Emergency Preparedness

Emergency Action Plans: What to Know About Fire Extinguisher Training

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Fires happen. And in manufacturing environments, the potential for a fire-related incident means you need to be ready to keep your employees safe should disaster strike. Are you prepared to handle a fire emergency?

The potential for fires in manufacturing and metalworking environments exists—even when employees and safety teams use best practices in addressing hazards and reducing risks. That's particularly true when chemicals and high-voltage electrical equipment are in use.

The most recent data on fires in U.S. industrial and manufacturing facilities shows that nearly 38,000 fires are reported each year, according to a ***2018 report from the National Fire Protection Association***.

"Structure fires are more common in manufacturing or processing properties," NFPA says, and adds that "electrical distribution and lighting equipment was involved in 24 percent of structure fires."

In fact, most facilities are required to have an emergency action plan to respond to a fire incident.

"If fire extinguishers are required or provided in your workplace, and if anyone will be evacuating during a fire or other emergency," the Occupational Safety and Health Administration's fire protection standard (***29 CFR 1910.157***) requires that your business have an EAP, the ***agency*** explains.

Get tips on how to practice your emergency action plan in our article "Emergency Preparedness Training: Tabletop Exercises vs. Mock Drills."

What Is an Emergency Action Plan, and Why Is It Needed?

What Are the Different Types of Fire Extinguishers?

Five types of ***portable fire extinguishers*** are typically deployed in businesses. Here's a breakdown by type and use:

- **Water:** Pressurized water extinguishers used for basic combustibles, such as wood, paper, cloth, rubber, trash and plastics
  (Class A fires)

- **Halotron:** Blends of chlorine, fluorine, carbon and hydrogen used for fires near electronic and data equipment
  (Class A, B and C fires)

- **Carbon dioxide:** Highly pressurized carbon dioxide used for fires near computer rooms, clean rooms and electronic motors
  (Class B and C fires)

- **Dry chemical:** Monoammonium phosphate, sodium bicarbonate or potassium bicarbonate used for fires sparked by basic combustibles as well as flammable liquids and electrical equipment
  (Class A, B and C fires)

- **Wet chemical:** Potassium acetate, carbonate or citrate used for fires involving cooking oils and fats in commercial kitchens
  (Class K)

Learn the details of the different fire classes ***here***. Portable fire extinguisher types as well as best practices for installing and maintaining extinguishers are described in ***NFPA 10*** from the National Fire Protection Association.

So what is an emergency action plan, and why should you have one?

An EAP is a site-specific plan created by your safety manager or team that details the actions your employees are to follow in an emergency. It documents who, what and in what order those response actions are to take place.

"The main reason to have an emergency action plan is to do as much as possible to keep your employees safe in case of disaster," explains the ***OSHA Education Center***. "The confusion of an emergency can make a bad situation worse and put lives at risk."

An EAP has multiple elements, but here are a few key things OSHA recommends to keep in mind:

- Make sure to plan for worst-case scenarios. That will reduce surprises if a fire erupts.

- Be sure to regularly check your emergency contacts list to address changes in employees and contact details.

- Plan for how emergency contacts will communicate with one another and how you will communicate broadly with employees.

- Coordinate in advance with local fire and rescue departments, which should be named in your plan.

OSHA provides a printable ***EAP checklist*** to help you work through developing your own plan. And the Centers for Disease Control and Prevention also has an ***EAP template*** that you can use for all your emergency preparedness planning.

The 5 Main OSHA Requirements for Fire Extinguishers

The Occupational Safety and Health Administration ***requires*** that fire extinguishers be:

- Approved by a recognized testing laboratory, such as UL
- Appropriate type for the class of fire expected
- Easily accessible and able to deal with the expected class of fire
- Maintained in good operating condition and inspected regularly
- Used only by trained personnel

What You Should Know About Fire Extinguisher Training in the Workplace?

Businesses must decide as part of their EAPs if they should have personnel use ***fire extinguishers*** to help put out small fires or to help fight a fire until professional firefighters arrive.

