Fire Extinguisher

INCIDENT

Barney’s heart pounded when he opened the back room and saw smoke and a small but growing flame. Hands shaking, he yanked a fire extinguisher off the wall. Someone had taped a note on it – “P.A.S.S.” Barney recognized the reminder, but too many months had passed since he had that safety lesson. Unable to remember the steps for using an extinguisher, he yelled for help. By the time a co-worker heard him, the room was ablaze.

NEED TO KNOW

Using a portable fire extinguisher is an important safety skill. You never know when you might have to use it at work, home or on the road.

To extinguish small fires before they become large, extinguishers’ contents smother or cool the flames. However, not everyone knows how to use an extinguisher. If a fire broke out in your work area, you need to stop it before it spreads. You wouldn’t have time to ask your safety officer to teach you how to use equipment.

Fire extinguishers have received a new letter. The well-known Class A, B, C and D extinguishers have been joined by a Class K extinguisher. This new type was designed to fight fires that involve cooking oil.

The Class K extinguisher is a response to the trend toward using vegetable oils for frying instead of animal fats. The vegetable oils cook at a higher temperature. The Class B extinguishers used previously are not effective against these hotter fires.

What else do you need to know about the Class K extinguisher?

- A Class K extinguisher should be located near any deep fat fryer where vegetable oil is used. Make sure you know where to find it quickly in an emergency.
- The route to the extinguisher must be kept clear at all

times. This means you must not place boxes, equipment or other obstructions in the path.
- The extinguisher must be maintained and serviced regularly. If it has been used, it must be refilled or replaced so it is ready to use again. Tell your supervisor if you see anything wrong with the extinguisher.
- You need training so you will understand when and how to operate a fire extinguisher. You also need hands-on practice to be able to operate a fire extinguisher in an emergency.

Most portable fire extinguishers operate in a similar manner. Use the word PASS to help you remember the steps in working an extinguisher:
P – pull the pin
A – aim at the base of the fire
S – squeeze the handle to release the extinguishing material
S – sweep from side to side until the extinguisher is empty

What about those other kinds of extinguishers besides the new K extinguisher? They are still around and useful for many other kinds of fires.

- The Class A extinguisher is used for fires in ordinary combustibles. Wood, paper, plastic and cloth are examples.
- The Class B extinguisher is used for fires involving combustible and flammable liquids – except vegetable oils.
- The Class C extinguisher is for fires in electrical equipment.
- The Class D extinguisher is a specialized one used in certain workplaces. It fights fires involving combustible metals such as magnesium.

Classes A, B and C are often combined into one extinguisher, such as the Class ABC extinguisher you probably have in your home, or the Class BC extinguisher you carry in your motor vehicle.

And remember: It’s “K” for ‘kitchen.” This is the extinguisher to use now for a cooking fire.

BUSINESS/ REGULATIONS

When OSHA conducts workplace inspections, it checks to see whether employers are complying with OSHA standards for fire safety.

OSHA standards require employers to provide **Proper Exits, Fire Fighting Equipment, And Employee Training** to prevent fire deaths and injuries in the workplace.

BUILDING FIRE EXITS

1. Each workplace building must have at least two means of escape remote from each other to be used in a fire emergency.
2. Fire doors must not be blocked or locked to prevent emergency use when employees are within the buildings. Delayed opening of fire doors is permitted when an approved alarm system is integrated into the fire door design.
3. Exit routes from buildings must be clear and free of obstructions and properly marked with signs designating exits from the building.

PORTABLE FIRE EXTINGUISHERS

- Each workplace building must have a full complement of the proper type of fire extinguisher for the fire hazards present, excepting when employers wish to have employees evacuate instead of fighting small fires.
- Employees expected or anticipated to use fire extinguishers must be instructed on the hazards of fighting fire, how to properly operate the fire extinguishers available, and what procedures to follow in alerting others to the fire emergency.
- Only approved fire extinguishers are permitted to be used in workplaces, and they must be kept in good operating condition. Proper maintenance and inspection of this equipment is required of each employer.
- Where the employer wishes to evacuate employees instead of having them fight small fires there must be written emergency plans and employee training for proper evacuation.

STATISTICS

Of the 4,401 **fires** reported, portable **fire extinguishers** successfully extinguished 4,216 **fires** (95%). A single **fire extinguisher** was **used** to extinguish the **fire** in 3,339 reported **fires** (72%). The most common types of fuel that were involved in these **fires** were Class A (47%), Class B (35%), and Class C 14%.

Fire extinguishers have proven their effectiveness in extinguishing fires, saving lives, and protecting property from fire. Most uses of fire extinguishers are never reported because users do not want the authorities (fire departments and insurance companies) to know that there was a fire. It appears that because the effectiveness of fire extinguishers is not generally known, there are those who think they are not required. Every effort should be made to ensure that, as a minimum, fire extinguishers are located and maintained in accordance with the **NFPA standards.**

RECOMMENDATIONS

Three important protocols must be followed to ensure workplace safety.

1. **EMERGENCY EVACUATION PLANNING**

   - Emergency action plans are required to describe the routes to use and procedures to be followed by employees. Also procedures for accounting for all evacuated employees must be part of the plan. The written plan must be available for employee review.
   - Where needed, special procedures for helping physically impaired employees must be addressed in the plan; also, the plan must include procedures for those employees who must remain behind temporarily to shut down critical plant equipment before they evacuate.
   - The preferred means of alerting employees to a fire emergency must be part of the plan and an employee alarm system must be available throughout the workplace complex and must be used for emergency alerting for evacuation. The alarm system may be voice communication or sound signals such as bells, whistles or horns. Employees must know the

evacuation signal.

