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# FIRE PREVENTION AND PROTECTION FACT SHEET

## MODULE DESCRIPTION

In this module, we'll cover the precautions to take to prevent fires and the steps to take in order to protect yourself if a fire occurs at your workplace. Planning ahead in case there is a fire allows you to StartSafe, and knowing what to do to protect yourself and others during a fire enables you to StaySafe.

## OBJECTIVES

Upon completion of this module, you should be able to:

- Describe how to protect yourself and others in the event of a fire
- State the key components of a fire prevention plan
- Explain the steps to take to identify, avoid and control fire hazards

## MODULE OUTLINE

### 1. Fire Emergencies

Imagine if a fire were to occur at your workplace. It is critical that you immediately know what to do. Failure to be immediately responsive could result in injury or death. No single preparedness tool is more important than a plan. Your employer has two important plans in place which we will cover in this course:

- An emergency action plan (EAP) for fire emergencies
- A fire prevention plan

### 2. Emergency Planning - Building Fires

An Emergency Action Plan is a plan created to help people respond to emergency situations in a safe and organized manner. Your employer will cover with you the procedures for evacuation which are part of their EAP.

Pay attention and learn the evacuation plan to escape from a fire. Be aware of the escape route from your work area. Fire can spread quickly and you want to escape safely.

Then knowing the evacuation plan well will help you stay calm in the event of a building fire and help you to exit as quickly as possible using your escape route.

Don't worry about taking valuables with you. Leave all personal possessions and belongings inside. These items are not worth your life.

### 3. Emergency Planning - Building Fires II

If you see smoke or fire in your first escape route, use an alternate way out. If you must exit through smoke, crawl low under the smoke to your exit.

If you are escaping through a closed door, feel the door first using the back of your hand. If it is warm, keep the door closed and use an alternate way out.

If the door feels cool, open the door slowly and exit, staying as low to the ground as possible. If it is impossible for you to stay low to the ground, cover your mouth and nose and safely exit as quickly as possible. Covering your mouth and nose protects you from breathing in dangerous fumes. Do not use elevators to exit the building.

If smoke, heat, or flames block your exit routes, stay in the room with the door closed. Signal for help using a bright-colored cloth at the window. If there is a telephone in the room, try calling 911 and tell them your location.

Finally, once you are out of the building, stay out. EAPs should designate assembly areas where people can safely meet and check in so that they are accounted for. Go to the assembly area. Stay outside or in a designated safe area until you have permission to return.

### 4. Alerting Others to Fire

Your employer's emergency action plan will also include procedures for reporting a fire. Your employer will cover the procedures to follow in alerting others to the fire emergency, such as using fire alarms or paging systems.

Generally your employer will have an alarm system in place which has a distinctive signal. Fire drills will make you aware of the sound. Practice all drills as if they are the real thing.

### 5. Fire Prevention Plan I

Let's talk about how to prevent fires from happening. While the hope is that a fire never happens, OSHA requires employers to have a fire prevention plan in place. The purpose of a fire prevention plan is to prevent a fire from occurring in a workplace. The plan helps ensure the safety of workers and property.

The fire prevention plan must be in writing, be kept in the workplace, and be made available to employees for review. If an employer has 10 or fewer employees, they may communicate the plan orally to employees.

An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed. An employer must also

review with each employee those parts of the fire prevention plan necessary for self-protection.

## 6. Fire Prevention Plan I

A plan describes all the major fire hazards at the workplace that could initiate or contribute to the spread of a fire.

A plan includes the proper handling, storage and control procedures for these hazards. It also contains the building systems and equipment in place to control ignitions or fires.

It also contains information on who (either names or job titles) is responsible for controlling these hazards and maintaining these systems.

Lastly it defines the training required for all employees who have responsibilities in the plan.

## 7. Fire Hazards II

When you are initially assigned to a job, your employer will inform of the fire hazards to which you are exposed. Then it is important for you to follow day-by-day practices to avoid and control those fire hazards.

