. (THCA 502.003(5))

D. Container: Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. Pipes or piping systems, engines, fuel tanks, or other operating systems in a vehicle, are not considered to be containers.

E. Exposure: An employee that is subjected to a hazardous chemical in the course of employment through any route of entry, including inhalation, ingestion, skin contact, or absorption. The term includes potential, possible, or accidental exposure under normal conditions of use or in a reasonably foreseeable emergency. (THCA 502.003(12))

F. Hazardous chemical: An element, compound, or mixture of elements or compounds that is a physical hazard or health hazard as defined by Title 29, Code of Federal Regulations (CFR), Sec 1910.1200(c), Sec 1910.1200(d)(3), or by OSHA's written interpretations. (THCA 502.003(13))

G. Health Hazard: A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizes, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. [OSHA standard 29 CFR 1910.1200(c)

H. Label: Any written, printed, or graphic material displayed on or affixed to containers of hazardous materials. Primary containers must be labeled with at least the identity appearing on the MSDS, the pertinent physical and health hazards, including the organs that would be affected, and the manufacturer's name and address. Secondary containers must be labeled with at least the identity appearing on the MSDS and appropriate hazard warnings.

I. Laboratory: A facility where relatively small quantities of hazardous chemicals are used on a non-production basis.

J. Material Safety Data Sheet (MSDS): Written or printed material concerning a hazardous chemical that is prepared in accordance with 29 CFR 1910.1200 paragraph (g).

L. Physical Hazard: A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water reactive.

M. Qualified Individual: An individual who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve or resolve problems elating to the subject matter, the work, or the project, and is familiar with the hazards involved.

III. PROCEDURE

A. Department Heads, Department Chairs or Supervisors are the primary individuals responsible for the success of the hazard communication program.

It is their responsibility to:

1. Identify substances within their areas of responsibility to which employees of HCCS are exposed as part of their job responsibilities, and which are covered by the THCA.
2. Ensure that all workers within their group receive the appropriate hazard communication training.
3. Ensure that new workers within their group receive the necessary training prior to their working with any hazardous chemicals.
4. Ensure that if any new hazardous chemicals are introduced into the work area, workers within the group are given documented training and information regarding those chemicals prior to those chemicals actually being used. This includes specific training on chemicals for new or transferred workers.
5. Initiate and ensure the list of the hazardous chemicals used within the group is current and a copy is provided to HCCS Safety Office.
6. Ensure that an MSDS is available for each chemical found on the list of hazardous chemicals for that group. The Department Heads, Department Chairs or Supervisors may obtain a MSDS from the HCCS Safety Office file or from the manufacturer for each chemical in his or her laboratory or work place. The HCCS Safety Office will assist if difficulty is encountered in obtaining the correct MSDS.
7. Periodically inspect engineering controls and personal protective equipment.
8. Make routine surveys of the work area to ensure safe practices are being followed.
9. Ensure required labeling practices are being followed.
10. Enforce applicable safety and health rules.

B. It is the responsibility of the individual worker to:

1. Use personal protective equipment as required by College or standardized safety procedures.
2. Inform his or her supervisor of:
    a. Any symptoms of overexposure that may possibly be related to hazardous chemicals.
    b. Missing labels on containers.
    c. Malfunctioning safety equipment.
    d. Inadequate, damaged or needed personal protective equipment.
3. Use approved labels on hazardous chemical containers. Approved labels for hazardous chemicals shall contain the identity of the hazardous chemical, the appropriate physical and health hazard warnings, and the name and address of the chemical manufacturer. When transferring from a labeled container to an unlabeled container, copy the labeled containers label and affix it to the unlabeled container; therefore the accuracy of the label, the associated MSDS and product liability on purchased chemical remains the responsibility of the manufacturer. The worker is not required to label portable containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for immediate use by the worker who performed the transfer.
4. Do not remove or deface existing labels on purchased hazardous chemicals unless the container is empty and ready for disposal.
5. Use approved containers for hazardous materials.
6. Know the location of emergency equipment, such as first aid supplies, emergency showers, eyewashes, fire extinguishers, etc.
7. Know his or her role in emergency procedures.
8. Attend all hazard communication training sessions deemed necessary.

C. It is the responsibility of the department chair, administrator or director concerned to:

1. Follow-up to ensure supervisors carry out prescribed college policy and procedures concerning hazard communication.
2. Notify the HCCS Safety Department of any operating changes affecting the hazardous materials being used.
3. Post and maintain the workplace *Notice to Employees* at locations where notices are normally posted.
    a. *Notice to Employees* notices are available from the Safety Office.
4. Maintain a chemical inventory to enable compliance with the Texas Hazard Communication Act.
5. Maintain a chemical inventory capable of identifying any hazardous chemicals that meet or exceed the reporting threshold requirements of the Texas Public Employer Community Right to Know Act.
    a. 10,000 pounds for OSHA hazardous chemical
    b. 500 pounds or Threshold Planning Quantity for EPA extremely hazardous chemicals.
6. Provide a current copy of chemical inventory to the College Operations Officer (building administrator) of the location where chemicals are located, and the System Safety Office.

D. It is the responsibility of the Purchasing Department and each purchaser to:

1. Forward all MSDSs (or copies) received from vendors to the HCCS Safety Department.

2. Upon request, provide HCCS Safety Office (718-7562) with the name of the purchaser or

department procuring hazardous materials contained on requisition.

E. It is the responsibility of each department supervisor receiving hazardous chemicals to:

1. Store hazardous chemicals in designated safe locations and in the designated manner.
2. Report damaged containers or spills to the Safety Department.
3. Ensure that MSDSs are on file for that hazardous chemical.
4. Ensure that appropriate labels are affixed to chemical containers and that existing labels are not defaced.
5. If needed, use prescribed personal protective equipment when handling hazardous materials.
6. If an MSDS is not on file or has not been received for a hazardous chemical;
    a) Supervisors shall detain the hazardous chemical until an MSDS for the material can be obtained.
    b) The receiving individual should immediately notify the manufacturer or distributor of the hazardous chemical and request an MSDS for the chemical.
    c) If an MSDS is not available for a hazardous chemical, the Safety Department shall be notified for instructions, or the hazardous chemical must be returned to the sender.
7. Review, endorse, and update as necessary the department or unit's chemical inventory records.

F. Each academic, instructional, or operations department shall:

1. Provide specific training to new employees as required by the Texas Hazard Communication Act in the chemical hazards present in their workplace or activities before commencing work in those areas.
2. Provide training to all affected employees prior to new chemicals or categories of chemicals being introduced into the work area.

G. It is the responsibility of the Safety Department to:

1. Monitor the hazard communication procedure and compliance
2. Document receipt of MSDSs received from Purchasing Department and vendors, and forward the MSDSs to the proper departments.
3. Keep an up-to-date "Workplace Chemical List" used within the College System as well as maintain a current file of MSDSs for those chemicals.
4. Routinely audit all records to ensure the most current MSDSs are on file and that employees' training is documented.
5. Coordinate emergency procedures and fire department activities related to hazardous chemicals
6. Establish Tier Two chemical inventory checklist based on:
    a) Pounds for OSHA hazardous chemical
    b) Pounds for Threshold Planning Quantity for EPA extremely hazardous substances.

H. It is the responsibility of contractors to:

1. Provide the College Operations Officer and the Safety Department with an inventory of "hazardous chemicals" stored on HCCS property.
2. Supply the College Operations Officer and the Safety Department with material safety data sheets for hazardous chemicals brought on to HCCS properties.
3. Contractors must follow this procedure and their own hazard communication program.

IV. TRAINING CONTENT

A. At a minimum, the education and training program provided to employees must include, as appropriate:

1. Information on interpreting labels and MSDSs and the relationship between those two (2) methods of hazard communication

2. The location by work area, acute and chronic effects, and safe handling of hazardous chemicals known to be present in the employees' work area and to which the employees may be exposed.
3. The proper use of protective equipment and first aid treatment to be used with respect to the hazardous chemicals to which the employees may be exposed.
4. General safety instruction on the handling, cleanup procedures, and disposal of hazardous chemicals.

B. A record of each training session given to employees, including the date, a roster of the employees who attended, the subjects covered and the name of the instructor(s) shall be maintained for at least five (5) years.

V. LIMITS OF APPLICABILITY UNDER THE THCA (Texas Hazard Communication Act)

Does not apply to:

A. Laboratory under the direct supervision or guidance of a technically qualified individual if:
1. Labels on incoming containers of chemicals are not removed or defaced;
2. The employer complies with Section 502.006 (pertains to availability of MSDSs) and Section 502.009 (elements of an education and training program for employees).

B. Use of a consumer product or hazardous substance if it can be demonstrated that the substance is used in the workplace in the same manner as normal consumer use and if the use results in a *duration and frequency of exposure* that is not greater than exposures experienced by consumers.

VI. REFERENCES

Title 25, Texas Administrative Code (TAC), Chapter 502, Texas Hazard Communication Act.

Title 25, Texas Administrative Code (TAC), Chapter 506, Public Employer Community Right-to-Know Act.

Title 29, CFR, Part 1910, Subpart Z, Section 1200, Hazard Communication.

SECTION 12-2: ASBESTOS EXPOSURE

I. Purpose:

To establish guidelines for the management of asbestos-containing building materials at all Houston Community College System owned buildings; to protect all personnel from potential health hazards of asbestos-related disease: and to ensure a healthy and safe environment for students, faculty, staff, and the general public.

II. Regulatory Compliance

Texas Asbestos Health Protection Rules

295.34 Asbestos Management in Facilities and Public Buildings

"(a) General. Those whose jobs relate to physical aspects of a building including carpenters, electricians, plumbers, telephone and maintenance personnel, and those who occupy such buildings, are at great risk of asbestos-related disease unless proper training, personal protection, and/or engineering controls are rigorously employed. Prudent management of asbestos in buildings is vitally necessary for their protection. Building owners are required to inform all persons in writing,

or documented personal communication between the owner, or their authorized representative, and the persons who are to perform any type of maintenance, custodial, renovation, or demolition work of the presence and location of asbestos-containing building materials (ACBM). Before performing any demolition or renovation activity facility owners are required to abate all friable ACBM or asbestos containing materials which may become RACM in accordance with 40 CFR Part 61, Subpart M. Before performing any demolition or renovation activity public building owners are required to abate friable and non-friable ACBM in accordance with 40 CFR Part 61, Subpart M and these sections.

(b) Statement of responsibility. The owner retains the primary responsibility for the presence, condition, renovation, demolition, and disposal of any asbestos encountered in the construction, operations, maintenance, or furnishing of that building or facility, including:

(1) The responsibility for the periods of vacancy, and all preparations prior to actual demolition; all regulated asbestos-containing materials (RACM) must be removed prior to demolition in accordance with the National Emission Standards for Hazardous Air Pollutants (NESHAP), and in a public building, comply with 295.60 of this title (relating to Operations: Abatement Practices and Procedures);

(2) The obligation to inform those who enter the building or facility for purposes of construction, maintenance, installation, repairs, etc., of the presence and location of asbestos that could be disturbed by those activities, and to arrange for proper handling of any asbestos that would be disturbed or dislodged by such activity."

III. Procedures

1. General:

a. The instructions contained herein provide for all aspects of asbestos activity and abatement projects at HCCS facilities.
b. When in doubt, treat all material as containing asbestos and comply with all applicable rules and regulations and protective measures required within these guidelines.
c. All Asbestos Containing Material (ACM) will be handled by certified and licensed asbestos abatement personnel. The friability of the ACM will dictate the type of removal/maintenance required.

2. Uncertified, unlicensed employees:

a. HCC does not train or employ certified or licensed asbestos abatement workers.
b. All asbestos activity involving any form of abatement at HCCS facilities will be conducted by a properly licensed asbestos contractor.
c. When an uncertified, unlicensed employee questions whether they may be handling suspect ACM, the employee will immediately contact their supervisor. The HCCS Safety Office will be notified (713-718-7563). The Safety Office will review Asbestos Survey Reports for the facility and/or contact the Asbestos Licensed Consultant, Asbestos Compliance Program (ACP). A positive determination of the material will be made to ensure safety and compliance with established guidelines.

d. Uncertified, unlicensed employees, students, and the general public will observe posted warning signs and not cross over a barrier/containment area where asbestos projects are in

progress.

e. Any employee who discovers ACM or suspects ACM in damaged or poor condition should report it to their supervisor so the identified material is repaired. The supervisor is to notify the HCCS Safety Office for arrangements for implementation of the facility Operations & Maintenance Plan and/or services of Asbestos Licensed Consultant.

3. Operations and Maintenance Plans:

a. Asbestos Surveys of buildings known or suspected of containing asbestos-containing building materials will be maintained.

b. Operations and Maintenance Plans established to manage asbestos in buildings will be adhered to in all facility activity where asbestos-containing building materials may exist.

4. Contact the facility College Operations Officer for information concerning asbestos at college buildings. The HCCS Safety Department (713-718-7563 or 713-718-7561) will assist in answering questions or obtaining information where necessary.

Asbestos Awareness Training is available through the Safety Department (713-718-7561).

SECTION 12-3: PEST CONTROL NOTIFICATION AND COMPLIANCE PROCEDURES

I. PURPOSE AND SCOPE

A. HCC is a political subdivision of the State, and is subject to regulation of its owned and controlled premises where pesticide application is employed.

B. The Texas Structural Pest Control Act requires notification to employees of a planned indoor treatment at a workplace. Signs providing this notification are required to be posted at least 48 hours prior to treatment. These signs should be posted in an area of common access to all employees.

II. DEFINITIONS

A. *"Consumer Information Sheet"* means an information sheet developed and approved by the Texas Structural Pest Control Board.

B. "*Pest control sign*" means a sign in the form approved by the Texas Structural Pest Control Board

C. "*Incidental Use"* means *"a pesticide application on an occasional, isolated, site-specific basis that is incidental to the primary duties of an employee and involves the use of general use pesticides after instruction as provided by rules adopted by the Structural Pest Control Board.*

D. "School or educational institution" means:

1. Public primary or secondary school; or
2. Primary or secondary private or parochial school recognized as accredited by the State Board of Education under Section 11.26, Education Code.

E. "*Child"* means a person less than 18 years of age. (Human Resources Code Sec. 42.002)

F. "*Day-care center"* means a facility that provides care for more than 12 children less than 14 years of age for less than 24 hours a day. (Human Resources Code Sec. 42.002)

G. "Indoor pest control treatment" includes the treatment of an outside perimeter of a building if the primary purpose of the treatment is to treat the inside of the building.