- Training of all employees in what is to be done in an emergency is required. Employers must review the plan with newly assigned employees so they know correct actions in an emergency and with all employees when the plan is changed.

2. **FIRE PREVENTION PLAN**

- Employers need to implement a written fire prevention plan to complement the fire evacuation plan to minimize the frequency of evacuation. Stopping unwanted fires from occurring is the most efficient way to handle them. The written plan shall be available for employee review.
- Housekeeping procedures for storage and cleanup of flammable materials and flammable waste must be included in the plan. Recycling of flammable waste such as paper is encouraged; however, handling and packaging procedures must be included in the plan.
- Procedures for controlling workplace ignition sources such as smoking, welding and burning must be addressed in the plan. Heat producing equipment such as burners, heat exchangers, boilers, ovens, stoves, fryers, etc., must be properly maintained and kept clean of accumulations of flammable residues; flammables are not to be stored close to these pieces of equipment.
- All employees are to be apprised of the potential fire hazards of their job and the procedures called for in the employer’s fire prevention plan. The plan shall be reviewed with all new employees when they begin their job and with all employees when the plan is changed.

3. **FIRE SUPPRESSION SYSTEM**

- Properly designed and installed fixed fire suppression systems enhance fire safety in the workplace. Automatic sprinkler systems throughout the workplace are among the most reliable fire fighting means. The fire sprinkler system detects the fire, sounds an alarm and puts the water where the fire and heat are located.
- Automatic fire suppression systems require proper

maintenance to keep them in serviceable condition. When it is necessary to take a fire suppression system out of service while business continues, the employer must temporarily substitute a fire watch of trained employees standing by to respond quickly to any fire emergency in the normally protected area. The fire watch must interface with the employers' fire prevention plan and emergency action plan.

- Signs must be posted about areas protected by total flooding fire suppression systems which use agents that are a serious health hazard such as carbon dioxide, Halon 1211, etc. Such automatic systems must be equipped with area predischarge alarm systems to warn employees of the impending discharge of the system and allow time to evacuate the area. There must be an emergency action plan to provide for the safe evacuation of employees from within the protected area. Such plans are to be part of the overall evacuation plan for the workplace facility.

PREVENTION

When you notice a fire, sound the building's alarm and call the fire department. If you don't feel you can handle the fire, leave immediately. Get everyone out of the building. Close doors behind you to slow the flames' spread, but don't lock any doors. Stay between fire and exit so you don't let the fire block your escape.

If the fire is small enough to put out with a portable extinguisher, you can do so swiftly by telling yourself to P.A.S.S. "PASS" is an easily remembered abbreviation describing the four-step process for most fire extinguishers: Pull, Aim, Squeeze and Sweep.

- **PULL** the pin. On some extinguishers, you release a latch or press a lever.
- **AIM** the nozzle at the base of the fire.
- **SQUEEZE** or press the handle. Or you may have to press a button to discharge the extinguishing agent.
- **SWEEP** from side to side, aiming at the base of the fire until the flames appear to be out. Repeat if the fire

reappears.
- Don’t turn your back on a fire once you think it’s out, because it could flare up again.
- Avoid breathing smoke, fumes or extinguishing agent.
- Take care of the extinguisher and recharge it after each use.

Monthly inspections will do the following:

- Ensure the fire extinguishers are present where they’re supposed to be.
- Ensure the fire extinguishers are in good condition and ready for use.
- Ensure the fire extinguishers do not need any service, maintenance or annual certification.

Training

- You need training so you will understand when and how to operate a fire extinguisher and hands-on practice to be able to operate a fire extinguisher in an emergency.
- Most portable fire extinguishers operate in a similar manner. Use the word PASS to help you remember the steps in operating an extinguisher.

P – pull the pin

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S –sweep from side to side until the extinguisher is empty

OSHA prohibits the use of fire extinguishers by anyone that has not been properly trained to use them. Training should be done annually and should also include a periodic practical component to give workers an opportunity to practice actual use.

Performing Inspection Effectively

- Make sure the extinguisher is in its designated place, is easily visible, and has unobstructed access for immediate

use in case of emergency.

- Check that the annual certification tag is present and the fire extinguisher is within its service date interval. Tags indicate the last date of inspection so if a tag is labeled 2018 and the October option is punched or indicated that means it was last inspected in October of 2018 and needs to be re-inspected by a certified testing service by the end of October 2019.
- Check the pressure gauge for damage and that the indicator needle is within the operating (green) range. If the needle is out of the operating range it may indicate a loss of pressure, an equipment failure, or that it has been used.
- Remove the extinguisher from the mounting system to ensure it is easily accessible and that the mounting bracket/system is secure and in good condition.
- Check the extinguisher body and all external metal parts for signs of damage or corrosion. If damage is found remove extinguisher from service and replace. Have extinguisher inspected by certified testing service.
- For dry-powder extinguishers turn the extinguisher upside down and shake to loosen extinguishing media.
- Check to make sure the safety pin is in place and secured with an easily removable retention device, usually a breakaway zip-tie or similar.
- Check the hose and nozzle for damage.
- Check the labels for damage and legibility. The labels should clearly indicate the extinguisher’s size and capability. Ensure the correct fire extinguisher is in the designated location.
- Record the inspection. Most annual certification tags have a grid on the reverse side for this purpose. Record the date of inspection and the initials of the person performing the inspection.