



Training Solutions, Delivered!

# USING FIRE EXTINGUISHERS

**Leader's Guide, Fact Sheet  
& Quiz**

**Item Number: 3578**

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***This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.***

## **PREPARING FOR THE MEETING**

Here are a few suggestions for using this program:

- a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.
- b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.
- c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.
- d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes before the quiz itself, which is on the final page.

## **CONDUCTING THE PRESENTATION**

- a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.
- b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.
- c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.
- d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

## 3578 USING FIRE EXTINGUISHERS FACT SHEET

**LENGTH: 15 MINUTES**

### **PROGRAM SYNOPSIS:**

When a fire occurs in a workplace, employees will often be the first to respond. Fire extinguishers can enable them to act quickly and effectively to control or extinguish the fire and protect the facility they work in. To do this, they need to understand how fire burns and how to put it out. They need to recognize the different classes of fire and the types of fire extinguishers that should be used on them. They also need to know the procedures to follow in order to fight a fire safely and they need to know when they should leave a fire alone and let professional firefighters deal with it. This program provides employees with the information they need to understand how fires burn, what types of extinguishers should be used to put them out, and how to use those extinguishers.

### **PROGRAM OBJECTIVES:**

After watching the program, the participant should:

- Understand how fires burn.
- Know the four classes of fires that you are most likely to encounter and what makes them different from each other.
- Understand how various classes of fires should be extinguished.
- Be able to recognize various types of fire extinguishers as well as how they work.
- Know the procedures they should follow to safely put out a fire with an extinguisher.
- Understand when they should not try to fight a fire themselves.
- Know how to keep fire extinguishers in good working order.

### **PROGRAM OUTLINE:**

#### **BACKGROUND**

- **You've probably heard the best way to fight a fire is to prevent it, and that's true.**
  - But accidents do happen and fires do start.
  - When this occurs in a workplace, you or a coworker will often be the first to respond, and fire extinguishers become the first line of defense.
- **Fire extinguishers can enable you to act quickly and effectively to protect people and your facility.**
  - So you need to understand the equipment, as well as how to use it.
- **Fire extinguishers are designed to put out small fires before they grow out of control.**
  - Putting out fires with an extinguisher isn't always easy.
  - It can be hazardous if you go about it in the wrong way.

#### **HOW FIRES BURN**

- **To use an extinguisher effectively it's helpful to know what causes things to burn.**
  - Fire always needs three ingredients, fuel, oxygen and heat.
- **The "fuel" is any material that will burn, including:**
  - Combustible solids such as wood, paper, cardboard and some metals.
  - Flammable and combustible liquids such as gasoline, toluene and some solvents and cleaning solutions.
  - Ignitable gases such as propane and natural gas.
- **Next, a fire must be in an environment where there is oxygen that it can "breathe".**
  - The more oxygen a fire has, the better it will burn.
  - That's why "fanning" a fire makes it flare up.
- **The third element that a fire needs is heat, a "source of ignition" such as a match or an electric spark, that "lights" it and keeps it burning.**
- **The best way to put a fire out is to deprive it of oxygen or heat.**
  - That is what fire extinguishers do.

## CLASSES OF FIRES

- **Though they may look more or less the same, all fires are not alike.**
  - The types of materials that are burning and the location of the fire determine how they behave, and how you should put them out.
- **Fire extinguishers work by applying substances that are called "fire retardants".**
  - They can cool a fire or deprive it of oxygen (a process known as "smothering") or they can do both.
- **But using the wrong type of retardant on a fire can make a bad situation even worse.**
  - For example, an air-pressurized water extinguisher will do a great job of putting out burning cardboard.
  - But using a water extinguisher on burning liquids will only spread the fire further.
  - Since water conducts electricity, you wouldn't want to use it on a fire that is burning in or around electrical equipment, because someone could be electrocuted.
- **To make it easier to distinguish between different types of fires and determine what type of extinguisher should be used on them, fires are divided into "classes".**
- **"Class A" fires involve everyday solid combustibles like paper, cardboard and wood.**
  - Extinguishers that discharge water, foam and some dry chemical agents can be used on this class of fires.
- **"Class B" fires involve flammable gases, liquids and some plastics.**
  - Extinguishers that discharge dry chemicals, foam and carbon dioxide should be used on these.
- **"Class C" fires involve electricity and can occur in any type of electrical equipment.**
  - Extinguishers that apply "nonconductive" substances, such carbon dioxide and dry chemicals, must be used on Class C fires.
- **"Class D" fires involve combustible metals and are not very common.**
  - They can be dangerous to extinguish, so don't try to put out a Class D fire unless you have received training on how to deal with them specifically.
- **The labels on fire extinguishers are always marked with the classes of fires they should be used on.**

Sometimes they also display "pictographs" that illustrate the classes.