III. PROCEDURE

1. The certified applicator or technician shall supply the *pest control sign,* which is required to be posted prior to treatment of the premises.
    a. The college operations officer, or designee, shall ensure that the required pest control sign is posted at each site where indoor pest control treatment is undertaken.
    b. It is the responsibility of the COO, or designee, to maintain the required posting of the notice.
    c. The sign will be posted in an area of common access that individuals are likely to check on a regular basis, at least 48 hours before each planned treatment.
2. The certified applicator or technician shall supply the pest control Consumer Information Sheet.
    a. The pest control information sheet shall be retained in the facility file maintained by the COO, or designee.
    b. The pest control information sheet will be provided to any individual working in the building on request of the individual.
3. At facilities where pest control activities are contracted to a vendor, the licensed pest control company is required to provide HCCS with the proper sign.
    a. It is the responsibility of the COO, or designee, to maintain the required posting of the notice.
4. If any HCCS facility is conducting planned indoor treatment utilizing HCCS employees, the employee must be licensed as a certified noncommercial applicator or technician (other than applying a general use pesticide in an incidental use situation).
    a. Any employee who has a primary duty to make applications of pesticides must obtain a Structural Pest Control Board License or Texas Department of Agriculture License, depending on the location and/or type of application of pesticide.
    b. Employees who apply pesticides in "Incidental Use Situations" shall have received instruction as provided by rules adopted by the Structural Pest Control Board, and shall have received an incidental use fact sheet. Examples of Incidental Use situations are the treating of fire ants in a transformer box, or the treating of ants by a janitor or clerical employee in a break area.
    c. The requirements for posting of notices and information sheets must be followed by the facility.
5. Houston Community College facilities may be considered "workplaces" for purposes of pest control regulation, and are not normally defined as a "school," "educational institution," or "day-care center."
6. Facilities that meet the definition of a "school," "educational institution," or "day-care center" have additional notification requirements to parents, guardians, or managing conservators of the children attending the school or day-care center, at the time the child is registered. Notification must inform that:
    a. The school, institution, or center periodically applies pesticides indoors; and
    b. Information on the application of the pesticides is available at the request of the parents, guardians, or managing conservators.

IV. PEST CONTROL SIGN

Sec. 595.6(g): Each pest control sign must be at least 8 and ½ inches by 11 inches in size and must contain the following information with the firs line in a minimum of 24-point type (one-fourth inch) and all remaining lines in a minimum of 12-point type (one-eighth inch). The addition of advertising and logos to the Notice of Pest Control Treatment is permissible to the extent that such advertising does not interfere with the purpose of public notification of a pest control treatment. A standard sign in Spanish is available from the Board upon request. The sign should appear in the following format:

NOTICE OF PEST CONTROL TREATMENT

Date(s) of planned treatment _____.

Extenuating circumstances may require unplanned treatments. To confirm treatment dates, please call the contact listed below.

For more information call or contact: *[insert phone number where information on the pesticide(s) used may be obtained such as the pest control operator.]*

[Phone number of hotline for pesticide information]

National Pesticide Telecommunications Network
1-800-858-7378
A Consumer Information Sheet may be obtained from the management.

Pest Control applicators are licensed by the Texas Structural Pest Control Board, 1106 Clayton Lane, Suite 100LW, Austin, TX 78723 (512) 451-7200.

NOTICE OF PEST CONTROL TREATMENT

Date(s) of planned treatment _____.

Extenuating circumstances may require unplanned treatments. To confirm treatment dates, please call the contact listed below.

For more information call or contact: *[insert phone number where information on the pesticide(s) used may be obtained such as the pest control operator.]*

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Pest Control applicators are licensed by the Texas Structural Pest Control Board, 1106 Clayton Lane, Suite 100LW, Austin, TX 78723 (512) 451-7200.

SECTION 12-4: MATERIAL SAFETY DATA SHEET (MSDS)

"Texas Hazard Communication Act Rules Section 295.5. Material Safety Data Sheets. (a) The employer shall maintain a current and appropriate MSDS, as defined by the Act, 502.003(17), for each hazardous chemical purchased. Except as described in subsection (b) of this section, MSDSs, whether in printed or electronic form, are considered "readily available" if they can be accessed for review at the workplace during the same work shift in which they are requested. For purposes of this section, a current MSDS shall be one which contains the most recent significant hazard information for the hazardous chemical as determined by the chemical's manufacturer. (b) An employer shall provide MSDSs to emergency responders as soon as practicable upon request."

LINKS for chemical/product MSDS information:

- Cornell University MSDS (excellent site)
- Vermont SIRI MSDS Archive
- Environmental Protection Agency –Fact Sheets

HCC does not subscribe to a commercial MSDS service. MSDSs are to be obtained from the chemical manufacturer or distributor, or alternatively, a "substitute MSDS" for those chemicals that are consistently manufactured according to established industry standards. If you have difficulty obtaining MSDSs, contact HCC Safety Office – 713-718-7563

Guidelines:

- An MSDS should be readily accessible to employees for chemicals located in their work area. MSDSs may be posted in areas where the chemicals are used or stored, or put in a binder and places in an accessible area. Each department may want to maintain only MSDSs for chemicals that apply to a particular work area or department. However, the department must establish and maintain a chemical inventory that can be correlated against the MSDS file. A copy of that inventory must be shared with the HCCS Safety Office.
- An MSDS provides information on a chemical's hazard(s) and safe handling. A manufacturer or supplier may use a slightly different format for their MSDS, but it should contain the same basic information.
- The MSDS is broken down into eight sections.

Reading and Understanding Material Safety Data Sheets

Explanation and discussion of the terms and information normally contained in a Material Safety Data Sheet (MSDS):

I. PRODUCT NAME AND IDENTIFICATION

Manufacturers Name and Address: Self-explanatory. However, if source of data is provided by other than that of the manufacturer of the substance or mixture, the actual source of the data should also be listed.

Emergency Telephone Numbers: Entries here include those telephone numbers that can be used in the event of an emergency, to obtain further information about the hazardous substances or mixture.

Chemical Name or Synonyms: Generally includes the name that the product is sold by.

Chemical Family: Listed will be the general class of compounds to which the hazardous substances or mixture belongs, i.e., ethers, acids, ketones, etc.

Formula: Entries here will generally include the chemical formula for single elements and compounds, not the formulation of a mixture; examples of chemical formulas are sulfur dioxide (SO_2), sulfuric acid (H_2SO_4), formaldehyde (HCHO), etc.

C.A.S.#: Refers to the Chemical Abstract Service registry number that identifies the chemical.

EPA#: Refers to the number assigned to the chemical for regulatory purposes by the Environmental Protection Agency.

Date of Preparation: This is required on all MSDSs. It should be the most current date that the MSDS was prepared. Some MSDSs will indicate a revised date.

II. HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Ingredients: By definition, a hazardous ingredient is a substance or form of a substance in a mixture, in sufficient concentration to produce a flammable vapor or gas, or to produce acute or chronic adverse effects in persons exposed to the product either in normal use or predictable misuse of it.

TLV: TLV stands for Threshold Limit Value, a term used to express the highest airborne concentration of a substance to which nearly all persons (adults) can be repeatedly exposed, day after day without experiencing adverse effects. TLVs may be expressed in parts of material per million parts (PPM) of air volume for gases and vapors, or milligrams of material per cubic meter (mg/M3) of air for dust and mist, as well as gases and vapors.

PEL: PEL stands for Permissible Exposure Limit (OSHA). An exposure limit established by OSHA. May be a time-weighted average (TWA) limit or a maximum concentration exposure limit.

III. PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: The temperature at which a liquid changes to a vapor state, at a given pressure; usually stated in degrees Fahrenheit (F) at sea level pressure of 760 millimeters (mm) of mercury (Hg). For mixtures, the initial boiling point or the boiling range may be given.

Vapor Pressure: The pressure exerted by a saturated vapor above it own liquid in a closed container, usually stated in millimeters (mm) of mercury (Hg) at 68 degrees Fahrenheit (F) or 20 degrees Celsius (C).

Vapor Density: The weight of a vapor or gas compared to the weight of an equal volume of air; and expression of the density of the vapor or gas. All vapors and gases will mix with air. Lighter mixtures of materials will tend to rise and dissipate (unless confined). Heavier vapors and gases are likely to concentrate in low areas where they may create fire, explosion, or health hazards.

Specific Gravity: The ration of the weight of a volume of material to the weight of an equal volume of water at 39.2 degrees Fahrenheit (F).

Percentage Volatile by Volume: The percentage of liquid or solid (by volume) that will evaporate at an ambient temperature of 70 degrees Fahrenheit (F). Note: This notation is an optional item to list.

Melting Point: The temperature at which a solid changes to a liquid. A melting range may be given for mixtures.

Evaporation Rate: The rate at which a particular material will vaporize (evaporate) when compared to the rate of vaporization of a known material, usually butyl acetate. If another known is used for comparison, that information shall be provided.

Appearance and Odor: A brief description of the material at normal room temperature and atmospheric conditions, such as viscous, colorless liquid with an aromatic hydrocarbon odor.

IV. FIRE AND EXPLOSION HAZARD DATA

Flashpoint: Refers to the lowest temperatures at which a liquid gives off enough vapor to form an ignitable mixture with air, and produce a flame when a source of ignition is present.

Method Used: Refers to the two tests used to determine the flashpoint; i.e., open cup and closed cup.

Flammable or Explosive Limits: The range of concentrations over which a flammable vapor mixed with proper proportions of air will flash or explode if an ignition source is present. The range extends between two points designated Lower Flammable Limit (LFL) and the Upper Flammable Limit (UFL), and is expressed in percent of volume of vapor in air. Older terminology is LEL (Lower Explosive Limit) and UEL (Upper Explosive Limit).

Extinguishing Media: The fire fighting substance determined to be suitable for use on the specific material that is burning. The fire fighting substances should be listed by its generic name such as water, fog, foam, alcohol foam, carbon dioxide (CO_2), dry chemical, etc.

Special Fire Fighting Procedures: When certain fire fighting substances are determined to be unsuitable or unsafe if used to control specific types of burning material, they should be listed. Special handling procedures and personal protective equipment should also be listed.

Unusual Fire and Explosive Hazards: Under this heading should be listed hazards that might occur as the result of overheating or burning of the specific material, including any chemical reactions or change in chemical form or composition. It should also include any special hazards that may need to be considered while extinguishing a fire with one of the available types of extinguisher substances.

V. REACTIVITY DATA

Stability: Indicates whether the subject material is stable or unstable under any reasonable foreseeable conditions of storage, handling, use or misuse. If unstable, those conditions, which could result in a dangerous reaction or decomposition, should be listed including temperatures above 150¡ F, etc.

Incompatibility: A list (if any) of those common materials or contaminants, with which the specific material could reasonably be expected to come in contact with and produce a reaction or decomposition that would release amounts of energy, flammable vapor or gas, or to produce toxic vapor or gas. Conditions to avoid (if any) should also be listed; i.e., extreme temperatures, jarring inappropriate storage, etc. If no common incompatible materials, contaminants or conditions are applicable, it should state “NONE” or “NOT APPLICABLE.”

Hazardous Decomposition Products: A list of the hazardous materials (if any) that may be produced in dangerous amounts if the subject material is exposed to burning, oxidation, heating or allowed to react with other chemicals.

VI. HEALTH HAZARD DATA

Routes of Entry:

o Inhalation: The breathing of a substance in the form of a gas, vapor, fume, mist or dust.

- o Skin: Notation used to indicate possible significant contribution to overall exposure to a chemical by way of absorption through the skin, mucous membranes, and eyes by direct or airborne contact.
- o Ingestion: The taking of a substance through the mouth.

Health Hazards (Acute and Chronic): Acute health effect is the adverse effect on a human or animal body, with severe symptoms developing rapidly and coming quickly to a crisis. A Chronic health effect is the same except the symptoms develop slowly over a long period of time or that recur frequently.

Carcinogenicity: When a substance is determined to be cancer producing or potentially cancer producing by the International Agency for Research on Cancer (IARC) or the National Toxicology Program (NTP).

Signs and Symptoms of Overexposure: Medical Conditions Generally Aggravated by Exposure: Will list the most common sensations or symptoms a person could expect to experience from overexposure to a specific material or its components.

Emergency and First Aid Procedures: The instructions for treatment of a victim of acute inhalation, ingestion and skin or eye contact with a specific hazardous substance or its components. The listed items should be for emergency procedures only as a doctor should examine the victim as soon after exposure as possible.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken for Spill Cleanup: This should be the method used to control and clean up spills and leaks, as well as applicable precautions such as avoiding breathing of gases and vapors, contact with liquids and solids, removing sources of ignition, etc. Special equipment to be used for clean up such as glass or plastic scoops, etc. may also be listed.

Waste Disposal Methods: Should describe the acceptable, as well as prohibited methods for disposing of spilled solids or liquids, such as flushing with water, returning to container, baronage, etc. Should also alert the user to any potential danger to the environment such as effects on general population, crops, water, supplies, etc.

Other Precautions: A catchall category for any other precautionary measures to take not covered elsewhere in the MSDS. May include such items as handling or storing to avoid reaction hazards, safe storage life of the product in relation to reactivity, temperature control, etc.

VIII. CONTROL MEASURES

Respiratory Protection: Whenever respiratory protective devices may be needed during routine or unusual conditions to protect persons from overexposure to a specific substance, the class of device acceptable for use and any special conditions of use or limitation, should be listed.

Ventilation: Whenever ventilation is needed to capture or contain contaminants at their source as a means of controlling personal exposure to a specific substance or to prevent the build-up of an

explosive atmosphere, the appropriate type of ventilation systems should be listed along with any applicable conditions of use or limitations.

Protective Gloves: Many solvents can easily penetrate through rubber or neoprene, so whenever gloves are necessary to prevent skin exposure while handling specific substances or materials, special glove design, construction and material requirements should be listed, if appropriate.

Eye Protection: There are many types of eye and face protective devices on the market, and for almost any type hazard encountered there is a suitable type available. When eye or face protection beyond that of general use industrial safety glasses is necessary, while handling or otherwise exposed to the specific substance or mixture, such special protective devices should be listed along with any conditions of use or limitations.

Other Protective Clothing or Equipment: Will list any other devices not covered elsewhere; i.e., special aprons, smocks, etc.

Work/Hygienic Practices: Will list such work practices necessary to insure a safe work area.

SECTION 12-5: CHEMICAL INVENTORY FORM AND INSTRUCTIONS

FIELD NAME DESCRIPTION

Inventory Date: Date inventory is taken

College: HCC college area which department reports to

Building/Address Write out the name of the building or physical street address where inventory took place

Room No: Write room number where chemicals are physically located if applicable

Department Title: Name of the College Department responsible for Chemical(s)

Dept. Mailing Code HCCS in-house mail code

Phone: Phone number/extension for Department

Dept. Chair/Head: Name of the Department Chair or Department Head

Person Completing Form: Person who actually did the inventory

Chemical or Common Name: Name of a chemical subject to the Texas hazard Communication Act. For purposes of this inventory it will include chemical(s) or substance(s) which employee(s) use, or have exposure to as part of their job duties

CAS #: Chemical Abstracts Service Number

State - L / S / G: Indicate form of substance:
Liquid (L), Solid (S), Gas (G) or Aerosol (A)

Quantity: Sum total volume or weight of chemical in the inventoried area (designate unit of measure)

Use (may include specific location): What the chemical is used for and/or location where the chemical is stored

SAFETY AND LOSS CONTROL Page _____ of _____
CHEMICAL INVENTORY
INVENTORY DATE:

College: _____ Building/Address: _____ Room No: _____

Department Title: _____ Dept. Mailing Code: _____ Phone: _____

Dept. Chair/Head: _____ Person Completing Form: _____

(Read instruction on back before completing)

CHEMICAL OR COMMON NAME	CAS#	STATE L/S/G	QUANTITY	USE (MAY INCLUDE SPECIFIC LOCATION

Certification: I hereby declare that the identification/description of the chemicals listed is accurate and complete to the best of my knowledge.