The safest thing always is to evacuate employees, OSHA says. But a company might want to reduce the risks to its business by designating employees to handle small fires. Additionally, if a business is several miles from the fire department, it might also choose to have employees use fire extinguishers to help control or contain a blaze.

Either way, OSHA notes, the employees must be trained—about how to use fire extinguishers and their limitations. That requires understanding the ***different types of fire extinguishers and classes*** for which each type should be used.

Signs and posters, like this fire extinguisher classification poster from ***National Marker Company***, can help provide reinforce that information and keep authorized employees ready for an emergency.

Classification & operation guide

FIRST
Determine the type of fire, then choose a class below

Caution
Do not use the fire extinguisher if it is not rated for the class of fire you are experiencing.

A

Ordinary Combustibles

COMMON COMBUSTIBLES
Class A extinguishers consist of water.
Use for trash, paper, fabric, wood, rubber and plastics. They are common in typical home and commercial settings, but can appear anywhere these types of materials are found.

B

Flammable Liquids

FLAMMABLE LIQUIDS
Class B extinguishers consist of dry chemicals.
Use for grease, oil, kerosene, solvents, paint, flammable gas, lacquers, gasoline and other synthetic or oil base products. These types of fires can spread rapidly and, unless properly secured, can reignite after the flames are extinguished.

C

Electrical Equipment

LIVE ELECTRICAL EQUIPMENT
Class C extinguishers consist of dry chemicals.
Use for plugged-in electrical equipment, such as wiring, controls, motors and computers. Requires a non-conductive extinguisher agent.

D

No Symbol
Combustible Metals

COMBUSTIBLE METALS
Class D extinguishers consist of special fluids or dry chemicals.
Use for magnesium, titanium, sodium & zirconium. These types of fires are unusual industrial hazards which require special dry powder agents.

K

Cooking Media

Cooking Media
Class K extinguishers consist of wet, alkaline mixture (typically potassium-based agent).
Use for combustible cooking media (vegetable or animal oil, grease, fat). These types of fires are common in commercial kitchens and, if proper extinguisher is not used, have the ability to reflash.

FIRE Portable EXTINGUISHER SAFETY

Occupational Safety and Health Administration (OSHA)
Occupational Safety and Health Standards
29 CFR Part 1910
Subpart "L" - Fire Protection
Standard 1910.157

NMC
National Marker Company

Product: **PS-FE-160**

“Evacuation plans that designate or require some or all of the employees to fight fires with portable fire extinguishers increase the level of complexity of the plan and the level of training that must be provided employees,” the agency explains.

When Should You Replace Your Fire Extinguishers?

Unless you buy extinguishers that are refillable, once you use an extinguisher, it will need to be replaced. That’s also true if someone accidentally discharges one.

Here are some additional issues that suggest you will need to replace your extinguishers if these are spotted during monthly or annual inspection:

- Missing the inspection sticker or hangtag
- Cracked, ripped or blocked hose or nozzle
- Missing or unsealed locking pin
- Broken or loose handle
- Visible corrosion or rust
- Leaking occurs

Basically there are four options to consider:

- **Option 1:** Everyone evacuates the building if a fire breaks out.
- **Option 2:** Designated and trained employees use provided fire extinguishers while all other employees evacuate.
- **Option 3:** All employees are trained and authorized to use extinguishers.
- **Option 4:** Extinguishers are provided but not for use by any employees.

OSHA has a ***risk assessment*** as part of its Evacuation Plans and Procedures eTool to help companies evaluate whether it makes sense to have employees take on the initial work of battling a fire and under what circumstances.

In every instance where employees are authorized to use extinguishers, they must be trained upon their hiring and then retrained yearly.

“Make sure that you capture the names of all trained employees attending sessions,” safety expert Curtis Chambers told ***SHRM***. “And more importantly, go back and identify all those workers who were absent due to sickness, vacation or other reasons on training day and get them into a makeup session so you can document their attendance.”

In addition, businesses must visually inspect their extinguishers monthly, though no reporting of these inspections is required. Annual inspections require documentation.

Have you had to respond to a fire emergency at your facility? How did it change your emergency preparedness planning?