### PREVENT FIRE

- Clean up spills of flammable or combustible liquids promptly.
- Dispose of combustible scrap, debris and waste materials safely in covered metal receptacles. Remove the waste from the worksite promptly.
- Practice safe storage requirements for flammable and combustible liquids and hazardous materials.
- Do not smoke near flammable or combustible liquids.
- If you smoke, before you throw away butts and ashes, make sure they are out.

### FIRE PREPAREDNESS

Do not create situations that could create problems should a fire occur:

- Do not obstruct fire doors and shutters.
- Do not block or obstruct the path to a fire extinguisher.
- Never prop open emergency doors. Fire doors keep fire from spreading.
- Keep a proper clearance available below fire sprinkler heads at all times.

- Be wise about the use of electrical cords. Be certain you are not creating a tripping hazard by making sure they are not running across doorways or walkways.

### REPORTING HAZARDS

- Report any obvious hazard to life or property in connection with electrical equipment or lines as soon as possible.
- Report any exposed wiring and cords with frayed or deteriorated insulation promptly.
- Talk to your supervisor if you encounter frequent problems with blowing fuses or tripping circuit breakers.

## 8. Controlling Hazards

As mentioned, the plan includes proper handling, storage, and control procedures to prevent fire hazards. Employers will put emergency safeguards such as alarm systems, sprinkler systems, fire doors, and exit lighting in place. These safeguards must be in proper working order at all times; so regular preventive maintenance is important.

Here are some examples of regular maintenance your employer will handle in order to be prepared if a fire should occur:

- Fire alarm systems are tested annually.
- Both water and air pressure need to be checked periodically in automatic sprinkler systems. The control valves also need to be tested.
- Fire doors and shutters need to be in good operating condition.
- Interior standpipes and valves are to be inspected regularly.

## 9. Fight or Flee?

A fire is the most common type of emergency for which businesses must plan. A critical decision when planning is whether or not employees should fight a small fire with a portable fire extinguisher or simply evacuate. Each employer makes this decision based on a number of factors, such as such as the availability of a public fire department or the vulnerability of egress routes. A company's emergency action and fire prevention plan will educate employees as to whether they should fight a fire or flee a fire.

Click this link to see OSHA's guidance on *Flight or Flee?*: [http://www.osha.gov/SLTC/etools/evacuation/portable\\_relation.html](http://www.osha.gov/SLTC/etools/evacuation/portable_relation.html)

If you are expected to fight fires as part of either the EAP or the fire prevention plan, your employer will instruct you on the hazards of fighting fire. Then in any fire situation you might face, you will need to use good judgment and make smart decisions regarding what to do. Your safety is always the first concern.

## 10. Fire Extinguishers – Employer's Responsibility

If portable fire extinguishers are provided for employee use, your employer will educate you about the correct use of fire extinguishers. This training must be hands-on, so you are prepared if you do need to use the extinguisher in an emergency situation. The training must be done annually. In readiness for that training, let's discuss some general information about fire extinguishers.

Your employer must mount, locate and identify fire extinguishers so workers can access them without subjecting themselves to possible injury. Portable fire extinguishers need to be available in adequate numbers and mounted in a ready accessible location.

Fire extinguishers must be inspected, maintained and tested. Fire extinguishers must be fully charged and kept in operable condition. When an extinguisher is recharged, that activity needs to be correctly noted on its inspection tag.

Extinguishers must be kept in their designated place at all times except during operation. And your employers must conduct an annual maintenance check on each extinguisher.

## 11. Fire Extinguishers

Portable fire extinguishers have two functions: to control or extinguish small (or incipient stage) fires and to protect evacuation routes that a fire may block directly or indirectly with smoke or burning/smoldering materials.

To extinguish a fire with a portable extinguisher, a person must have immediate access to the extinguisher, know how to actuate the unit, and know how to apply the extinguishing agent effectively.

## 12. Fire Extinguishers – Risk Assessment I

Attempting to extinguish even a small fire carries some risk. Fires can increase in size and intensity in seconds, blocking the exit path of the fire fighter and creating a hazardous atmosphere.