Distribution: Safety Office, Dept. Department Signature: _____ Date: _____

HCCS Safety Form 1007/12-5.doc

SECTION 12-6: BLOODBORNE PATHOGENS

I. Purpose:

Establish procedures to implement the Bloodborne Pathogens Exposure Control Plan required in Texas Health and Safety code, Section 81.304.

II. Regulatory Compliance:

Texas does not have a regulatory Bloodborne pathogens statute covering all public employees. However, in July 2000 the Texas Department of Health adopted Rules as Chapter 96, Bloodborne Pathogen Control, to implement a Bloodborne Pathogens Exposure Control Plan required by the Texas Health and Safety code, Section 81.304, which may affect certain categories of public employees.

The Bloodborne Pathogens Exposure Control Plan establishes minimum standards to apply to a governmental unit that employs employees who provide services in a public or private facility providing health care related services, including a home health care organization, or otherwise have a risk of exposure to blood or other material potentially containing bloodborne pathogens in connection with exposure to sharps.

III. Procedure:

1. Any HCC college operation or program area with the potential for above exposures to employees shall review the Bloodborne Pathogens Exposure Control Plan, Chapter 81, Health and Safety Code, Subchapter H for particular requirements as applicable to their specific situation. The required plan shall be developed and implemented in response to identified exposures. A copy of the plan shall be provided to the HCC Safety Department.
2. Texas Department of Health Rules and required plan (model) are found at: Bloodborne Pathogen Control [www.tdh.state.tx.us/ideas/report/sharps/htm].

IV. Common Terms and Safeguards Applicable to All Classrooms and Work Environments:

1. Bloodborne Pathogens – pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include but are not limited to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).
2. Universal Precautions – an approach to infection control in which all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other Bloodborne pathogens.
3. Universal Precautions should be followed which includes the avoidance of contaminated materials, good hygiene, use of protective gloves and disinfectant solutions [10% bleach in water may be used].
4. HCC Police first aid kits are equipped with a Medistat Bloodborne/body fluid spill kit for immediate use as necessary.
5. Bloodborne pathogen and bodily fluid spill kits may be obtained from the HCC Safety Office, MC 1125, phone number 713-718-7562.

V. Reporting Requirements:

1. All injuries and related incidents should be reported to college authorities in accordance with established procedures:
   - Employees – Incidents of exposure precipitated by cuts or other similar injuries should be reported and medical attention sought in the same manner as any other injury or occupation exposure occurring on the job.
   - Students – Students suffering cuts, needle sticks or other similar injuries should seek appropriate medical attention as they would with any other injury or exposure. Such events should be documented and reported as injuries.

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

ROBERT TRIBBLE
ENVIRONMENTAL SAFETY MANAGER
3100 MAIN – PHONE 713-718-7561
e-mail: robert.tribble@hccs.edu

SECTION XIII: REGULATED MATERIALS

SECTION 13-1: HAZARDOUS WASTE – HAZARDOUS WASTE COMPLIANCE PROCEDURES

I. PURPOSE AND SCOPE

Environmental awareness and protection of our natural resources has become a national priority for the past decade. In response to the national concern for proper management of waste materials, Congress passed the Resource Conservation and Recovery Act (RCRA) in 1976. Under this act, the Environmental Protection Agency (EPA) was given the responsibility for regulating hazardous chemical waste. In Texas, the Texas Natural Resource Conservation Commission (TNRCC) controls hazardous chemical waste, while radioactive and biohazardous wastes are regulated by the Texas Department of Health (TDH).

Any business or industrial facility, including research and academic laboratories, that generate hazardous waste are required to comply with EPA and TNRCC hazardous waste regulations. These regulations, contained in Title 40 Code of Federal Regulations (CFR) Parts 190-399 and Title 31 Texas Administrative Code (TAC) Chapter 335, can be very difficult to understand. The intent of the following guidelines are to provide assistance in identifying wastes, determining if these wastes are considered hazardous and techniques to safely and correctly manage and dispose of these wastes.

It is ultimately the responsibility of the generator to determine whether their wastes are considered hazardous or not. Federal and state law stipulates that each individual who generates hazardous waste is personally liable and is responsible for assuring compliance with regulations and proper hazardous waste management.

II. DEFINITIONS

1. TNRCC: The Texas Natural Resource Conservation Commission is the governing agency responsible for regulating the discharge of pollutants into waters of the state; regulates hazardous and industrial solid waste generation, storage, transportation, treatment and disposal; and regulates the cleanup of inactive and abandoned hazardous wastes sites in the state of Texas.
2. Hazardous Waste: Any solid waste that is listed as hazardous or possesses one or more characteristics of a hazardous waste according to EPA definition.

3. Solid Waste: Any material to be discarded or that is no longer fit for its intended purpose. A solid waste may be liquid, solid, semisolid or gas.
4. Listed Hazardous Waste: Over 400 commercial chemical products and wastes from specific industrial and manufacturing processes are listed as hazardous wastes in the Code of Federal Regulations (40 CFR Part 261 Subpart D). Listed wastes have a chemical specific or generic mixture identification number assigned by the EPA. For example, phenol is U188; a certain chlorinated solvent mixture might be F002 depending on the mixture. Listed wastes consist of four lists defined by the EPA: the K-list, F-list, the U-list and the P-list.
5. Characteristic Hazardous Waste: Wastes that exhibit one or more of the four characteristics referenced in the federal regulations (40 CFR Part 261 Subpart C) are considered hazardous.
6. Acutely Hazardous Waste: These are wastes that the EPA has determined to be so dangerous in small amounts that they are regulated the same way large amounts of other hazardous wastes are. These include all "P" listed wastes and mixtures under EPA waste codes F020, F021, F022, F023, F026 and F027 from non-specific sources found in the federal regulations (40 CFR Part 261 Subpart D).
7. Empty Container: A container that contains less than 1% of the original contents.
8. Person: Any individual, corporation, organization, government or governmental subdivision or agency, business trusts, partnership, association or any legal entity.
9. Used Oil: Any oil that has been refined from crude oil or any synthetic oil that has been used, and as a result of such use, is contaminated by physical or chemical impurities.

III. PROCEDURE

A. **Disposal of hazardous chemical waste:** Each hazardous waste generator is charged with the responsibility of collecting, labeling and storing their waste in accordance with state and federal regulations. Improper collection or disposal is illegal and can result in substantial fines against the individual and Houston Community College. TNRCC and EPA inspectors have the right to inspect any campus or any site where hazardous waste is being generated on campus at any time.

B. **College and Department responsibilities:** Each College and Department within the Houston Community College System must assure that personnel who generate hazardous waste have received documented training in the use of the Houston Community College hazardous waste handling system and are complying with Houston Community College procedure in regards to hazardous waste. Each academic, vocational or support department including instructional laboratory facilities that produces hazardous waste in any way must also assure that a mechanism is in place for terminal hazardous waste disposal from their area or facility once such wastes have been generated.

C. Generator responsibilities:

Generators must determine if their waste is considered hazardous according to EPA definition. This can be accomplished by consulting the materials MSDS or by determining if the substance or mixture contains one or more of the following hazardous characteristics as defined by the EPA:

1. Characteristic of Ignitability: EPA waste code number D001
    - A liquid that exhibits a flash point less than 60 degrees Celsius (140 degrees Fahrenheit). Example: most solvents.
    - A non-liquid capable of causing fire through friction, absorption of moisture or spontaneous chemical changes. Example: matches.

• An ignitable compressed gas. Example: acetylene.

• An oxidizer of any kind. Example: Perchlorates, nitrates, permanganates.

2. Characteristic of Corrosivity: EPA waste code number D002

• A liquid with a pH of less than or equal to 2.0, or greater than or equal to 12.5.

• A liquid that corrodes steel at a rate greater than .25 inches per year. Example: most acids and bases including chlorides, hydroxides, etc. Note: solids can be corrosive also.

3. Characteristic of Reactivity: EPA waste code D003

• Waste that is normally unstable and subject to violent changes. Example: picric acid, many di- and trinitro compounds such as Trinitrotoluene (TNT) and many types of peroxide forming chemicals, including many types of ethers.

• Reacts violently, forms potentially explosive mixtures, or forms toxic gases, vapors or fumes when mixed with water. Example: sodium or potassium metal.

• Contains cyanides or sulfides and can generate harmful gases, vapors, or fumes when subjected to hazardous pH conditions. Example: many cyanide-containing compounds generate hydrogen cyanide gas when mixed with low pH acids.

4. Characteristic of Toxicity:

a. A solid waste exhibits the characteristics of TCLP waste (Toxicity Characteristic Leaching Procedure) if, using the test methods described in EPA regulation 40 CFR Part 261, Appendix II, the extract from a representative sample of the waste contains any of the contaminants listed below at a concentration equal or greater than the respective value given.

EPA Number	Contaminant	Maximum Concentration in PPM
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium	5.0
D008	Lead	5.0
D009	Mercury	.2
D010	Selenium	1.0
D011	Silver	5.0
D012	Endrin	.02
D013	Lindane	.4
D014	Methoxychlor	10.0
D015	Toxaphene	.5
D016	2,4-D	10.0 (2,4-Dichlorophenoxyacetic acid)
D017	2,4,5-TP Silvex	1.0 (2,4,5-Trichlorophenoxypropionic acid)
D018	Benzene	.5

EPA Number Contaminant Maximum Concentration in PPM, Continued

D019	Carbon tetrachloride	.5
D020	Chlorodane	.03
D021	Chlorobenzene	100.0
D022	Chloroform	6.0
D023	o-Cresol	200.0 *

D024 m-Cresol 200.0 *
D025 p-Cresol 200.0 *
D026 Cresol 200.0 *
D027 1,4-Dichlorobenzene 7.5
D028 1,2-Dichloroethane .5
D029 1,1-Dichloroethylene .7
D030 2,4-Dinitrotoluene .13
D031 Heptachlor (and its epoxides) .008
D032 Hexachlorobenzene .13
D033 Hexachlorobutadiene .5
D034 Hexachloroethane 3.0
D035 Methyl ethyl ketone 200.0
D036 Nitrobenzene 200.0
D037 Pentachlorophenol 100.0
D038 Pyridine 5.0 **
D039 Tetrachloroethylene .7
D040 Trichloroethylene .5
D041 2,4,5-Trichlorophenol 400.0
D042 2,4,6-Trichlorophenol 2.0
D043 Vinyl chloride .2

* If o-, m-, p- cresol concentrations cannot be differentiated, total cresol (D026) concentration is to be used. Regulatory level of total cresol is 200.0 mg/l.
** Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory limit.

b. Other EPA lists cover the following classes of hazardous waste:

i. Industrial process wastes from specific sources. This list is known as K-listed waste and can be found in 40 CFR 261.31. The wastes from this list are all industrially generated wastes and will not apply to any wastes generated at Houston Community College.

ii. Waste from non-specific sources found in 40 CFR 261.32. These wastes are generally known as F-listed waste and include solvents, sludges from the recycling of solvents, various wastewater treatment sludges, and plating bath residues. This list will also include solvents and mixtures used in degreasing and part cleaning.

- F001 designations will contain the following spent halogenated (chlorinated or brominated) solvents: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride and chlorinated fluorocarbons; all spent solvent mixtures/blends containing, before use, a total of ten percent or more of one or more of the above halogenated solvents.
- F002 designation would contain the following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, o-dichlorobenzene, trichlorofluoromethane and 1,1,2-trichloroethane, all spent solvent mixtures/blends containing, before use, a total of 10 percent or more of one or more of the above halogenated solvents.

• F003 designation would contain the following non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl, ketone, n-butyl alcohol, cyclohexanone, and methanol, all spent solvent mixtures/blends containing, before use, a total of ten percent or more of one or more of the above non-halogenated solvents.

• F004 designation would contain the following non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more of one or more of the above non-halogenated solvents.

• F005 would contain the following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more of one or more of the above non-halogenated solvents.

iii. The third list contains discarded commercial chemical products, off-specification chemicals, container residues and residues from spills found in 40 CFR 261.33. These lists are generally known as P and U listed wastes. The P lists are chemicals the EPA has determined to be acutely hazardous in very small amounts. The U lists are chemicals the EPA has determined to be hazardous also in relatively small amounts. These two lists are quite extensive and are not reproduced in this procedure.

iv. Document lists are revised periodically, and so the listings reproduced here should not be relied upon completely. Once again, 40 CFR 261 refers to title 40 of the United States Code of Federal Regulations, part 261. Title 40 contains all Environmental Protection Agency rules, and is available in most public libraries.

v. Keep in mind many chemicals can and will have more than one EPA waste code number since they have more than one hazardous characteristic. For example, sodium and potassium metal are considered ignitable D001 and water reactive D003. [If you do not feel comfortable making this determination yourself, contact the Houston Community College Safety and Loss Control Department for assistance at 713-718-7561.]

It is the generator's responsibility to minimize the amount of waste, hazardous or not, that is generated. Each individual must determine if another person or department can use any of the unneeded or waste material. Containers that are unopened or largely unused fall into this category.

5. It is the generator responsibility to determine of their waste can be rendered non-hazardous in some way to reduce the cost of disposal.

• On-site treatment and disposal is an acceptable practice for certain types of waste. Simple acid/base neutralization is the most common type of on-site treatment of hazardous waste. Note that this can only be done after careful evaluation of the waste.

a) Common acids, which would include sulfuric, acetic or phosphoric acids, can be neutralized by using an acid neutralizer such as sodium bicarbonate or sodium sesqicarbonate.

b) Common bases, which would include sodium and potassium hydroxide, can be neutralized using a basic neutralizer such as citric acid.

c) Both acids and bases must be neutralized to a pH between 6 and 9.

d) Once this is accomplished the solution can be poured down the sink along with copious amount of water. This practice can only be done with pure acids and bases. If solutions are contaminated with other ingredients, the material must be collected as a hazardous waste and sent out for disposal. Some acids and bases, such as chromic acid and hydrofluoric acid, cannot be neutralized and therefore must be sent out for disposal. Material that contains any type of heavy metal must also be sent out for disposal.

e) Please contact the Houston Community College Safety and Loss Control Department before attempting any on-site treatment and disposal.

