By the Numbers – Fire Extinguishers

fire extinguishers

DID YOU KNOW?

According to the Bureau of Labor Statistics, fires and explosion accounted for 148 workplace deaths in 2013—or 3.4% of all fatal occupational injuries for the year. Despite industry and regulatory efforts to improve fire safety, this number (and percentage) has remained stubbornly constant since 2007. Despite this levelling off, it's clear that OSHA intends that employers should remain committed to finding ways to reduce the number of fire-related fatalities in the workplace, and intends to enforce a high standard for fire safety.

OSHA stipulates that businesses should train workers regarding potential fire hazards in their workplace, and also on what procedures should be followed in the event of a fire emergency. OSHA recommends that all employers have an emergency evacuation/action plan in place in case of fire—featuring safety assignments for key personnel—and *requires* these plans for certain industries, such as hazardous chemical processing.

Many of OSHA's fire safety recommendations are industry- or even job-specific. For example, in the construction industry, OSHA calls for a "fire plan" to be formulated prior to any demolition job. Other OSHA-mandated standards – like the presence of adequate fire exits – are required in *every* industry.

There are many common misconceptions related to OSHA's fire safety requirements. One is that all employers are required to have portable fire extinguishers on-site. While this is not the case in most industries, OSHA does require that if employers *do* choose to provide extinguishers, employees must be trained on their use. Another misconception is that OSHA requires all employers to

have fixed extinguishing or automatic sprinkler systems in all workplaces. Again, only in certain industries are these systems mandated. However, if they *are* in place, then OSHA can potentially enforce standards for their testing and maintenance.

The 5 frightening statistics of fire safety in the workplace

1. Less than 50% of building occupants feel confident of knowing what action to take and where to evacuate to during an emergency
2. Less than 50% of building occupants feel confident in how to operate a fire extinguisher
3. Less than 25% of people when randomly tested can locate their nearest fire extinguisher from memory without searching the building
4. Over 50% of the people who operate a fire extinguisher do so incorrectly or dangerously (i.e. not using the correct extinguisher, not sweeping across the fire, not continuing to spray after the fire is out and not aiming at the base of a fire or using the incorrect fire extinguisher)
5. Only 13% of people are aware that different types of fire extinguishers must be used on different classes of fire and of the very dangerous effects of using the incorrect fire extinguisher on specific classes of fire

After reviewing various fire safety research papers and conducting some of our own research to test the accuracy of these findings, the statistics above paint an alarming picture of the state of emergency preparedness and readiness within Australian workplaces.

Our research found that workplaces are underprepared for emergencies that may occur on-site and employees are not confident in the procedures to follow during an emergency situation or how to use fire extinguishers.

How can workplace fire safety training benefit your organization? What is the impact?

Both Australian and international fire statistics show that:

95% of all fires are found to be extinguishable if the correct fire extinguisher is applied promptly. Fire extinguishers are located throughout Australian workplaces as part of their compliance with Australian Standard AS1851 and the Building Code of Australia (BCA), however the majority of people are fearful of fire extinguishers or do not understand how to operate a fire extinguisher in an emergency.

Fire extinguishers are quick and easy to use if personnel are provided with a basic level of fire extinguisher training so that they can identify the class of the fire that is burning, identify the appropriate fire extinguisher to use and effectively operate the fire extinguisher in a range of circumstances.

Our research found that:

- Fire safety training increases the knowledge and emergency response actions of building occupants when confronted with a fire or emergency situation.
- By conducting annual evacuation exercises (as is a mandatory requirement under AS3745-2010), building occupants will obtain more confidence in following emergency procedures for their workplace and they will better understand what emergency actions to take for themselves and their workplace colleagues.
- By conducting regular fire safety training, building occupants improve their knowledge about the location and operation of site firefighting and emergency equipment.
- After attending a basic fire extinguisher training session (where each participant operated a fire extinguisher on a real fire) over 90% of people operated the fire extinguisher correctly on their second attempt and they were 33% more effective in extinguishing the fire (they selected the correct fire extinguisher, they cooled the area after the fire was out and they aimed at the base of the fire).

By providing your staff with basic fire safety training you will increase the knowledge of fire safety within your workplace and grow the confidence and competence of your staff in responding to an emergency and you are encouraging your staff to extinguish

small workplace fires before they grow large and potentially interrupt your business operations.

KEEP IN MIND

The best-case scenario will place extinguishers in highly visible, clearly labelled locations that are sufficiently low to the ground so that even shorter employees can easily reach them. Clear instructions in large print font should be printed and placed right beside the extinguisher sign.

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.

REGULATIONS – OSHA

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.

MONTHLY INSPECTIONS:

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

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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.

AGONY OF THE MOMENT

What would you do if you suddenly saw or smelled a fire in your

work area?

Here are the roadways:

Notify others: Are emergency numbers posted in a visible location next to the telephone in your work area? Do you know how to describe your exact location to the fire department? Where is the nearest fire alarm? Do you know how to activate it?

Follow the emergency plan: What is your company's emergency plan? Where would everyone meet so your supervisor can be sure you are safely out? Who is responsible for helping co-workers needing assistance? Do you have any other duties such as closing windows and doors or checking employee washrooms?

Find your exits: Which fire exits would you use? Can you find two fire exits—right now— from the room that you are in? Always plan two escape routes, so if one becomes blocked by fire you have an alternative exit.

Use the stairs. Do you know that you should never use an elevator when the fire alarm sounds? Elevators can jam between floors or accidentally drop to the floor that the fire is on. When the doors open, you could be subjected to flames, hot gases and toxic smoke.

Fight or flee: Do you know how to use a fire extinguisher? Some small fires, about the size of a wastepaper basket, can be successfully fought with a portable fire extinguisher. But if you're not sure what you are doing with the extinguisher or if the fire is spreading, get out!

You should not fight a fire when:

- A properly rated fire extinguisher is not readily available.
- You are not trained or do not feel comfortable using a fire extinguisher.
- There is a chance that the fire could block your escape route.
- The fire is too large to fight or seems out of control.