  - Many extinguishers are designed to put out multiple classes of fires.
- **It's important for you to know what types of fires could occur at your facility and what extinguishers you should use to fight them.**
  - Talk to your supervisor if you have questions.

## TYPES OF FIRE EXTINGUISHERS

- **The fire extinguishers in a facility should be appropriate for the classes of fires that are most likely to occur in the facility.**
  - For example, a work area that contains wooden materials, flammable liquids and electrical machinery should be equipped with extinguishers that are rated for Class A, B and C fires.
- **Since many facilities have this combination of substances, multi-purpose dry chemical ABC fire extinguishers are by far the most popular type of extinguisher in use today.**
  - These extinguishers use a chemical called monoammonium phosphate that coats the fuel and smothers the fire.
  - But the residue that ABC extinguishers leave behind is not only hard to clean up, it's also mildly corrosive.
- **Dry chemical extinguishers rated for Class B and C fires discharge sodium bicarbonate, also called "baking soda", which is non-corrosive and easy to sweep up.**
  - So these extinguishers may be preferable when fighting B and C class fires.
- **The heat from a fire causes the baking soda to release carbon dioxide gas, which smothers the fire.**
  - Its residue also forms a barrier between the fuel and oxygen, so that a smothered fire won't reignite.
- **Carbon dioxide (CO<sub>2</sub>) extinguishers are also rated for Class B and C fires, and they don't leave any residue.**
  - They're especially good for use in computer rooms and other areas that contain electronics or other delicate equipment.
- **But while CO<sub>2</sub> can smother a fire effectively, it also tends to disperse quickly into the atmosphere.**
  - So a blaze that has not been completely extinguished could easily reignite.
  - When using these extinguishers, you need to look closely to make sure the fire is out.
- **When a fire needs to be extinguished, our first instinct might be to douse it with water.**
  - Water and water-based foams are good at putting out some types of fires, but they can cause serious hazards if they are used on others.

- **While water is a convenient and effective retardant for putting out Class A fires, it cannot be used safely on:**
  - Class B fires that involve burning liquids.
  - Class C fires that occur in or near electrical equipment.
- **So most water extinguishers have been replaced by dry chemical "ABC" equipment.**
  - But dry chemicals don't work well on some Class A fuels.
  - For example, they can't reach the burning embers that are within a mattress, stack of paper or a pile of sawdust.
- **But water can soak into these materials to extinguish the fire, so water extinguishers still have some uses.**
- **Extinguishers that discharge water-based foams are usually rated for Class A and Class B fires, though not for Class C.**
  - Foam retardants "blanket" burning materials to cut off their oxygen supply.
  - As a result, foam extinguishers can do a good job of putting out burning liquids.
- **Foam extinguishers can also be applied to spills of flammable liquids to prevent them from catching fire.**
  - So foam extinguishers can be especially useful in commercial garages and chemical storage facilities for this reason.
- **There are a number of other types of fire extinguishers that are designed to be used in specific environments, and to put out specific types of fires.**
  - Ask your supervisor about what extinguishers are appropriate for your workplace.

#### **DETERMINING WHETHER TO FIGHT A FIRE**

- **While it's important to act quickly in a fire emergency, there are several things you should do before you reach for a fire extinguisher.**
  - Make sure the fire alarm has been activated (pull it yourself, if necessary).
  - Help other people to start the evacuation process, especially anyone who has been injured.
  - Close nearby doors and windows that could feed the fire with oxygen.
- **A fire that is too large, or has spread into ceilings or walls, may already be too dangerous for you to fight.**
- **Smoky fires can be very hazardous as well.**
  - Smoke inhalation kills more people than flames.
  - In these cases, you should leave the area and let professional firefighters handle things.