6. Each generator must ensure proper labeling and storage of hazardous waste.

a) All waste must be collected in containers compatible with the contents and have a tight fitting cap or lid. Corks and rubber stoppers are not acceptable.

b) Effort should be made by the waste generator to consolidate same-type waste into as few containers as possible.

c) The waste containers must be in good condition and kept closed <u>at all times</u>, except when adding or removing waste. (Evaporating solvent waste from an open container in a fumehood or other storage area is not acceptable practice.)

d) From the first time a waste is put into a container, the words "Hazardous Waste" and a space to date the waste must be clearly visible on <u>every</u> waste container.

- o The waste must be labeled with a description of the chemical contents. For example, a label that is marked "Organic Waste" is not acceptable.
- o The label must note the specific chemical(s).
- o Additional chemicals and their concentration may be listed on a second label and affixed to the container.
- o Do not use chemical formulas as identification. You must write out the name of each chemical.
- o **Note: It is critically important that waste being accumulated in a laboratory or other hazardous waste storage area be labeled and stored properly to avoid fines if inspected by state or federal authorities. Red and white Hazardous Waste labels can be obtained through the Houston Community College Safety and Loss Control Office at 713-718-7563.**

<u>e) The Houston Community College Hazardous, Non-Hazardous, and Biohazardous Waste Disposal Form found in Section 13-3 must then be filled out correctly and completely, and the HCCS Safety and Loss Control Office must be contacted at 713-718-7563 for a waste pick-up. Instructions for filling out the form are located in Section 13-3 of the</u>

HCCS Safety Manual. It is not necessary to date the container when waste accumulation begins. Once the container is 90% full, the container must then be dated.

f) Hazardous waste should be stored in the same manner as any other chemical.

- o Each container should be segregated according to hazard class. For example, store all flammable wastes together and away from heat sources.
- o Do not store flammables with oxidizers.
- o Do not store acids with bases.
- o Keep water-reactive waste away from moisture sources.

g) No more than 10 gallons of hazardous waste or one quart of acutely hazardous waste (P-listed waste) may be stored in any instructional laboratory.

o In other areas not considered an instructional laboratory, 55 gallons of hazardous waste or one quart of acutely hazardous waste may be accumulated.

h) Solvent waste should be separated into chlorinated or brominated and non-chlorinated waste streams. **Chlorinated solvents are about four times more expensive to dispose of.**

i) The storage area should be secured to prevent inadvertent access (the doors should be locked when unattended).

j) Storage in a certified and operating fumehood is acceptable as long as the quantity is small and the fumehood remains on at all times during waste storage.

- o If using a fumehood for storage, remember to keep the sash at the recommended operating level for that type of fumehood. A sash height of 14 inches to 18 inches is generally used when fumehoods are in operation. Flammable waste should be stored in a flammable liquid storage cabinet.

k) Each hazardous waste storage area should be inspected weekly by the responsible party to check for container deterioration, leaking containers, proper labeling, and tight fitting lids, and to ensure that wastes stored together are compatible with each other.

l) Lab supervisors and/or instructors should also refer to the HCC Chemical Hygiene Plan for additional guidelines (HCCS Safety Manual, Section XVII). Note: Disposal of hazardous waste into the sanitary sewer or down the sink is illegal. The City of Houston monitors sewer outfalls for the presence of hazardous chemicals.

D. Disposal of non-hazardous chemical wastes:

Not all laboratory wastes are hazardous and so should not be entered into the HCC hazardous waste program. The following guidelines for determining which non-hazardous laboratory wastes are suitable for disposal through normal waste channels were developed after careful review of TNRCC regulations.

1. No waste that is defined as hazardous by the EPA may be placed in the regular trash. Regular trash is referring to placing material into dumpsters outside of a building. Custodial services will not pick up any type of chemical placed in trash cans inside a building.

2. Liquid waste (i.e., bottles of unused or partially used solutions) may never be disposed of in dumpsters, as liquid wastes are not permitted at municipal landfills.
3. Empty containers of waste commercial products or chemicals are acceptable of no freestanding liquids remain in the container and all disposal requirements noted on the label are complied with.
4. Pesticide containers or containers that contained acutely hazardous materials must be triple rinsed and the rinse water collected for disposal as hazardous waste. All labels should be defaced before discarding the container into the dumpster.
5. Certain solid, non-hazardous chemicals are suitable for disposal to the sanitary landfills. Once again, these wastes must be placed in the dumpsters outside the building and not into the trashcans inside a building. The following types of solid laboratory wastes that are generally considered non-hazardous or of low toxicity can be put directly into dumpsters outside the building. As noted above, solutions of such wastes should not be put into the dumpsters. Contact the HCC Safety and Loss Control Department about sewer disposal of such solutions.

    a. Organic chemicals:
    - o Sugars and starches
    - o Naturally occurring amino acids and salts
    - o Citric acid and its Na, K, Mg, Ca, NH4 salts
    - o Lactic acid and its Na, K, Mg, Ca, NH4 salts

    b. Inorganic chemicals:
    - o Sulfates: Na, K, Mg, Ca, Sr, NH4
    - o Phosphates: Na, K, Mg, Ca, Sr, NH4
    - o Carbonates: Na, K, Mg, Ca, Sr, NH4
    - o Oxides: B, Na, Ca, Sr, Al, Si, Ti, Mn, Fe, Cu, Zn
    - o Chlorides: Na, K, Mg
    - o Borates: Na, K, Mg, Ca
    - o Fluorides: Ca

    c. Laboratory materials not contaminated with hazardous chemicals:
    - o Chromatographic absorbents
    - o Filter papers, filter aids, and glassware
    - o Rubber and plastic protective clothing

6. Non-hazardous gases (i.e., carbon dioxide, nitrogen, argon, neon, etc.) may be vented into the atmosphere via a certified and functioning fumehood**. Please check with the HCC Safety and Loss Control Department prior to such venting, particularly in large volumes.** While many such gases are non-toxic, if vented at a rate greater than the removal rate of the fumehood, an asphyxiant hazard could be created in the laboratory.
7. Used oil that has not been contaminated with any other hazardous material is considered to be a non-hazardous waste. Contaminated used oil will fall under EPA waste code F002 and must be disposed of as hazardous waste. Non-contaminated used oil does not require an EPA waste code. Used oil is sent out for recycling at Houston Community College. Used oil should be collected in 30 or 55-gallon metal or ploy drums if possible. When a used oil pick up is

required, contact the HCC Safety and loss Control Department at 713-718-7563 and a waste oil pick up will be scheduled. This process will take approximately three weeks. Used oil can be accumulated indefinitely if it is non-contaminated. Please accumulate at least 55 gallons before calling for a pick up.

8. If there is any question as to whether a waste is acceptable for landfilling, please contact the HCC Safety and Loss Control Department.

E. Handling small scale chemical spills:

Instructional labs that contain any type of chemical should have a chemical spill kit available to deal with small spills. It is the laboratory supervisors' responsibility to handle small-scale chemical spills in their lab. A small-scale spill is generally considered to be one gallon or less. Large spills should be immediately reported to the HCC Safety and Loss Control Department at 713-718-7563 for assistance.

1. When a chemical spill occurs, immediately notify the lab supervisor and others in the area of the spill. Mark the area to prevent others from coming in contact with the spilled material. Depending on what type of chemical is spilled, it may be necessary to evacuate the lab until the material is effectively cleaned up.
2. During business hours, always contact the HCC Safety and Loss Control Department at 713-718-7563 and notify them that a spill has occurred. Depending on what type of material was spilled, notification of outside regulating agencies may be required.
3. After business hours, notify the HCC Police Department at 713-718-8888.
4. Always refer to the chemical's MSDS (Material Safety Data Sheet) for appropriate personal protective equipment and spill clean up procedures to be used when dealing with a spilled substance. It is a good practice to keep an MSDS for each chemical used in the lab available for this purpose. Generally, section six or seven of the MSDS will address spill clean up procedures, while section eight will indicate appropriate personal protective equipment (PPE) for dealing with a spill. (The MSDS section numbering may differ slightly depending on the manufacturer or distributor of each particular chemical.)
5. Simple acid and base spills should be neutralized with an appropriate neutralizing agent.
    a) For acid spills, for example, hydrochloric or sulfuric acid, sodium bicarbonate, sodium sesqicarbonate or other derivatives are acceptable.
    b) For basic spills such as sodium or potassium hydroxide, citric acid would be a suitable agent.
    c) Allow the spill time to neutralize (i.e., wait until the bubbling reaction stops).
6. Some acids cannot be neutralized and will require special procedures for spill clean up. Some examples are chromic acid and hydrofluoric acid. Immediately contact the HCC Safety and Loss Control Department when a spill of this type occurs. Test the pH of the spill after the neutralization reaction has stopped with pH paper. Once a pH of between 6 and 9 has been achieved, the material can be transferred into an appropriate secondary container for disposal. The container will then be marked with the red and white "Hazardous Waste" label identifying what the material that was cleaned up is. Contact the HCC Safety and Loss Control Department for a chemical waste pick up. Note:

7. For spills involving solvents like benzene or methylene chloride, etc., use an absorbent medium such as sand or vermiculite to absorb the spill and prevent runoff. Transfer the spilled material into an appropriate secondary container. Mark the container with the "Hazardous Waste" label and contact the HCC Safety and Loss Control Department for a chemical waste pick up.

8. Most solid chemical spills can be swept up and transferred directly to a secondary container after the spill occurs. Again, mark the container with a "Hazardous Waste" label and contact the HCC Safety and Loss Control Department for a waste pick up.

9. Mercury spills require special clean up procedures. Utilize the special Mercury Spill Kit when dealing with mercury spills. Instructions for clean up are located on the Mercury Spill Kit container.

For broken mercury thermometers, clean up spilled mercury as described above and collect mercury and broken thermometer in a sealable plastic bag for disposal. Contact the Safety and Loss Control Department for a waste pick up.

10. For spills over one gallon, evacuate the immediate area. Contact the HCC Safety and Loss Control Department at 713-718-7563 and the HCC Police Department at 713-718-8888 to report the spill. Obtain an MSDS and provide a copy to the responding party. If qualified, initiate recommended spill containment and other procedures that may be safely and reasonably done.

F. Disposal of medical and biohazardous wastes:

To ensure safe and legal disposal, careful attention must be given to the disposal of HCC-generated biohazardous wastes. All categories of biohazardous waste must be packaged and handled in accordance with their associated requirements.

1. Regular biohazardous waste: all biohazardous waste not containing a cut/puncture hazard is to be considered regular biohazardous wastes. This would include any type of blood or serum products, tissues, absorbent papers with biological contamination, etc. These materials should be wrapped securely and then placed in an approved biohazard bag (orange or red with the official biohazard symbol on it). This bag is then placed into the cardboard boxes provided by the current vendor for this type of waste.

2. Biohazardous sharps: needles, scalpels, razor blades, broken glass, test tubes or any other sharps should be placed in an approved puncture resistant "sharps" container. This container should have a closable top or lid. **Sharps containers should not be emptied and re-used.** Once full, the sharps container can then be placed into the cardboard biohazard box as above.

3. Biological specimens and animal carcasses that need to be disposed of should be put into the biohazardous waste on the following conditions:

- o Once it is known that a biohazard waste pick up will take place in the near future, any type of preservative (i.e., formaldehyde or formalin, etc.) must be drained off and collected for hazardous waste disposal.
- o The animal should then be placed in a sealable plastic bag, placed in an approved biohazard bag and then into the cardboard biohazard box for pick up. If the animal was already in a sealed plastic bag when purchased, it may be placed directly into the biohazard bag without the above precaution if the bag does not contain preservatives.

G. Medical waste and biohazard spills:

Biohazardous spills have the potential of containing disease-carrying organisms that can infect persons exposed to the spilled material; therefore it is critically important to handle biohazard spills appropriately when they happen.

1. Spills involving bodily fluids (i.e., blood, saliva, biological cultures, etc.) should immediately be decontaminated with bleach or another disinfectant solution approved to kill pathogenic disease-causing organisms, including HIV and Hepatitis viruses. Apply the disinfectant to the spilled material and leave for five to ten minutes to allow the disinfectant to work.
2. After the material has had time to be totally disinfected, use an absorbent medium to soak up liquids; the material should then be swept up and placed into an approved biohazard waste bag (red or orange with universal biohazard symbol on it), and then placed in the appropriate biohazard waste container for disposal. Appropriate personal protective equipment should be worn during any biohazard spill clean up, including splash goggles, rubber or nitrile gloves and rubber apron or lab coat to protect the responder from self-contamination.

IV. TRAINING REQUIREMENTS

Any generator of hazardous or biological waste at Houston Community College must receive documented training in the use of the Houston Community College hazardous waste disposal program. Training must be repeated annually. To arrange a training session, contact the HCC Safety and Loss Control Department at 713-718-7563.

V. REFERENCES

Title 40, Code of Federal Regulations (CFR), Parts 190-399, Protection of the Environment.
Title 31, Texas Administrative Code (TAC), Chapter 335, Industrial Solid Waste & Municipal Hazardous Waste.
Title 40, Code of Federal Regulations (CFR), Part 261, Subpart C and D.
Title 40, Code of Federal Regulations (CFR), Part 261, Appendix II.
Title 29, Code of Federal Regulations (CFR), Part 1910.1030 Occupational Exposure to Bloodborne Pathogens.

SECTION 13-2: CHEMISTRY GLASSWARE AND PRECURSOR CHEMICALS

In October 1995, the Texas Department of Public Safety and the Texas Higher Education Coordinating Board signed an agreement (a Memorandum of Understanding, MOU) that, in accord with Health and Safety Code, Section 481.0621(b), establishes procedures for maintaining controlled substances, controlled substance analogs, chemical precursors, and chemical laboratory apparatus used in educational or research activities at institutions of higher education. The objective of the MOU is to heighten the awareness regarding the potential problem of the diversion of laboratory chemicals and apparatus to illegal drug operations. The list includes many common pieces of laboratory equipment in addition to possible precursors for the manufacture of illicit drugs.

The MOU commits colleges and universities to establish procedures that provide a reasonable and prudent means to control and track the chemicals and apparatus identified in Subchapter C of the Controlled Substances Act in a responsible manner.

The following is a list of the controlled items whose purchase, use, and disposal must be monitored:

PRECURSOR CHEMICALS	LABORATORY APPARATUS
1. Methylamine	A. Condensers
2. Ethylamine	B. Distilling apparatus
3. D-lysergic acid	C. Vacuum dryers
4. Ergotamine tartrate	D. Three-necked flasks
5. Diethyl malonate	E. Distilling flasks
6. Malonic acid	F. Tableting machines
7. Ethyl malonate	G. Encapsulating machines
8. Barbituric acid	H. Filter funnels, Buchner funnels, and separatory funnels
9. Piperdine	I. Erlenmeyer flasks, two-necked flasks, single neck flasks, round bottom flasks, thermometer flasks, and filtering flasks
10. N-acetylanthranilic	J. Soxhlet extractors
11. Pyrrolidine	K. Transformers
12. Phenylacetic acid	L. Flask heaters
13. Anthranilic acid	M. Heating mantles
14. Ephedrine	N. Adapter tubes
15. Pseudoephedrine	
16. Norpseudoephedrine	
17. Phenylpropanolamine	

The Director of Safety has been designated to the Texas Department of Public Safety (DPS) as the liaison between the college and the DPS on matters relating to the MOU.

