



FIRE PREVENTION PROGRAM

Scope

Fires, like all other types of accidents, are largely preventable. The purpose of this fire plan is to comply with Cal/OSHA regulation T8CCR3221 and eliminate the causes of fire and prevent the loss of life and property by fire. It provides faculty, staff, and students with information and guidelines which will assist them recognizing, reporting and mitigating fire hazards. The SBVC Fire Prevention Program provides:

- Examples of common causes of fires, as well as potential fire hazards and the proper means of handling and storing potentially flammable materials.
- Identifies the campus department(s) responsible for maintaining equipment and systems installed to prevent or control ignition or fires and controlling the accumulation of flammable or combustible material.
- Describes good housekeeping procedures necessary to insure the control of accumulated flammable and combustible waste material and residues to avoid a fire emergency.
- Examples of potential fire hazards that faculty, staff and students may be exposed on campus.

Responsibility

The Director of Maintenance and Operations serves as the designated Fire Prevention Program Administrator and is responsible for ensuring proper training is supplied to all SBVC employees. The Program Administrator is also responsible for the routine inspection and servicing of all campus fire prevention equipment and maintains accurate records of inspections, training, permits and corrective maintenance performed.

Supervisors are responsible for informing employees of potential fire hazards in the work place specific to their work assignments. In addition, each supervisor shall instruct employees on those parts of the fire prevention plan applicable for the employees to protect themselves and respond in the event of an emergency.

Fire Extinguisher training classes are typically offered during the summer session and can be coordinated by contacting Maintenance & Operations at Ext. 8965.

All SBVC employees are responsible for being familiar with the information contained in this program and maintaining a safe working environment.

The failure of any SBVC employee to adhere to the provisions of this program may be subject to progressive disciplinary action, up to and including termination, as outlined in the California Education Code.

Training

The SBVC Fire Prevention Program Administrator is responsible for ensuring the following employee training:

- provide all employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting upon initial employment and at least annually thereafter.
- provide employees who have been designated to use fire fighting equipment as part of an emergency action plan with training in the use of the appropriate equipment upon initial assignment and at least annually thereafter.

The Program Administrator shall retain copies of training documents and forward copies to the Office of the Vice President of Administrative Services.

Common Causes of Fires

1. Overloaded electrical circuits, unsafe wiring and defective extension cords
2. Appliances such as coffee pots/makers, hot plates and other heating devices left on when not in use.
3. Unattended cooking
4. Overheated motors and other equipment not maintained properly
5. Improper use of non-electrical heating systems (space heaters)
6. Improper disposal of smoking material such as emptying ash trays in trash cans and/or coming in contact with other combustible material
7. Improper use, handling and storage of flammable material (gasoline, solvents, paints)
8. Improper use of candles, Christmas tree lights and associated electrical cords
9. Poor housekeeping which results in accumulation of combustibles such as paper, cardboard boxes, oil-soaked rags, and flammable liquids
10. Improper use of welding torches and equipment

Fire Prevention Measures

Good housekeeping is basic to fire safety and should be a major concern in every type of college facility. The following general preventive measures will help to mitigate potential fire hazards:

1. General work areas such as offices, labs, and shops must be kept organized, orderly and clean
2. Discarded packing material or scrap paper should not be allowed to accumulate
3. A sufficient number of waste baskets or trash receptacles made of a non-combustible material should be placed in each work area
4. Floors should be swept or vacuumed regularly to prevent the accumulation of potentially combustible materials
5. Avoid using flammable solvents or materials with low flash points to clean floors, walls, furniture or equipment. Details on the flammability and flash point of specific materials can be found on the associated MSDS sheet.
6. Store oil or chemical soaked rags only in metal containers suitable for flammable storage.
7. Flammable materials should be stored in metal cabinets specifically designed for flammable storage.
8. Equipment installed to prevent accidental ignition of combustible material, e.g. grounding wires or dust collection equipment, must be routinely inspected by the appropriate department supervisor to ensure proper operation.

The Custodial Department is responsible for collecting ordinary combustibles, such as paper, wood, plastic and cloth. If you have any questions concerning the disposal of ordinary trash, please call the Custodial Department at Ext. 4728 or the Maintenance & Operations Office at Ext. 8965.

