

SECTION 8

Fire Safety

SECTION 8: FIRE SAFETY

This section contains information about fire prevention, fire extinguishers, obtaining emergency response placards, and procedures for what to do in the event of a fire. All shop employees must be familiar with these fire safety fundamentals.

Facility Requirements

Maintaining your facility is an important fire prevention measure.

Egress

Walkways and exits are not designed for storage and must be kept clear. At minimum, 3 feet of clearance must be maintained at all times so that people can exit safely and quickly. Remove any tripping hazards immediately and make sure that exit routes are unobstructed and clearly identifiable. Refer to the building evacuation plan to identify exit routes for your building and to your campus evacuation map, to see where your shop should go during a catastrophic event.



Storage

Avoid storage of excess combustible materials (e.g., cardboard, paper, and rags) in the shop. Do not store items closer than 18 inches below sprinkler heads, in order to allow the free flow of water from fire sprinklers, or 24 inches below the ceiling level if there are not any sprinklers.

Storage of flammables and combustibles must fall within the “maximum allowable quantity” specified for the control area as designated under the California Fire Code (CFC). Furthermore, no more than 10 gallons of flammable chemicals (cumulative) may be stored outside of a flammable storage cabinet at any time. Keep oily rags in a separate, flash proof metal container.

Always keep flammable and combustible materials away from all sources of ignition (e.g., welding operations, electrical equipment, etc.).

Electrical Equipment

All electrical equipment must be properly grounded and bonded. Grounding ensures that electricity is directed correctly and bonding prevents the buildup of static electricity, which can lead to sparks. Ensure that extension cords and electrical circuits are never overloaded.

Housekeeping

Clean up debris from machines and work areas frequently, as certain shop materials can pose a significant fire hazard. For example, dust explosions can occur from high levels of airborne wood dust or from accumulation inside the switchgear. Always make sure there is adequate ventilation when conducting work.

Fire Safety Equipment

Know the location of fire safety equipment (extinguishers, smoke detectors, fire alarm pull stations, etc.). Fire safety equipment should have a designated location and be visible.

Fire Extinguishers

Be familiar with the different types of fire extinguishers and the types of fires that they are used for.

Fire Extinguisher Type

Fire extinguishers are classified into four classes depending on the type of fire they extinguish:

Class A: Combustible materials

Class B: Flammable liquids

Class C: Electrical

Class D: Combustible metals (magnesium, sodium, lithium, and potassium)

Class K: Cooking media

Classifications of Fire

A		Common Combustibles	Wood, paper, cloth etc.
B		Flammable liquids and gases	Gasoline, propane and solvents
C		Live electrical equipment	Computers, fax machines
D		Combustible metals	Magnesium, lithium, titanium
K		Cooking media	Cooking oils and fats

Fire extinguishers may be used for a specific class of fire or a combination thereof. A common combination is the ABC fire extinguisher. Check the shop to ensure that the correct types of extinguishers are available. Extinguishers are inspected annually and are refurbished and hydrostatically tested every six years. Fire extinguishers must be properly mounted and accessible along exit paths. Never store items on or around them and make sure they are visible and accessible at all times.



Using a Fire Extinguisher

Remember the “PASS” acronym when operating an extinguisher:

P – Pull the pin

A – Aim at the base of the fire

S – Squeeze the trigger

S – Sweep from side to side

Contact EH&S to get further information on signing up for fire extinguisher training.

Emergency Response Placards

These placards inform emergency response personnel about a number of hazards present in a particular area. All shops that use or store chemicals are required to have an emergency response placard posted on the exterior entrance door. The placard includes information such as health, fire, and reactivity hazards listed on the NFPA fire diamond, emergency contacts, and an occupant list.

Figure 8.1 depicts how the blue, red, and yellow sections of a fire diamond are numbered 0-4, depending on the severity of the hazard. The white section of the placard is used to identify specific hazards, such as whether a chemical is corrosive, water reactive, or radioactive.

Contact EH&S to find out further information on Emergency Response Placards, how to access them and where they should be posted.

Figure 8.1 – Emergency Response Placard



Preparing for and Knowing What to Do in Case of a Fire

Having a plan for what to do in the event of fire is an essential fire safety measure.

In order to prepare for a fire, you must:

- Know the evacuation routes from your shop/office, floor, and building. Study these in advance. It is easy to become disoriented during an actual emergency.
- Know the location of the nearest fire extinguisher. Report missing fire extinguishers immediately to Facilities Management.
- Always keep fire rated doors closed.
- Post emergency numbers and your own room number on your telephone.
- Report any unsafe conditions to the EH&S Office and/or Campus Fire.

During a fire, you must:

- Remain calm and get out of the immediate area.
- Activate the fire alarm, exit via the stairs and DO NOT USE THE ELEVATOR.
- Close the door behind you as you leave and all other doors as you exit, after ensuring that all other occupants have exited—doors are built to withstand fire for a period of time.
- If you see smoke coming from your exit route, find another way out, if possible.
- Feel the door with the back of your hand before you open it. If it is hot, find another way out.
- Drop to the floor to avoid smoke and fumes. Crawl to safety.
- If your clothes catch on fire, STOP where you are, DROP to the ground and ROLL over and over to smother the flames.
- Call 9-1-1 from a safe location.

- If you are trapped in a burning building, stay near a window and close to the floor. If possible, signal for help.
- Meet with the emergency responders upon arrival and report what you saw—DO NOT LEAVE THE AREA. The information you have may save lives and valuable time.

Important Fire Safety Reminders

If your clothing catches on fire, you can use the nearest emergency shower ONLY if you are within a few seconds of the shower. If you are not near a shower, then stop, drop, and roll. Report any burn injuries to the supervisor immediately and seek medical treatment.

Anytime a fire extinguisher is used or discharged, it must be reported immediately to Police Dispatch.

All fires, regardless of size, must be reported immediately (911); this is a California State Fire Marshal's requirement.