The Department Chairperson for a program area purchasing or using any of the listed controlled items shall be responsible for:

1. Maintaining copies of all purchase order records in accordance with established records retention requirements.
2. Inventory of items listing quantities and location of each item maintained at site under their control.
3. Department chairperson shall be responsible for establishing reasonable methods to ensure security and accountability.
4. Report to the Director of Safety any discrepancy, loss, pilferage or theft of a listed item.
5. Report and coordinate the sale, furnishing or transfer of a controlled item from the site where the specific controlled item is stored and inventoried with the Director of Safety.
6. The responsible department chairperson shall cause the documentation of any inadvertent destruction or breakage of a listed item. This documentation will be kept with copies of inventories and purchase orders.

Surplus property that is listed as a controlled item shall no be placed into auction or other method of sales. The Safety Department shall be notified of the surplus status of the item(s). The item(s) may be directed into another appropriate college program area following proper documentation. All precursor chemicals will be disposed of through the college's hazardous waste program. Any laboratory apparatus listed on the MOU and not redirected will be destroyed by the Safety Office.

SECTION 13-3: CHEMICAL WASTE DISPOSAL FORM AND INSTRUCTIONS

1. **Building**: Write out the name of the building and address where the waste is physically located.

2. **Room Number**: Write in the room number where the waste is physically located.

3. **Department Chair/COO**: This is the person whose program or department area produced the waste.

4. **Person Completing Form**: This will be the person who actually fills out the waste form.

5. **Telephone**: Write in the phone number/extension you can be reached at.

6. **Department**: This will be the department or area generating the waste.

7. **Identification/Description of the Waste Chemical**: If the waste is a mixture of more than one constituent, then place an "X" in the box marked "MIX". Then using Metric Units, list all chemical constituents and the volume for liquids or weight of solids. The identification and quantity of any solids present in liquid wastes must be listed if the solids/sludges cannot be separated. Do not use chemical abbreviations or formulas or generic names.

example: Do not write "aqueous lead waste", write "1000 ppm lead nitrate in dilute nitric acid".

Do not write common names like "Benedict's Solution", write out specific chemical names in the waste. Write out the chemical constituents or include a "Material Safety Data Sheet (MSDS)" with your Chemical Waste Disposal Form.

8. **Solid Liquid Gas**: Circle the appropriate letter to indicate the present physical state of the waste.

S for Solid, **L** for Liquid, and **G** for Gas.

9. **pH**: Indicate with one significant digit of pH of the waste. Example: If pH is 5.4, use 5. If pH is 6.7, use 7.

10. **Number, Size, and Type of container(s)**: In order, show how many of what volume/weight of what type of container. Example: 5 X 4 L. bottles.

Volume or Weight of Container: Please leave this space blank.

11. **Special Handling Instructions**: Note any access restrictions or any special hazards associated with the waste.

12. **Signed**: The person who fills out the form must sign it.

13. **Date**: The person who signed the form must date it.

⇒ Waste <u>will not</u> be picked up <u>if</u> this form is not filled out completely and correctly.

⇒ Do not use corks or rubber stoppers to cap bottles. Bottles must have a secure lid.

⇒ Do not fill bottles more than 90% full.

⇒ <u>Unknowns will not be picked up for any reason</u>. It is the department's responsibility to identify any and all unknowns.

DISTRIBUTION: 1) -Safety Office, **2)** -Department Copy HCCS Safety Form 1006/13-3 Rev 10/2002

SAFETY AND LOSS CONTROL
CHEMICAL WASTE DISPOSAL FORM
Inter-Office Mailing Code -1125 Phone: 713-718-7561
(Read instructions on back before completing)

College:_____

Building_____ Room No: _____ Dept. Chair/COO: _____

Address:_____
_____

Person Completing Form: _____ Phone:_____ Department Title: _____

Identification/Description of Waste Chemicals	STATE L/S/G	pH	Number, Size &Type Cont. (ex: 3x1L. Bot)	Volume or Weight in Container (ex: 750 ml in ea.)

Certification: I hereby declare that the identification/description of the waste chemicals listed is accurate and complete to the best of my knowledge and
I have made an effort to neutralize, detoxify, and/or recycle this material.

Distribution: Safety Office, Dept. Signed: _____ Date: _____

HCCS Safety Form 1006/13-3 doc

SECTION 13-4: ACCIDENTAL SPILLS OF HAZARDOUS SUBSTANCES

1. ACTION – Restrict access to area of spill.

One (1) gallon or less:

• Refer to the chemical's Material Safety Data Sheet (MSDS) for spill clean-up instructions.

- MSDS Section Seven (7), "Precautions for Safe Handling and Use."
- Use recommended Personal Protective Equipment.
- Follow other precautions listed in MSDS.

• Use appropriate neutralizer and absorbent medium (acid vs. base).
• Most solids can be swept up.
• Transfer material into appropriate container.
• Contact HCCS Safety Office for disposal at 713-718-7563.

Over one (1) gallon:

• Evacuate immediate area.
• Contact HCCS Safety Office at 713-718-7563.
• Contact HCCS Police at 713-718-8888.
• Obtain MSDS and provide copy to responders.
  - IF QUALIFIED, initiate other recommended spill containment procedures that may be safely and reasonably enacted.

Mercury:

• Special procedures are required for any release of MERCURY.
• Utilize special Mercury Spill Kit – contact HCCS Safety Office for assistance and disposal.

2. NOTIFICATIONS

• Notify instructor or work place supervisor.
• Contact HCCS Safety Office at 713-718-7563
• During non-business hours, contact HCCS Police at 713-718-8888.

3. INFORMATION RESOURCES

• Refer to laboratory Chemical Hygiene Plan or other work area procedures that have been established for hazardous substance spills.
• Also refer to the HCCS Safety Manual
  - Section 12-1: Workplace Chemical Awareness
  - Section 12-4: MSDS Resources
  - Section 13-1: Hazardous Waste
  - Section 17: Chemical Hygiene Plan

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

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Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION XIV: GENERAL SAFETY RULES

These safety rules are for the protection of all Houston Community College System employees. They have been adapted from material provided by Farmers Commercial Insurance Group [HCC Worker's Compensation Insurance carrier]. They are generic in nature, however, valid in application.

Individual departments and work areas may have additional and specific Safety rules for hazards or exposures that are found in the work area.

Safety Rules that have been established for specific work areas should be inserted (or referenced as to where they may be found) in ***Section XV, Department Safety Rules,*** of the Safety Manual.

General Safety Rules:

1. Office Safety
2. Industrial Trucks and Forklifts
3. Warehouse Operations
4. Hand Tools and Equipment
5. Portable Tools and Equipment
6. Culinary Program
7. Machine Operations
8. Compactor Safety Rules
9. Flammable and Combustible Materials
10. Abrasive Wheels

GENERAL SAFETY RULES

1. Do not wear loose clothing or jewelry around moving machinery.
2. Wear the right kind of shoes. High heels, slippers, thongs, or open toe sandals are not safe. Wear suitable closed toe work shoes in the work place.
3. Work areas have many machines that are extremely dangerous if not used properly. Machines have guards and safety switches that are there for your protection. Do no remove guards; if there is something wrong with a machine, report it and get it fixed. Do not try to fix it yourself.
4. Wear safety glasses or a face shield when you do any job that produces chips or sparks that could injure your eyes, such as welding or grinding.
5. NEVER RUN. Always walk. Use the aisles and walkways and watch for operating equipment. Do not take shortcuts through dangerous places.
6. Wear hearing protection in high noise areas.
7. Smoking is not permitted in any of the college buildings.
8. Safety signs are posted to remind you about hazards. Be sure that you read them and understand their meaning. If you do not understand, ask your supervisor.
9. Only authorized workers may operate the forklifts. Do not ride on the forks; they are not

meant to carry passengers.
10. Alcohol and drugs are not allowed. Do not come to work under the influence or use them at work. Failure to comply with this rule can result in immediate discharge.
11. You should eat only in the eating places provided.
12. Report every accident. If you become ill or injure yourself at work, report it to your supervisor immediately.
13. Unless you are an electrician, do not tamper with electrical circuits or switches.
14. Horseplay, throwing things and fighting at work can cause injury to yourself or others.
15. Never stand or walk under an elevated crane or hoisted load.
16. Use compressed air only on the job for which it is intended. Do not clean your clothes with it. Do not tamper with it.
17. Before you use a ladder, check to see that is has good safety feet and is free from cracks, broken rungs and other defects. Have another worker hold the bottom of the ladder if there is a danger of slipping.
18. Do not attempt to lift or push objects that may be too heavy for you. Ask for help when you need it. Learn to lift the correct way by bending your knees.
19. Keep your workstation clean and neat. Put all rubbish and scrap in the containers provided. Keep the floors clean and wipe up any spills.
20. Make safety part of your job every day. Report any unsafe conditions or hazards to your supervisor immediately.

OFFICE SAFETY

1. Falls are the most common office injury – pay attention to slip, trip, and fall hazards.
2. Pick up or clean up anything dropped on the floor.
3. Keep cords and wires out of the walkways.
4. When using stairs, hold on to the handrails.
5. When it is necessary to access high shelves, use a ladder or step stool. Do not use chairs or boxes to stand on.
6. Do not overload electrical circuits with double or triple plugs. If there is a need for more electrical service, an electrician should add a circuit and outlets.
7. Insure that everyone is familiar with emergency procedures and rules for evacuation. Fire reporting procedures are included in the front cover of the office telephone book and contained in Section IV, Emergency Plan for Fire and Section V, Evacuation Procedures.
8. Do not attempt to operate or make repairs to office equipment unless you have been trained to do so.
9. Report any frayed or damaged electrical cords.
10. Be sure file cabinets are bolted together or anchored to a wall or column to avoid having them fall when drawers are opened.
11. When lifting anything heavy or awkward, ask for help or use appropriate carts or hand trucks.
12. Use chemicals carefully and be sure to read the labels. Hazardous chemicals that may be found in the workplace include cleaning fluids, photocopier inks and rubber cement.

INDUSTRIAL TRUCKS AND FORKLIFTS

1. Do not operate any powered industrial truck unless you are trained and authorized to do so.
2. Forklift drivers should read and understand the posted operation rules. If you do not understand the rules, ask your supervisor.
3. Industrial trucks must be inspected at the beginning of each shift. Report any defects to your supervisor.
4. Stunt driving and horseplay are prohibited.
5. No passengers are allowed on forklifts.
6. Do not pass the forks, attachments or loads over anyone's head or allow anyone to get beneath them.
7. Do not put hands, arms, legs or head outside of the running lines of the truck or between mast uprights.
8. Before entering a truck/tractor, make sure the brakes have been set and the wheels are chocked.
9. Do not use a forklift to elevate a person unless it is equipped with a personnel cage.
10. Retraining is required annually.

WAREHOUSE OPERATIONS

1. Only use box cutters that have blade covers; razor blades and knives are not to be used for slitting cartons.
2. Do not climb on racks; use the ladders provided.
3. Aisles are to be kept clear; do not stack materials on front of electrical panel boxes, fire equipment or exits.

HAND TOOLS AND EQUIPMENT

1. Inspect tools for defects before you use them.
2. Never use defective chisels, sledgehammers, punches, wrenches or other tools. Flying chips from tools with mushroomed or split heads can cause injuries. Exchange or see that defective tools are repaired.
3. Keep cutting edges sharp so the tool will move smoothly without binding or skipping.
4. Store tools in dry, secure locations where they cannot be tampered with.
5. Use safety glasses or a face shield while using hand tools or equipment that might produce flying materials.

PORTABLE TOOLS AND EQUIPMENT

1. Be sure that grinders, saws and similar equipment is provided with the appropriate safety guards and shields.
2. All cord-connected electrical tools and equipment must be effectively grounded or be of the approved double insulated type.
3. Rotating and moving parts of equipment such as belts, pulley, chains and sprockets should be guarded to prevent physical contact.
4. All pneumatic and hydraulic hoses on power-operated tools should be checked regularly for

deteriorations or damage.

CULINARY PROGRAM

1. Be sure you know how to do your job safely. If you are in doubt about the safe way to do it, ask your supervisor or instructor.
2. Swinging doors should be opened slowly to avoid collisions. Always use the right-hand door unless otherwise marked.
3. Report any unsafe conditions and broken equipment to your supervisor.
4. Do not use glass containers to scoop ice.
5. Never load too much on a tray or pile it so high that your vision is obstructed.
6. When dishes, glassware, liquids or food are spilled on the floor, remove them immediately or place a chair or table over the spot until it is cleaned.
7. When cleaning floors, wet only a small area at one time and mop dry before cleaning another area.
8. When mats or runners are used in wet weather, be sure they lie flat and do not become a tripping hazard.
9. Do not place broken glassware in the sink or dishwasher.
10. Do not leave knives or sharp objects hidden in the dishwasher or in a pile of dishes where they can injure and unsuspecting employee.
11. Load baskets for silverware so they can be handled safely. Do not overload.
12. Do not operate any appliance, processor or equipment until you have3 instructed in safe operating procedures.
13. Electrical repairs should only be made by qualified electricians.
14. Use a push stick when feeding a meat grinder or slicer. Never put fingers in the hopper of a grinder.
15. Keep hands away from slicers while machine is operating. Do not operate slicers unless the guards are in place.
16. Unplug slicers before cleaning, and wear metal mesh gloves to prevent cuts.

MACHINE OPERATIONS

1. Shut down machinery before cleaning, adjusting, unjamming or repairing. Lock out the power source to prevent accidental movement. Use lockout/Tagout procedures.
2. Do not attempt to use any machinery or equipment until you have been trained in the safe operating procedures.
3. Never oil machines while they are in motion except when there is an oiling port located away from the moving parts.
4. Never use your fingers for removing chips from machines. Use a brush or hook.
5. Be sure that the power shut-off switch is visible and within reach of the operators position at each machine, and that emergency stop buttons are colored red.
6. Be sure that foot operated switches are guarded or arranged to prevent accidental actuation by falling objects.
7. All nip points (belts, pulleys, moving chains and gears) within seven feet of the floor or working level should be properly encloses.

COMPACTOR SAFETY RULES

1. Only trained persons are permitted to use the compactor.
2. If a situation arises whereby someone must enter the compactor, the main power is to be shut down and mechanically locked out. No substitute for this procedure is acceptable. Follow lockout/Tagout procedures.