Chemical Handling and Storage

1. Leaks, spills, and overflows must be avoided. Only properly trained and equipped SBVC employees should clean up potentially hazardous material spills. If you are not trained to perform this type of work, contact your immediate supervisor or campus Police at Ext 3275 to report the spill.
2. Storage of flammable and combustible liquids in open containers is not permitted under any conditions.
3. Chemicals, specifically flammable and/or combustible liquids, should be stored in appropriate UL-rated cabinets.
4. Incompatible materials in storage areas must be segregated to avoid accidental combustion. Isolate ignitable or combustible materials from

oxidizers or sources of ignition. Please refer to **Appendix A** of this document for a table of capable chemicals.

Hazardous Waste Abatement

Maintenance & Operations is responsible for the collection and disposal of hazardous waste, including chemical, biohazard, and radioactive wastes. If you have any questions concerning the disposal of hazardous waste, call the Maintenance & Operations Office at Ext. 8965.

Types of Fire Protection Equipment

The basic types of fire protection equipment/systems used at SBVC include:

- Portable fire extinguishers
- Fire sprinkler systems
- Chemical extinguishing systems, including carbon dioxide, dry chemical and halon systems
- Fire alarms and smoke detectors

Maintenance of Fire Protection Equipment

The Maintenance & Operations Department is responsible for the inspection and oversight of all fire protection equipment, and the portable fire extinguisher service program. Fire extinguishers are inspected by staff on a monthly basis and certified annually.

Please report any problems with any fire protection equipment by calling Maintenance & Operations at Ext. 8965.

Fire Extinguishers

Fires are classified into four different classifications depending on the type of materials or fuels involved. The type of fire determines the type of extinguisher used to extinguish it. Accordingly, all fire extinguishers are identified with common symbols to indicate which class of fire the extinguisher will be most effective on. **Fire Extinguishers located throughout the campus are typically rated for use on Class A, Class B and/or Class C fires and can be used effectively on any such fire.**

Fire Classifications

- **Class A fires** involve ordinary combustible materials such as wood, paper, rags, rubbish and other solids.

- **Class B fires** occur in the vapor/air mixture over the surface of flammable and combustible liquids such as gasoline, fuel oil, paint thinner, hydraulic fluids, flammable cleaning solvents and other hydrocarbon fuels.
- **Class C fires** involve energized electrical equipment.
- **Class D fires** involve combustible metals such as magnesium.

APPENDIX A:
PARTIAL LIST OF INCOMPATIBLE CHEMICALS
(REACTIVE HAZARDS)

PARTIAL LIST OF INCOMPATIBLE CHEMICALS (REACTIVE HAZARDS)

TOO OFTEN CHEMICALS ARE STORED ALPHABETICALLY. THIS CAN LEAD TO EXPLOSIVE OR TOXIC ALPHABET SOUP.

SUBSTANCES IN THE LEFT COLUMN SHOULD BE STORED AND HANDLED SO THAT THEY CANNOT ACCIDENTALLY CONTACT CORRESPONDING SUBSTANCES IN THE RIGHT COLUMN UNDER UNCONTROLLED CONDITIONS.

SOURCE: Prudent Practices for Handling Hazardous Chemicals in Laboratories, National Research Council, Washington, D.C., 1995.

CHEMICAL	INCOMPATIBILITY
Acetic acid	Chromic acid, nitric acid, hydroxyl compounds, ethylene glycol, perchloric acid, peroxides, permanganates
Acetone	Concentrated nitric and sulfuric acid mixtures
Acetylene	Chlorine, bromine, copper, fluorine, silver, mercury
Alkali and alkaline earth metals (lithium, sodium, potassium)	Water, carbon tetrachloride or other chlorinated hydrocarbons, carbon dioxide, halogens, powdered metals (e.g., aluminum or magnesium)
Ammonia (anhydrous)	Mercury (e.g., in manometers), chlorine, calcium hypochlorite, iodine, bromine, hydrofluoric acid (anhydrous)
Ammonium nitrate	Acids, powdered metals, flammable liquids, chlorates, nitrates, sulfur, finely divided organic or combustible materials
Aniline	Nitric acid, hydrogen peroxide
Arsenical materials	Any reducing agent
Azides	Acids
Bromine	See Chlorine
Calcium oxide	Water
Carbon (activated)	Calcium hypochlorite, all oxidizing agents
Carbon tetrachloride	Sodium, Chlorates, Ammonium salts, acids, powdered metals, sulfur, finely divided organic or combustible materials
Chlorine	Ammonia, acetylene, butadiene, butane, methane, propane (or other petroleum gases), hydrogen, sodium carbide, benzene, finely divided metals, turpentine
Chlorine dioxide	Ammonia, methane, phosphine, hydrogen sulfide
Chromic acid and chromium	Acetic acid, naphthalene, camphor, glycerol, alcohol, flammable liquids in general
Copper	Acetylene, hydrogen peroxide
Cumene hydroperoxide	Acids (organic or inorganic)
Cyanides	Acids
Flammable liquids	Ammonium nitrate, chromic acid, hydrogen peroxide, nitric acid, sodium peroxide, halogens
Fluorine	Isolate from everything
Hydrocarbons (e.g., butane, propane, benzene)	Fluorine, chlorine, bromine, chromic acid, sodium peroxide
Hydrocyanic acid	Nitric acid, alkali