In addition, portable fire extinguishers contain a limited amount of extinguishing agent and can be discharged in a matter of seconds. Therefore, individuals should attempt to fight only very small or incipient stage fires.

## 13. Fire Extinguishers – Risk Assessment II

Prior to fighting any fire with a portable fire extinguisher you must perform a risk assessment that evaluates the fire size, the fire fighters evacuation path, and the atmosphere in the vicinity of the fire.

You will need to determine factors such as:

- Is the fire too big?
- Is the air safe to breathe?
- Is the environment too hot or smoky? AND
- Is there a safe evaluation path?

Characteristics of incipient (beginning) stage fires or fires that CAN be extinguished with portable fire extinguishers:

- The fire is limited to the original material ignited.
- It is contained (such as in a waste basket) and has not spread to other materials.
- The flames are no higher than your head.

Characteristics of fires that SHOULD NOT be fought with a portable fire extinguisher (beyond incipient stage) that require you to evacuate immediately:

- The fire involves flammable solvents
- It has spread over more than 60 square feet
- It is partially hidden behind a wall or ceiling.
- The fire can not be reached from a standing position.

Characteristics of incipient stage fires or fires that CAN be extinguished with portable fire extinguishers:

- The fire has not depleted the oxygen in the room and is producing only small quantities of toxic gases
- No respiratory protection equipment is required.

Characteristics of fires that SHOULD NOT be fought with a portable fire extinguisher (beyond incipient stage) that requires you to evacuate immediately:

- Due to smoke and products of combustion, the fire can not be fought without respiratory protection.

Characteristics of incipient stage fires or fires that CAN be extinguished with portable fire extinguishers:

- Heat is being generated, but the room temperature is only slightly increased.
- Smoke may be accumulating on the ceiling, but visibility is good.
- No special personal protective equipment is required.

Characteristics of fires that SHOULD NOT be fought with a portable fire extinguisher (beyond incipient stage) that require you to evacuate immediately:

- The radiated heat is easily felt on exposed skin making it difficult to approach within 10-15 feet of the fire (or the effective range of the extinguisher).
- You must crawl on the floor due to heat or smoke.
- Smoke is quickly filling the room, decreasing visibility.

Characteristics of incipient stage fires or fires that CAN be extinguished with portable fire extinguishers: (image & pop-up box title; do not record)

- There is a clear evacuation path that is behind you as you fight the fire.

Characteristics of fires that SHOULD NOT be fought with a portable fire extinguisher (beyond incipient stage) that require you to evacuate immediately:

- The fire is not contained
- Fire, heat, or smoke may block the evacuation path

#### 14. Fire Extinguishers – Risk Assessment III

Remember you should only attempt to fight only very small or incipient stage fires with a portable fire extinguisher. If the fire is beyond incipient stage, that is just beginning, evacuate immediately!

#### 15. Fire Extinguishers

There are 5 different classes of fire extinguishers. Each class is used for different types of fires. Each workplace building must have a full complement of the proper type of fire extinguisher for the fire hazards present.

Here are the five classes and the types of fire they are capable of extinguishing:

- Class A – Ordinary combustible material fires (such as wood, cloth, paper)
- Class B – Flammables/liquids, gases, greases
- Class C – Electrical/energized electrical equipment
- Class D – Combustible metals (such as magnesium, titanium, zirconium, sodium, and potassium.)
- Class K – Combustible cooking media/vegetable or animal oils and fats

A good way to remember the first three classes is by A,B,C as in:

- A for Ash
- B for Boom
- C for circuit.

## 16. Summary

In this module, we've covered the precautions to take to prevent fires and the steps to take in order to protect yourself if a fire occurs at your workplace.

Remember, it is your responsibility to know how to StartSafe and StaySafe in emergency situations such as a fire.

## 17. Module Review

You should be able to:

- Describe how to protect yourself and others in the event of a fire
- State the key components of a fire prevention plan
- Explain the steps to take to identify, avoid and control fire hazards