3. Check the locking of holding bolts each time a new bin or container is attached to the ram assembly.
4. Keep the operating instructions for the compactor nearby in a designated location.
5. If a choke occurs, the power should be shut down and locked out before any attempt is made to clear it. No attempts should ever be made to clear or correct a choke by reaching in, stepping in, or getting into the compactor with the power "ON".

FLAMMABLE AND COMBUSTIBLE MATERIALS

1. Oily rags and combustible scrap should be stored in covered metal receptacles.
2. All flammable liquids must be kept in closed containers when not in use.
3. Utilize grounding and bonding techniques when transferring gasoline from one container to another.
4. Portable gasoline containers must be of an approved "safety can" design.
5. Smoking is not permitted inside HCCS facilities.
6. Establish safety precautions where open flames are in use.
7. Become familiar with the type, use and location of fire extinguishers in the facility.
    - CLASS A: Ordinary combustible material fires, paper, wood.
    - CLASS B: Flammable liquid, gas or grease fires.
    - CLASS C: Energized electrical equipment fires.

ABRASIVE WHEELS

1. Work rests should be used and kept adjusted to within 1/8 inch of the wheel.
2. The adjustable tongue on the top side of the grinder should be used and kept adjusted to within 1/4 inch of the wheel.
3. Side guards should cover the spindle, nut and flange and 75% of the wheel diameter.
4. Bench and pedestal grinders should be permanently mounted.
5. Wear goggles or a face shield while grinding.
6. New abrasive wheels should be ring tested and visually inspected before mounting.

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

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Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION XV: DEPARTMENT SAFETY RULES

THIS SECTION IS RESERVED IN THE SAFETY MANUAL FOR INDIVIDUAL DEPARTMENTS TO INSERT ANY SAFETY RULES OR PROCEDURES THAT MAY APPLY TO THAT DEPARTMENT'S OPERATIONS AND ENVIRONMENT.

FORWARD COPIES OF DEPARTMENT OR WORK AREA SAFETY RULES TO:

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3100 MAIN – PHONE 713-718-7561
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Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION XVI: HURRICANE RESPONSE PLANNING

Houston Community College System administrators, department heads and staff should identify measures to be taken should a hurricane threaten the Texas Gulf Coast and the Houston area.

Houston Community College System participates in the School Closing Notification System services available at: http://www.school-alerts.com/

Departmental Hurricane Response Planning

This material is prepared to assist Houston Community College System faculty and staff with the preparation of their work areas in the event a hurricane threatens the Houston area. It contains several guidelines specific for what might be considered high-risk or high-value areas of a given college work area. Also included is a generic suggested Hurricane Response Plan. It is provided to help individual units begin planning an effective response to a hurricane threat. You are strongly encouraged to develop your own area specific plan NOW, using this model as a guide.

No generic guideline can ever fulfill any areas specialized needs. For this reason, you should scrutinize your operations, compare them to the guidelines, and evaluate all additional concerns unique to your area. You may print this page and use it as a checklist in helping to construct your area's plans.

[Establish written procedures for your areas of responsibility. Share these measures in advance with those expected to implement them.]

DEPARTMENT PLANNING

SUGGESTED DEPARTMENT HURRICANE RESPONSE PLAN

Introduction

In the event of a hurricane threatening the Houston Community College System facilities, it is the responsibility of this department to control hazards internal to our departmental operations. Generally, HCC personnel are responsible for seeing that facilities are secured and present no danger to the community, HCC students, faculty and staff. This Hurricane Response Plan has been written to fulfill these responsibilities. It describes employee duties under three categories of severe weather, as described by the National Weather Service (NWS). The three categories of severe weather are:

- ➢ Hurricane Alert – landfall of the storm's eye is expected within 68 hours.
- ➢ Hurricane Watch – landfall of the storm's eye is expected within 36 hours.
- ➢ Hurricane Warning – landfall of the storm's eye is expected within 24 hours.

In the event that the Houston Community College System is notified by the NWS of one of these weather conditions, personnel will be responsible for the following specific actions and responsibilities.

I. Hurricane Alert 3 Days Before Storm

A. Deans/Department Heads/Directors

• Monitor storm updates provided by the NWS and local media.

• Alert departmental personnel of the storm condition as needed.

• Attend administration advisory meetings, if called.

• Direct members of the department toward specific hurricane readiness plans for their area of operation.

B. Clerical – Maintenance Staff

• Locate emergency supplies as described in Appendix 1.

• Ensure batteries work, proper amounts of materials are on hand, etc.

• Assess storm-worthiness of buildings and drainage infrastructure.

• Identify protective measures to be taken at facilities such as window protection covering computers and office equipment with plastic bags

C. All Other Staff (Laboratory, Operations, etc.)

• Other staff members should continue normal and routine duties unless directed to do otherwise by the Dean/Department Head/Director.

II. Hurricane Watch 1 & 1/2 Days Before Storm

A. Deans/Department Heads/Directors

• Monitor storm updates provided by the NWS and local media.

• Advise the administration on departmental conditions as necessary.

• Attend administration advisory meetings, if called.

• Hold an internal group meeting and obtain a report of the department's hurricane readiness.

B. Clerical – Maintenance Staff

• Place large garbage bags by/atop each piece of electronic equipment.

• Prepare an "emergency information packet" for each appropriate staff member, consisting of a take-home copy of the following:

o Current staff listing and telephone numbers

o College and System Key Person Notification Numbers

• Arrange all emergency preparedness supplies in a central location.

• Survey buildings and grounds for unnecessary materials or items that cannot be secured from expected winds.

• Move items subject to damage from expected severe weather to safe storage.

• Monitor local radio and/or television stations each hour for storm updates; indicate most current storm position on tracking chart.

C. Laboratory Staff

• Survey the lab for potential yet preventable hazards likely to be associated with the storm, and correct them if possible.

• Shelve all chemical containers and secure at a minimum height of two feet, higher if area is prone to flooding.

• Secure all shelves to prevent disturbance from high winds.
• Elevate all spill control materials to a minimum of two feet and locate in an area that is easily accessed.
• Secure radioactive materials and waste by removing all unpackaged waste from the floor, placing glass containers and vials where they cannot be broken, and by placing all other containers such that an uncontained spill is not possible.
• INSERT MORE SPECIFIC GUIDELINES HERE IF YOUR INDIVIDUAL SITUATION WARRANTS THEM.

III. Hurricane Warning 1 Day Before Storm

A. Deans/Directors/Department Heads or other Administrators

• Maintain communication with College Administration in anticipation of an order to close and evacuate the facility.
• Communicate contingency plans for facility damage control as necessary to affected staff.
• Notify Safety and Loss Control or HCCS Police of special requirements or notifications necessary in event of storm damage to facility.
    o Police Administrative number 713-718-7555
    o Safety Administrative number 713-718-7561
    o 24-hour HCCS Police number 713-718-8888
• College and System Key Person Notification Numbers

B. Clerical – Maintenance Staff

• Cover all electronic equipment with garbage bags or suitable plastic.
• Verbally relay messages between other staff, faculty, and managers as necessary.
• Distribute the "emergency preparedness packets" to designated staff members.
• Place previously identified emergency resource materials in place.
• Activate previously identified protective measures at all facilities.

C. Laboratory Staff

• Immediately end all experiments in progress and halt the use of chemical, radiological, or biohazard agents.
• Radioactive, chemical and biological hazards should be stored in secured compartments appropriate to their hazard (e.g., solvents in flammable solvent cabinets, corrosives in acid/base cabinets, radioactive materials in their shipping containers with adequate shielding, biologicals in incubators, dry chemicals in cabinets with wooden or metal, not glass, doors).
• Hazardous materials should not be left on countertops, open shelves, or on floors. Small numbers of small, breakable containers or objects (e.g., test tubes, petri plates, microscope slides, etc.) should be emptied and stored.
• Large numbers of small, breakable containers or objects can be placed in secondary containers such as plastic restaurant bus trays or 5-gallon utility buckets. The secondary containers or trays can then be securely stored in cabinets located in areas of low flood potential.
• Arrange to protect equipment in areas with windows from hazards associated with broken glass, driven rain, and wind; leave all floor and counter space clear of equipment, papers, chemicals, etc.

• Cover all electronic equipment with garbage bags or suitable plastic, regardless of whether windows are present in the immediate area.
• Lock or tape shut all refrigerators, freezers, incubators, etc.
• Unplug all non-critical electrical equipment.
• Stay in contact with your department office for news of college or System Administration decisions.
• INSERT ADDITIONAL OR MORE SPECIFIC GUIDELINES HERE IF YOUR INDIVIDUAL SITUATION WARRANTS THEM.

D. Essential Personnel\

APPENDIX 1

Emergency Supplies
(Partial listing example…modify as needed)

1. **Transistor radio**
2. **Flashlights**
3. **Batteries**
4. **Polyethylene sheeting**
5. **Duct tape**
6. **Cardboard boxes to store files etc.**
7. **First Aid Kit**
8. **Bottled Water**
9. **Nonperishable Food**
10. **Large Plastic Bags to cover computers etc.**
11. **Sleeping Bags (Optional)**

NOAA Hurricane Tracking Chart Glossary of Terms

Trans storm – the 12-hour period following landfall.

Post storm – generally referred to as the "all clear" for commencement of recovery actions, usually 12-24 hours following landfall.

Dirty zone of the storm – the northeast quadrant of the storm where the greatest chance for heavy rainfall and violent conditions occur. This generally holds true but is not always the case.

Clean zone of the storm – the southwest quadrant of the storm where the amount of rainfall and violent conditions are the least. Again, this is usually the case but with the unpredictability of a storm, this does not always occur.

Eye of the storm – direct center of the storm, usually 20-30 miles in diameter.

Storm Classification (Saffir-Simpson Scale):

Category 1 storm – a storm intensity classification where wind speed is 74-95 mph.
Category 2 storm – a storm intensity classification where wind speed is 96-110 mph.
Category 3 storm – a storm intensity classification where wind speed is 111-130 mph.
Category 4 storm – a storm intensity classification where wind speed is 131-155 mph.
Category 5 storm – a storm intensity classification where wind speed is 156 mph and greater.

- Houston/Galveston National Weather Service Office
- National Weather Service – Southern Region

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

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Houston Community College System

SAFETY AND LOSS CONTROL DEPARTMENT

SECTION XVII: LABORATORY SAFETY/CHEMICAL HYGIENE PLAN

EVERYONE SHOULD BE AWARE OF SAFETY! Houston Community College System personnel are encouraged to read this safety manual and to view it as a tool to be used in all laboratory practices.

During the process of developing this Laboratory Safety Manual, committee members reviewed and consolidated the "Safety Manual" on laboratory practices developed and issued November in 1990 by the Houston Community College System Division of Mathematics, Science and Engineering. Also reviewed for this project was the manual "Safety Principals and Procedures for Handling Hazardous Chemicals and Toxic Waste Disposal," developed in the Summer of 1995 by the Northwest College Safety Committee. In addition to committee members' own knowledge and resources, the publication, "Prudent Practices in the Laboratory" and materials from James A. Kaufman's "The Laboratory Safety Workshops" served as valuable resources.

This safety manual does not address all of the potential hazards of the work place. It does make an attempt to create awareness of the potential hazards for students, faculty and staff working in or near science laboratories.

LAB SAFETY MANUAL COMMITTEE MEMBERS:

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HOUSTON COMMUNITY COLLEGE SYSTEM
LABORATORY SAFETY/CHEMICAL HYGIENE PLAN

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The Laboratory Safety Committee is organized to develop, review, and recommend laboratory safety guidelines. Everyone is encouraged to read the safety rules and recommendations.

SAFETY POLICY: Safety is achieved through education, training, and provision of protective equipment and enforcement of safety rules. All members of the student, faculty, and staff communities shall be well informed concerning hazards found in the laboratory environment, and how to protect themselves from those hazards.

Under OSHA Hazard Communication regulations, a specific set of rules must be developed and communicated clearly to all employees. OSHA regulations cover private business and industry. Public employees are covered by the Texas Hazard Communication Act, which closely tracks OSHA regulations. Although non-employees and students are not covered by these regulations, each student should make note by their signature, that he/she has read and understands the safety rules. These rules must be rigorously and impartially enforced. Willful noncompliance should result in dismissal or suspension from the laboratory.

I. RESPONSIBILITY FOR SAFETY

The administration, faculty and staff of the science departments are responsible for compliance with the chemical hygiene plan. All individuals must participate in appropriate training programs and are responsible for performing activities safely. The instructor shall be in the laboratory for the entire lab period for all college undergraduate level courses.

Every instructor or laboratory supervisor must:

A. Set a good example by observing all rules and recommendations, wearing protective equipment where recommended, and being enthusiastic about safety.
B. Participate in appropriate safety and evacuation drills on a regular basis.
C. Be alert for unsafe conditions.
D. Conduct frequent and thorough inspections.
E. Take effective corrective action promptly.
F. Maintain discipline and enforce rules.
G. Unauthorized visitors (including children) are not allowed in the lab.
H. Assume responsibility for authorized visitors and require that they follow the same rules as other laboratory workers and are escorted or supervised at all times.
I. Ensure that the faculty, students, and staff have access to and understand the information on the appropriate MSDSs.
J. Carefully review all procedures for possible health, safety, and environmental problems before any activity is undertaken.
K. Be familiar with the Houston Community College Laboratory Safety Manual and encourage its use.
L. A Safety Committee is organized on a permanent basis, which included the safety officer and science department representatives.

II. GENERAL EMERGENCY PROCEDURES

Laboratory workers, including students, are subjected to greater environmental risk than the general population. Safety procedures and instruction should be an ongoing activity.

A. FIRES: Among the most common emergencies in a laboratory are small bench top fires, which are normally extinguished without summoning the fire department or evacuating the laboratory. There is always some danger that a fire may spread and the person in charge should be alert to the possible need for emergency procedures if matters should get out of hand. The transition from a trivial fire (or other emergency) to a major problem, when it occurs, may be rapid. In such cases, the following set of actions is required:

1. Sound an alarm and call the fire department (911). Alert personnel in the vicinity; everyone in the laboratory should be immediately informed of the nature and extent of the problem and of the action expected of them.
2. Confine the emergency: such confinement may be as simple as pulling down the sash of a hood or closing the door of the laboratory, or making sure that all fire doors in the vicinity are closed. All fire doors must be closed at all times.
3. Evacuate the building: this works well only if there has been a program of periodic drills. Never feel guilty that you may have over-reacted.
4. Supply all relevant information about the emergency to authorities. Meet emergency responders and provide information concerning what chemicals or compressed gases are present, in what quantities, etc.

The action to contain an unplanned "trivial" fire or other emergency is usually taken by the person in charge of the laboratory. No person should endanger themselves or others beyond their ability to manage the situation. Leave serious fires or other emergencies to the emergency responders.

B. ACCIDENTS: The predominant cause of laboratory accidents is the laboratory worker who knowingly takes a chance. Below is a partial list of identified causes of laboratory accidents.