Hydrofluoric acid (anhydrous)	Ammonia (aqueous or anhydrous)
Hydrogen peroxide	Copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, aniline, nitromethane, combustible materials
Hydrogen sulfide	Fuming nitric acid, oxidizing gases
Hypochlorites	Acids, activated carbon
Iodine	Acetylene, ammonia (aqueous or anhydrous), hydrogen
Mercury	Acetylene, fulminic acid, ammonia
Nitrates	Sulfuric acid
Nitric acid (concentrated)	Acetic acid, aniline, chromic acid, hydrocyanic acid, hydrogen sulfide, flammable liquids, flammable gases, copper, brass, any heavy metals
Nitrites	Potassium or sodium cyanide.
Nitroparaffins	Inorganic bases, amines
Oxalic acid	Silver, mercury
Oxygen	Oils, grease, hydrogen, flammable: liquids, solids, or gases
Perchloric acid	Acetic anhydride, bismuth and its alloys, alcohol, paper, wood, grease, oils
Peroxides, Organic	Acids (organic or mineral), avoid friction, store cold
Phosphorus (white)	Air, oxygen, alkalis, reducing agents
Phosphorus pentoxide	Water
Potassium	Carbon tetrachloride, carbon dioxide, water
Potassium chlorate	Sulfuric and other acids
Potassium perchlorate	(see Sulfuric and other acids also chlorates)
Potassium permanganate	Glycerol, ethylene glycol, benzaldehyde, sulfuric acid
Selenides	Reducing agents
Silver	Acetylene, oxalic acid, tartaric acid, ammonium compounds, fulminic acid
Sodium	Carbon tetrachloride, carbon dioxide, water
Sodium Chlorate	Acids, ammonium salts, oxidizable materials, sulfur
Sodium nitrite	Ammonium nitrate and other ammonium salts
Sodium peroxide	Ethyl or methyl alcohol, glacial acetic acid, acetic anhydride, benzaldehyde, carbon disulfide, glycerin, ethylene glycol, ethyl acetate, methyl acetate, furfural
Sulfides	Acids
Sulfuric acid	Potassium chlorate, potassium perchlorate, potassium permanganate (similar compounds of light metals, such as sodium, lithium)
Tellurides	Reducing agents
Water	Acetyl chloride, alkaline and alkaline earth metals, their hydrides and oxides, barium peroxide, carbides, chromic acid, phosphorous oxychloride, phosphorous pentachloride, phosphorous pentoxide, sulfuric acid, sulfur trioxide

15 Reasons Not to Store Your Chemicals Alphabetically

INCOMPATIBLE CHEMICALS	POSSIBLE REACTIONS
Acetic Acid - Acetaldehyde	Small amounts of acetic acid will cause the acetaldehyde to polymerize releasing great quantities of heat.
Acetic Anhydride - Acetaldehyde	Reaction can be violently explosive.
Aluminum Metal - Ammonium Nitrate	A Potential Explosive
Aluminum - Bromine Vapor	Unstable nitrogen tribromide is formed: explosion may result.
Ammonium Nitrate - Acetic Acid	Mixture may result in ignition, especially if acetic acid is concentrated.
Cupric Sulfide - Cadmium Chlorate	Will explode on contact.
Hydrogen Peroxide - Ferrous Sulfide	A vigorous, highly exothermic reaction.
Hydrogen Peroxide - Lead II or IV Oxide	A violent, possibly explosive reaction.
Lead Sulfide - Hydrogen Peroxide	Vigorous, potentially explosive reaction.
Lead Perchlorate - Methyl Alcohol	An explosive mixture when agitated.
Mercury II Nitrate - Methanol	May form Hg fulminate- an explosive.
Nitric Acid - Phosphorous	Phosphorous aburns spontaneously in presence of nitric acid.
Potassium Cyanide - Potassium Peroxide	A potentially explosive mixture if heated.
Sodium Nitrate - Sodium Thiosulfate.	A mixture of the dry materials may result in explosion.