#### **HOW TO SAFELY EXTINGUISH A FIRE**

- **If you feel that it's safe to try and combat a fire, grab the nearest extinguisher.**
  - Double check its label to make sure it's the right type to use in the situation.
- Make sure that you have a clear escape route in case you need one.
- **Position yourself within the "effective range" that is marked on the extinguisher's label.**
  - For most dry chemical ABC fire extinguishers, this distance will be about 6 to 8 feet.
  - Hold the extinguisher upright.
- **Even under the stress of fighting a fire, you can make sure you use the extinguisher correctly by thinking of the word "PASS".**
  - **It spells out the four steps you should take.**
    - Pull the extinguisher's pin.
    - Aim the nozzle at the base of the fire.
    - Squeeze the trigger.
    - Sweep from side to side with a slow, steady motion.
  - **Remember that retardants cool and smother a fire by working on its fuel.**
    - So keep the nozzle of the extinguisher pointed at the base of the fire, not the flames.
  - **If you are dealing with flammable liquids, be careful not to spread the fire by "splashing" the spill.**
  - **As the fire gets smaller, step forward to stay within the extinguisher's "effective range".**
    - But don't get too close.
    - Be careful where you walk!
  - **If fighting the fire is creating a lot of smoke, crouch down near the ground.**
    - There will be more fresh air there, and it will be easier for you to see.
- Most portable dry chemical extinguishers provide about 10 to 15 seconds' worth of continuous spraying.
- **Once the extinguisher is empty:**
  - Leave it in an out-of-the-way area so no one will trip over it.

- Place the extinguisher on its side so others will not try to use it.
- Leave the danger area, even if the fire appears to have been extinguished.

#### **FIRE EXTINGUISHER LOCATION & INSPECTION**

- **When a building is burning, seconds count, so fire extinguishers should be kept close by where they're easy to find.**
  - They also need to be fully charged and functional.
- **OSHA regulations, state ordinances and local fire codes require industrial facilities, offices and public buildings to place portable fire extinguishers near all potential fire hazards.**
- **The Department of Transportation requires that all commercial vehicles be equipped with extinguishers, as well.**
- **Extinguishers should be mounted on hangers or in marked fire extinguisher cabinets, where they can be clearly seen.**
  - Never store an extinguisher on the floor, in a closet, or behind furniture, plants or decorations.
- **When a fire's burning there's no time to have to search for an extinguisher that works.**
  - Regular inspections and maintenance of the equipment should be an important part every facility's fire prevention program.
- **Extinguishers should be checked at least once a month to make sure that they are in working order.**
  - Any that are located outdoors should be inspected every week.
  - The pressure gauge should indicate that it is fully charged.
  - The locking pin and plastic "tamper seal" should be in place.
  - The hose and horn should be undamaged and unobstructed.
  - All metal parts should be free of corrosion.
- **The service tag on the extinguisher will show when it is due for its next professional inspection.**
  - Fire codes require that extinguishers be inspected by an authorized service technician annually, and to have their cylinders pressure-tested at regular intervals as well.

## USING FIRE EXTINGUISHERS

### ANSWERS TO THE REVIEW QUIZ

1. a

2. a

3. b

4. a

5. b

6. a

7. b

8. a

9. b

10. a

**USING FIRE EXTINGUISHERS**  
**REVIEW QUIZ**

*The following questions are provided to determine how well you understand the information presented in this program.*

Name \_\_\_\_\_ Date \_\_\_\_\_

1. To burn, a fire must have oxygen for it to "breathe".
  - a. True
  - b. False
  
2. The labels on fire extinguishers are always marked with the classes of fires that they can extinguish safely.
  - a. True
  - b. False
  
3. All classes of fires can be safely extinguished by applying large amounts of water to them.
  - a. True
  - b. False
  
4. Heat from a fire causes sodium bicarbonate ("baking soda") to release carbon dioxide gas, which helps to smother a fire.
  - a. True
  - b. False
  
5. Foam retardants can extinguish fires that are already burning, but cannot be used to prevent a fire from occurring.
  - a. True
  - b. False
  
6. Dry chemical retardants don't work well on some Class A fires because they do not "soak into" the burning materials.
  - a. True
  - b. False
  
7. Before trying to extinguish a fire you should open any windows and doors that are located nearby.
  - a. True
  - b. False
  
8. Most portable dry chemical extinguishers will spray retardant for about 10 to 15 seconds before they run out.
  - a. True
  - b. False
  
9. Fire extinguishers should be stored safely out of sight behind furniture, plants or decorations.
  - a. True
  - b. False
  
10. Regular inspection and maintenance of fire extinguishers is an important part of every facility's fire prevention program.
  - a. True
  - b. False