1. Lack of preventive measures:
    a. Eye protection not worn when appropriate.
    b. Gloves not worn.
    c. Appropriate protective clothing not worn.
    d. Inappropriate clothing worn (loose sleeves, long ties, unrestrained long hair, hanging jewelry, full cut blouse, open-toe shoes, etc).
    e. Equipment intended for emergencies used in other activities or are not present, i.e., unauthorized use or missing fire extinguisher.
2. Lack of communication:
    a. Materials Safety Data Sheet ignored, labels not read, or mislabeled chemicals.
    b. Students working alone in laboratory.
    c. Students/worker poorly informed on what to do if there is an accident.

For each accident that occurs, a report form should be filled out. These forms should be turned in to the college operation officer, system safety office and department chair (report form in Appendix A).

C. FIRST AID: Specific medical advice will not be given in this manual; however, a general recommendation for first aid procedure is presented.

1. Chemical exposure: The general principle in all first aid procedures is to dilute the chemical as much as possible, and to get professional medical care as fast as possible.
    a. One must first remove the chemical from the site of the exposure; wash the exposed area immediately with copious running water for at least 15 minutes. While washing, remove any contaminated clothing, wristwatches, belts, etc.
    b. Do not attempt to wash off the chemical with a solvent. In many cases, this will only serve to drive the chemical into the skin more rapidly.
    c. Eyes should be rinsed immediately. The most important immediate action is to wash the chemical away. A fifteen-minute washing with copious flowing water is generally effective.
    d. Following the above procedure, appropriate medical attention should be sought. Emergency Medical Services (EMS) may be called if warranted. The student should be advised to seek additional medical attention if adverse symptoms develop.

D. INGESTION: Treatment for ingestion is not the same for all chemicals. Follow the label or Material Safety Data Sheet (MSDS) recommendations. If warranted, seek medical attention.

E. INHALATION: Inhalation of a chemical should be treated similarly to local or oral exposure: dilute the chemical. In this case the chemical is diluted with fresh air. Get away from the contaminated area immediately and breathe fresh air. Seek medical advice if necessary.

F. MINOR CUTS AND SCRAPES: Minor wounds should first be washed to remove contaminates. Pressing a clean pad over the wound for a few minutes may help to stop bleeding. When the bleeding has stopped, clean around the cut with clean gauze or cotton and hydrogen peroxide or soap and water. Apply clean dressing. Proceed to the local emergency facility for further medical attention if condition warrants.

G. Those administering first aid should follow good personal hygiene. Use of protective gloves and avoiding exposure to body fluids of others are minimum measures.

III. SAFETY EQUIPMENT

Each person should know the exact location of all emergency equipment and its use. Instructors should orient students in their first laboratory session to the locations and use of emergency safety equipment and exits.

Emergency equipment generally available includes the following: fire extinguishers, safety showers, eye wash station, emergency exits, fire blankets, and first aid kits.

A. PERSONAL PROTECTIVE EQUIPMENT

1. Students may purchase laboratory coats for use in labs, or wear old clothing as protection from inadvertent minor chemical spill or splash.
2. Chemical splash goggles (baffled vents) are the only protective device adequate for general eye protection from flying glass, chemical splashes, mists or vapors, impact or radiation. Approved eye protection must be properly matched to the hazard exposure.

    a. Contact lenses are discouraged in the laboratory. Contact lenses prevent thorough washing in the event of splash. Soft contact lenses are porous to many vapors that may damage the eye. Prescription safety glasses for contact lens wearers may be purchased by the student.

    b. Everyone in the laboratory should wear approved eye protection during lab periods when the potential exists for flying glass, chemical splashes, mists or vapors, impact or radiation exposure. **<u>Compliance</u> with this safety standard is the responsibility of the student**. **<u>Enforcement</u> of this protective eyewear regulation is the responsibility of the instructor**.

    c. Specifications for safety eyewear: Goggles must meet the ANSI Z87.1 standard Ventilation Single large plastic lens. If glasses are worn, goggles must be worn over them to seal against the face to reduce hazard from splash.
3. Laser eye protection – even with proper protective lenses, one must never look directly into a laser beam.

4. Gloves must be worn during laboratory biological dissection as well as for handling of corrosive and health-coded chemicals. Plastic gloves are available in the labs for students' use. The gloves used should be properly sized for the student as well as suited to the chemical or biological hazard. Gloves, which may be utilized in the college environment, are listed below.

Students may provide his or her own gloves. Special gloves like the following are available through vendors for students to purchase:

a. Neoprene: General use, heavy duty, fair abrasion resistance, resistance to a broad range of corrosive liquids.
b. Latex: Good chemical resistance, poor abrasion resistance (note: some individuals may exhibit allergic reaction to latex).
c. Polyethylene: General use, disposable, low abrasion resistance, reasonably good for low level organics.
d. Stanzoil: Heavy duty, maximum protection from liquids, non-slip finish, and good tear resistance.
e. Nitrile: These are recommended for most chemicals, especially for spillage or waste disposal. Exceptions are peroxides, such as hydrogen peroxide, peracetic acid, ethers like dibutyl or dimethyl ethers, amine and their derivatives (benzidine, hydrofluoric acid, hydrogen sulfide, etc.), and strong reducing agents like lithium aluminum hydride, and lithium hydride.
f. Butyl: Highest permeation resistance available to gas or water vapors. Also resists common acids and alcohols. Suggested for dioxane, ketones, acetone, esters, aldehydes, alcohols, and most organic acids or caustics.

B. SAFETY EQUIPMENT INSPECTION

1. Plumbed stations are flushed and checked weekly.
2. Self-contained eyewash units are tested and maintained in accordance with manufacturer's instructions. Checked for condition and presence weekly.
3. Bottled eyewash containers are checked weekly for sealed integrity. Discard once seal is broken.

1. Clean work areas after each session. In microbiology laboratories, clean work area with disinfectant before and after each lab session.
2. The laboratory should be kept clean and uncluttered. Personal belongings should be put away from the work areas.
3. Wash and return all glassware to cabinets or as directed by instructor. Never leave glassware around the sink area.
4. Leave fume hood area neat and orderly after each use.
5. Laboratory aisles shall be kept free of clutter and other obstructions. Stools and chairs will be returned to proper place before leaving lab.
6. Inspect glassware before using it. Never use any glassware that has cracks or chips. Broken glassware should be placed in the broken glass container provided in the lab. **Never place broken glass in the common trash container.**
7. Exercise extreme care and strict discipline when using scientific equipment. Read instructions carefully before operating and follow recommended precaution.
8. Always know the hazards, physical and chemical properties of the materials used (Corrosivity, flammability, reactivity, and toxicity).

9. Never perform any work when alone in the chemical laboratory. An instructor must supervise students at all times.
10. Never perform unauthorized laboratory work, preparations or experiments.
11. Children and pets are not permitted in the laboratory.
12. Use a step stool for high shelves (do not use chairs).
13. Horseplay, pranks, or other forms of mischief are not permitted in laboratories or classrooms.
14. Never remove chemicals from the facility without proper authorization.
15. Carefully read the label before removing a chemical from its bottle. Never return unused chemicals to their reagent bottles.
16. Never point a test tube towards yourself or another person.
17. ***Do not*** touch, smell, or taste any chemical.
18. Flammable and volatile toxic materials shall be handled on in a fume hood. Fume hood sash shall be properly positioned.
19. Caution shall be utilized in handling all thermometers. Do not shake thermometers or place them directly into contact with a flame or hot plate **(see Section 13.1 of the HCCS Safety Manual for special disposal of mercury thermometers).**
A. No eating, drinking, or smoking is allowed in the laboratory.
B. Hands and exposed portions of arms must be washed thoroughly with soap before leaving the lab (even when gloves are worn).
C. Always wear appropriate protective clothing, which includes shoes that fully cover feet. Do not wear high-heeled shoes, open-toe shoes, sandals, shorts, cut-offs, or miniskirts. **[Also refer to Section 3, Safety Equipment, for personal protective equipment requirements appropriate for the lab work to be undertaken.]**
D. Confine long hair and loose clothing.
E. Keep all flammable substances and solvents away from flames and heat sources at all times. Flammable material should not be stored in a refrigerator unless the refrigerator is explosion-proof. **(Also see Section 7, General Handling and Storage** of Flammables.)
F. All accidents involving spills, leakage, cuts, abrasions or burns should be reported immediately to person in charge of the laboratory.
G. Mouth pipetting is prohibited.
H. Keep test tubes in a test tube rack or in beakers to avoid spills.
I. Wear a facemask when appropriate for the experiment or procedure is undertaken.
J. Handle surgical equipment, sharps and glassware with extreme caution.
K. Rubber stoppers may be slit before inserting or removing thermometer or glass tubing. This may prevent cuts associated with insertion or removal.
L. Blood specimen or materials associated with blood specimen should be disposed of in a Biohazard Sharps/Slide container.
M. Urine specimen should be flushed in the toilet.
N. Inform instructor of any medical conditions (i.e., pregnancy, cardiovascular disorders, etc.) you have that may interfere with laboratory performance prior to participating in or exposure to any lab procedure.
O. Refer to Section 3, Safety Equipment, for life safety and fire safety equipment usage in the laboratory environment.
A. When using body fluids (i.e., blood, urine, and saliva), each student should handle his own body fluid and no other person's.
B. Gloves should be worn as a precaution.

C. Wear appropriate protective gloves, goggles, and mask when using preserved specimens. Wearing of contact lenses is discouraged.
D. All preserved specimens should be stored in closed containers.
E. If an accident occurs when using body fluids, the student should conduct the clean-up procedure and properly dispose of materials.
A. STORAGE AND INVENTORY MANAGEMENT: The reagents prepared for various labs and stored chemicals are labeled by the following color codes for identifications purposes:

a) Fire extinguisher – present and serviceable.
b) Safety shower – operable at beginning of semester.
c) Eye wash station –
d) Exits accessible.
e) Fire blanket – present and serviceable (if equipped).
f) First aid kits – present and adequately stocked.

IV. SAFETY RULES AND PRACTICES
V. GENERAL GOOD HOUSEKEEPING PRACTICES
VI. GENERAL HANDLING AND STORAGE OF BIOLOGICAL SPECIMEN
VII. GENERAL HANDLING AND STORAGE OF CHEMICALS

- Orange/green/gray – General Chemicals (color may vary with manufacturer)
- Blue – Toxic Chemicals
- White – Corrosive Chemicals
- Yellow – Reactive Chemicals
- Red – Flammable Chemicals

All chemicals are labeled with dates received, and the date of initial opening. For some chemicals, a decision date may be established as a time span for a determination on the retention or disposal of the chemical. The principal criteria for assigning time spans include: the conditions of storage; the rate at which these compounds are oxidized by oxygen; the rate at which these compounds react with moisture; and in some cases, they ways in which they may polymerize.

Chemical manufacturers occasionally list an expiration date. Manufacturer-supplied expiration dates are the exceptions and not the rule. A definite date of preparation will be placed on bottles or cans distributed by the chemical stockroom. Precautions and disposal instructions are found on the chemical MSDS.

B. CHEMICAL CLASSIFICATION TERMINOLOGY

1. General: Common substances, which are generally not considered to possess one of the four hazardous characteristics of chemicals: flammability, corrosiveness, toxicity, and reactivity (i.e., table salt, baking soda, sugar, etc.).

   PRECAUTION: Avoid direct contact with all chemicals in the laboratory, even if they are considered common substances and “non-hazardous.” Do not sniff or breathe vapors, and avoid contact with skin, eyes, and clothing for all chemicals handled.

2. Toxic: Substances that are hazardous to health when inhaled, ingested, or absorbed through the skin. There is danger of serious damage to health by short or prolonged exposure.

PRECAUTION: Avoid direct skin contact with chemicals, and exposure to vapors and fumes. Use suitable protective equipment. Fume hood should be utilized. Wash hands immediately after handling these chemicals.

3. Corrosive: Living tissue as well as some equipment is destroyed on contact with these chemicals.

PRECAUTION: Avoid direct skin contact and do not breathe vapors from these irritants. Can cause permanent damage to the eyes.

4. Reactive: Substance is normally unstable and readily undergoes violent changes without detonation, reacts violently with water, or forms potentially explosive mixtures with water. Also generates toxic gases, vapors, or fumes when mixed with water, cyanide, or sulfides.

PRECAUTION: If irritant, do not breathe vapors and avoid contact with skin and eyes. If chemical is a known lachrymator, open the container only in a hood; do not breathe vapors. Avoid contact with the skin and eyes. Avoid heating.

SPECIAL PRECAUTION FOR PEROXIDES:

These are examples of chemicals, which present special problems in the laboratory, because they can be violently reactive or explosive. Their handling deserves careful attention.

Inorganic peroxides are generally stable as such, but in contact with organic compounds may generate organic peroxides and hydroperoxides. Their contact with any combustible material may lead to a fire or explosion.

Peroxides of alkali metals are not sensitive to shock but are decomposed slowly by moisture and violently by bulk water. The most common inorganic peroxy compounds are sodium peroxide, hydrogen peroxide, sodium perborate, and sodium or ammonium persulfate.

Organic peroxides and **hydroperoxides** fall largely into four classes:

1. Dialkyl [or, diaryl or arylalkyl] peroxides
2. Peracids
3. Diacyl peroxides
4. Alkyl or arylalkyl hydroperoxides

All are unstable to some degree and generally are not distributed in high purity. However, their hazards increase with concentration. The hazards decrease with increasing molecular weight. Some of the most common ones are tert-butyl peroxide, tert-butyl hydroperoxide, peracetic acid, benzoyl peroxide and iso-propyl benzene hydroperoxide.

Peroxy compounds sensitive to heat, friction, impact, and light as well as strong oxidizing and reducing agents are quite flammable. Organic peroxy compounds are generally more stable when water is present.

5. Flammable: Substance that gives off vapors that readily ignite under normal conditions found in the laboratory.

PRECAUTION: For spontaneously flammable materials, avoid contact with air, flammable liquids, gases, and vapors. Keep these materials and other flammable materials away from heat, sparks, or open flame while in use and under storage conditions. Some spontaneously flammable materials may be sensitive to moisture and must be kept in a dry state/environment.

VIII. HANDLING OF HAZARDOUS FUMES

Definition: Hazardous fume is defined as any gas or vapor that may endanger human health or pollute the environment. Chemicals, which generate fumes in their normal or reactive state, should be properly kept in capped containers whenever they are not being used. When working with or transferring hazardous fume-generating chemicals, the work should be performed under a functional fume hood.

Some common laboratory hazardous fumes that may be found in our environment include: formaldehyde, methyl bromide, ether, chloroform, chlorine, bromine, iodine, acid fumes, and toluene. Animal preservation solution such as formaldehyde and other mixtures can generate hazardous fumes. One should conduct all studies and chemical handling procedures in a well-ventilated environment.

IX. SAFETY PRECAUTIONS FOR HANDLING AND USING LABORATORY EQUIPMENT

A. CENTRIFUGE:

1. The rotor must be securely attached to the base. Failure to do so might mean that the metal rotor would become a dangerous flying object as the centrifuge builds up speed.
2. Sample tubes must be constructed of materials that will not easily break during the course of centrifugation. If glass containers are used, rubber pads are usually required in the rotor holder. NOTE: IF A TEST TUBE CRUMBLES, THE CENTRIFUGE MIGHT BECOME UNBALANCED.
3. Sample tubes must be sorted into balanced pairs. Each member of the pair should have equal weight after filling with solutions.

4. If only one sample tube contains a solution to be centrifuged, it still must be paired with a tube of the same weight. Usually water can be added to a second tube so that the two tubes will be balanced.
5. Carefully place paired sample tubes in the rotor holders so that members of each pair are opposite each other.

FAILURE TO BALANCE THE ROTOR MIGHT MEAN THAT THE ROTOR WILL LEAVE THE BASE DURING CENTRIFUCATION. TEST TUBES MIGHT CRUMBLE. FLYING ROTOR AND GLASS PARTICLES ARE DANGEROUS. PUT TOP ON ROTOR AND SCREW IT DOWN.

6. Watch the centrifuge speed. DO NOT USE DANGEROUS ROTOR SPEEDS. If there is doubt, check with the instruction manual.

B. HELIUM-NEON LASER

1. Never look directly into the laser beam.
2. Set up laser apparatus so that the laser beam is either above or below eye level.
3. Never direct the laser beam at another person.

1. Check the bolt securing the rotor to the apparatus to insure it is securely mounted.
2. Do not allow the speed of the rotor to exceed safe limits. The apparatus should not exhibit vibration during rotation.

1. A properly sized rubber stopper should be used so that it will not cut off the exit of the steam through the upper side tube. The blockage of the side tube may cause a dangerously excessive build-up of steam.
2. Caution should be used in inserting the thermometer into the rubber stopper to avoid breakage. The rubber stopper may be slit on one side so that the thermometer can be easily inserted or withdrawn.

1. Equipment should be started at lowest setting and voltage output and gradually increased as necessary for the operation.
2. Do not remove the cover plates from electrical equipment.
3. Check the condition of electrical cords and plugs prior to use.
4. Electrical outlets near water sources or exposure should be equipped with Ground Fault Interrupter circuit (GFIC) protection.
5. Equipment shall not be left unattended while in use.

1. Do not look into a lighted short wave, multi-band, or midrange lamp as it can quickly sunburn your eyes and skin.
2. Always hold the lamps so that the light beams are directed away from the person.
3. Long wave ultraviolet is generally considered harmless to the average person.
4. Individuals who are photosensitive and are subject to long-term exposures may expect adverse reaction if they do not have adequate protection.

1. Do not use heating mantles with electrically conductive vessels.
2. Do not place a flask in or remove it from a mantle while the mantle switch is on.
3. Do not touch the heating element or any glassware while in use.
4. Do not cover the mantle while in use.
5. Do not add substances or materials to flask after heating procedure has started.
6. Let the glassware cool **or** use insulated mitts or proper protective gloves when handling glassware that has been heated.

1. Ensure all gas cylinders are secured to keep them from falling over if bumped
2. Do not interchange gas manifolds. Designate one for oxygen only, one for hydrogen only, etc.
3. Do not touch the heating element or any glassware while in use.
4. Ensure proper ventilation is provided if needed.

C. MOTOR DRIVEN ROTOR AND CENTRIPETAL APPARATUS
D. STEAM GENERATOR (BOILER)
E. ELECTRICAL EQUIPMENT
F. ULTRAVIOLET (UV) LAMPS
G. HEATING MANTLES
H. GAS CHROMOTORGRAPHY

X. OSHA LABORATORY STANDARDS

In January 1990, OSHA published the final rule "Occupational Exposures to Hazardous Chemicals in Laboratories." The main component of this ruling is to develop a written Chemical Hygiene Plan (CHP). This plan includes the following major elements:

Standard Operating Procedures:

A. Criteria for implementing specific control; properly functioning fume hoods are required.
B. Information and training requirements; circumstances under which a particular laboratory operation shall require prior approval from its employer.
C. Provision for medical consultation and exam.
D. Designation of a chemical safety officer.
E. Provision for additional protection for working with selective carcinogens, and substances with a high degree of acute toxicity.

These new rules took effect May 1, 1990 and laboratories must have their chemical hygiene plan in place by January 31, 1991.

COMMENTS AND SUGGESTIONS ARE ENCOURAGED TO:

ROBERT TRIBBLE
ENVIRONMENTAL SAFETY MANAGER
3100 MAIN – PHONE 713-718-7561
e-mail: robert.tribble@hccs.edu

APPENDIX A

HOUSTON COMMUNITY COLLEGE SYSTEM
LABORATORY INCIDENT REPORT FORM

Instructor's name: _____

Campus: _____

Class: _____

Person(s) involved: _____
(Name of student, employee, etc; include identity information-address, phone #, etc.)
_____

_____

Time and date of accident/incident: _____

Witness: _____

_____

_____

Location of accident: _____
(Room # and location within room)
_____

How did accident occur? _____

_____

_____

What actions did you take? _____

_____

_____

Who was notified of the accident/incident? _____
_____

What other actions need to be taken? _____
(Recommendations)
_____

*One copy of this report should be submitted to the COO, the Department Chair, and to the Safety Office by the next business day.

APPENDIX B

Incompatible Chemicals

The following list is to be used as a guide. Specific incompatibilities are listed in the material safety data sheets. One may also wish to consult "Bretherick's Handbook of Reactive Chemical Hazards."

Chemical	Incompatible With
Acetic acid	Chromic acid, nitric acid, hydroxyl compounds, ethylene glycol, perchloric acid, peroxides, permanganates
Acetone	Concentrated nitric acid and sulfuric acid
Alkali and alkaline earth metals (such as powered aluminum or magnesium calcium, lithium, sodium, potassium)	Water, carbon tetrachloride or other chlorinated hydrocarbons, carbon, dioxide, and halogens
Ammonia (anhydrous)	Mercury (e.g., in manometers), chlorine calcium hypochlorite, iodine, bromine, hydrofluoric acid (anhydrous)
Ammonium nitrate	Acids, powered metals, flammable liquids, chlorates, nitrites, sulfur, finely divided organic combustible materials
Aniline	Nitric acid, hydrogen peroxide
Azides	Acids (or will generate hydrogen azide)
Bromine	Ammonia, acetylene, butadiene, methane propane, butane (or other petroleum gases), hydrogen, sodium carbide, turpentine, benzene, finely divided metals
Calcium oxide	Water
Carbon (activated)	Calcium hypochlorite, all oxidizing agents
Chlorates	Ammonium salts, acids, powered metals, sulfur, finely divided organic or combustible materials
Chromic acid and Chromium trioxide	Acetic acid, naphthalene, camphor, glycerol, turpentine, alcohol, flammable liquids in general
Chlorine	Ammonia, acetylene, butadiene, methane propane, butane (or other petroleum gases), hydrogen, sodium carbide, turpentine, benzene, finely divided metals
Chlorine dioxide	Ammonia, methane, phosphine, hydrogen sulfide
Copper	Acetylene, hydrogen peroxide
Cyanide	Acids (or will generate hydrogen cyanide)
Flammable liquids	Ammonium nitrate, chromic hydrogen peroxide, nitric acid, sodium peroxide, halogens
Fluorine	All other chemicals
Hydrocarbons (such as butane, propane, benzene, gasoline, turpentine, etc.)	Fluorine, chlorine, bromine, chromic acid, sodium peroxide

Hydrofluoric acid (anhydrous)	Ammonia (aqueous or anhydrous)
Hydrogen peroxide	Copper, chromium, iron, most other metals or their salts, alcohols, acetone, or other flammable liquids, aniline, nitromethane, or other organic or combustible materials

Incompatible Chemicals Continued

Chemical	Incompatible With
Hydrogen sulfide	Fuming nitric acid, oxidizing gases
Hypochlorite	Acids (or will generate chlorine or hypochlorous acid), activated carbon
Iodine	Acetylene, ammonia (aqueous or anhydrous), hydrogen
Mercury	Acetylene, ammonia, fumaric acid (produced in nitric acid-ethanol mixtures)
Nitrates	Sulfuric acid (or will generate nitrogen dioxide)
Nitric acid (concentrated)	Acetic acid, aniline, chromic acid hydrocyanic acid, hydrogen sulfide, flammable liquids and gases, copper brass, and heavy metals (or will generate nitrogen dioxide/nitrous fumes)
Nitrites	Acids (or will generate nitrous fumes)
Oxalic acid	Silver, mercury
Oxygen	Oils, grease, hydrogen, flammable liquids, solids, and gases
Perchloric acid	Acetic acid, bismuth and its alloys, alcohol, paper, wood, grease oils
Peroxides, organic	Acids (organic or mineral), avoid friction, store cold
Phosphorus (white)	Air, oxygen, caustic alkalies as reducing agents (or will generate phosphine)
Potassium	Carbon tetrachloride, carbon dioxide, water
Potassium chlorate	Sulfuric and other acids
Potassium perchlorate (also see chlorates)	Sulfuric and other acids
Potassium permanganate	Glycerol, ethylene glycol, benzaldehyde, sulfuric acid
Selenides	Reducing agents (or will generate hydrogen selenide)
Silver	Acetylene, oxalic acid, tartaric acid, ammonium compounds, fulminic acid (produced in nitric acid-ethanol mixtures)
Sodium	Carbon tetrachloride, carbon dioxide, water
Sodium nitrate	Ammonium nitrate and other ammonium salts
Sulfides	Acids (or will generate hydrogen sulfide)

Sulfuric acid	Potassium chlorate, potassium perchlorate, potassium permanganate (similar compounds of light metals such as lithium, sodium, potassium)
Tellurides	Reducing agents (or will generate hydrogen telluride)

APPENDIX C

SAFETY AND LOSS CONTROL
CHEMICAL WASTE DISPOSAL FORM

Inter-Office Mailing Code - 1113 Phone: 713-718-7561

(Read instructions on Back before completing)

College: _____

Building_____ Room No: _____ Dept. Chair/COO: _____

Address:

_____

_____

Person Completing Form: _____ Phone:_____
Department Title: _____

Identification/description of Waste Chemicals or Product	MIX	STATE L/S/G	pH	Number, Size &Type Cont. (ex: 3x1L. Bot)	Volume or Weight in Container (ex: 750 ml in ea.)

Certification: I hereby declare that the identification/description of the waste chemicals listed is accurate and complete to the best of my knowledge and
I have made an effort to neutralize, detoxify, and/or recycle this material.

Distribution: Safety Office, Dept. Signed: _____ Date: _____

HCCS Safety Form 1006.doc

INSTRUCTIONS FOR FILLING OUT THE CHEMICAL WASTE DISPOSAL FORM

1. **Building**: Write out the name of the building and address where the waste is physically located.

2. **Room Number**: Write in the room number where the waste is physically located.

3. **Department Chair/COO**: This is the person whose program or department area produced the waste.

4. **Person Completing Form**: This will be the person who actually fills out the waste form.

5. **Telephone**: Write in the phone number/extension you can be reached at.

6. **Department**: This will be the department or area generating the waste.

7. **Identification/Description of the Waste Chemical**: If the waste is a mixture of more than one constituent, then place an "X" in the box marked "MIX". Then using Metric Units, list all chemical constituents and the volume for liquids or weight of solids. The identification and quantity of any solids present in liquid wastes must be listed if the solids/sludges cannot be separated. Do not use chemical abbreviations or formulas or generic names.

Example: Do not write "aqueous lead waste",

Write "1000 ppm lead nitrate in dilute nitric acid".

Do not write common names like "Benedict's Solution," write out specific chemical names in the waste. Write out the chemical constituents or include a "Material Safety Data Sheet (MSDS)" with your Chemical Waste Disposal Form.

8. **Solid Liquid Gas**: Circle the appropriate letter to indicate the present physical state of the waste.

S for Solid, **L** for Liquid, and **G** for Gas.

9. **pH**: Indicate with one significant digit of pH of the waste. Example: If pH is 5.4, use 5. If pH is 6.7, use 7.

10. **Number, Size, and Type of container(s)**: In order, show how many of what volume/weight of what type of container. Example: 5 X 4 L. bottles.

11. **Volume or Weight of Container**: Indicate the sum total volume of weight of chemical in each container.

Example: 25 ml. in ea.

- (Please leave this space blank.)
- (This space is for specific waste designation numbers assigned by the Department of Transportation and the Environmental Protection Agency. Please leave this space blank.

12. **Special Handling Instructions**: Note any access restrictions or any special hazards associated with the waste.

13. **Signed**: The person who fills out the form must sign it.

14. **Date**: The person who signed the form must date it.

⇒ Waste <u>will not</u> be picked up if this form is not filled out completely and correctly.

⇒ Do not use corks or rubber stoppers to cap bottles. Bottles must have a secure lid.

⇒ Do not fill bottles more than 90% full.

⇒ <u>Unknowns will not be picked up for any reason</u>. It is the department's responsibility to identify any and all unknowns.

DISTRIBUTION: 1) -Safety Office, **2)** -Generator

APPENDIX D

SAFETY AND LOSS CONTROL Page _____ of _____

CHEMICAL INVENTORY

INVENTORY DATE:

College: _____ Building/Address: _____

Room No: _____

Department Title: _____ Dept. Mailing Code: _____ Phone:

Dept. Chair/Head: _____ Person Completing Form: _____

(Read instruction on back before completing)

CHEMICAL OR COMMON NAME	CAS#	STATE L/S/G	QUANTITY	USE (MAY INCLUDE SPECIFIC LOCATION

Certification: I hereby declare that the identification/description of the chemicals listed is accurate and complete to the best of my knowledge.

Distribution: Safety Office, Dept. Department Signature: _____ Date: _____

HCCS Safety Form 1007.doc

INSTRUCTIONS FOR CHEMICAL INVENTORY FORM

FIELD NAME DESCRIPTION

Inventory Date: Date inventory is taken

College: HCCS college area which department reports to

Building/Address Write out the name of the building or physical street address where inventory took place

Room No: Write room number where chemicals are physically located if applicable

Department Title: Name of the College Department responsible for Chemical(s)

Dept. Mailing Code HCCS in-house mail code

Phone: Phone number/extension for Department

Dept. Chair/Head: Name of the Department Chair or Department Head

Person Completing Form: Person who actually did the inventory

Chemical or Common Name: Name of a chemical subject to the Texas hazard Communication Act. For purposes of this inventory it will include chemical(s) or substance(s) which employee(s) use, or have exposure to as part of their job duties

CAS #: Chemical Abstracts Service Number

State - L / S / G: Indicate form of substance:
Liquid (L), Solid (S), Gas (G) or Aerosol (A)

Quantity: Sum total volume or weight of chemical in the inventoried area (designate unit of measure)

Use (may include specific location): What the chemical is used for and/or location where the chemical is stored