

TOOLBOX TALK NO.32

Fire Safety

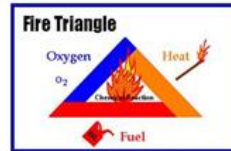


Most fires are preventable. Those responsible for workplaces and other buildings to which the public have access can avoid them by taking responsibility for and adopting the right behaviours and procedures.

General fire safety hazards

Fires need three things to start – a source of **ignition (heat)**, a source of **fuel (something that burns)** and **oxygen**:

- sources of ignition include heaters, lighting, naked flames, electrical equipment, smokers' materials (cigarettes, matches etc.), and anything else that can get very hot or cause sparks e.g. grinding
- sources of fuel include wood, paper, plastic, rubber or foam, loose packaging materials, waste rubbish and furniture
- sources of oxygen include the air around us



How fire can be spread

- **Conduction** – Where heat is transmitted from one place to another along or through solid material.
- **Convection** – Where superheated gases or heat rising from a fire ignites other combustible material or when particles of burning material in the circulating air are deposited in another place.
- **Radiation** – The transfer of radiated heat from fire, through the air directly to other flammable materials nearby.
- **Direct Burning** – A combination of conduction, convection and radiation and is where the fire spreads and reaches other combustible materials and ignites them, adding further fuel to the fire.

What do we have to do?

- Carry out a fire safety risk assessment – ask your supervisor if in doubt
- Keep sources of ignition and flammable substances apart
- Avoid accidental fires, e.g. make sure heaters cannot be knocked over. Ensure grinding and other hot works have a permit.
- Ensure good housekeeping at all times, e.g. avoid build-up of rubbish that could burn
- Consider how to detect fires and how to warn people quickly if they start, e.g. installing smoke alarms and fire alarms or bells
- Have the correct fire-fighting equipment for putting a fire out quickly
- Keep fire exits and escape routes clearly marked and unobstructed at all times
- Ensure your workers receive appropriate training on procedures they need to follow, including fire drills
- Review and update your risk assessment regularly
- Ensure you follow the correct procedure e.g. closing down a hot work permit. You may be asked to stay at the point of work for a period of time (typically 1 hour)

**SAFETY AS
STANDARD**

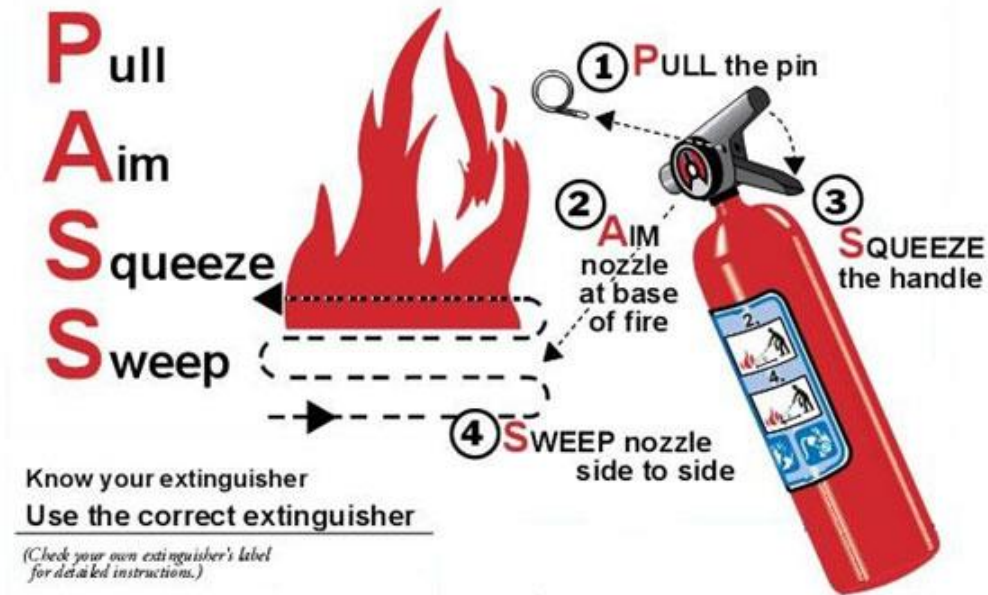
Fire Extinguisher Chart

Extinguisher		Type of Fire				
Colour	Type	Solids (wood, paper, cloth, etc)	Flammable Liquids	Flammable Gasses	Electrical Equipment	Cooking Oils & Fats
	Water	✓ Yes	✗ No	✗ No	✗ No	✗ No
	Foam	✓ Yes	✓ Yes	✗ No	✗ No	✓ Yes
	Dry Powder	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✗ No
	Carbon Dioxide (CO2)	✗ No	✓ Yes	✗ No	✓ Yes	✓ Yes

The classes of fire

- Class A** Carbonaceous material (such as paper, cloth, wood and rubber) often referred to as solid fuel fires.
- Class B** Flammable liquids or liquefiable solids such as oil, fat, paint and fuel. These can be divided into:
- B1. Fires involving liquids that are soluble in water. These can be extinguished by carbon dioxide, dry powder and water spray.
 - B2. Fires involving liquids that are no soluble such as petrol and oil. These can be extinguished using foam, carbon dioxide and dry powder
- Class C** Flammable gases or liquefied gases such as hydrogen and propane
- Class D** Combustible materials such as magnesium and sodium
- Electrical Fires** Any fire involving electrical apparatus or equipment
- Class F** High temperature cooking oils or fats such as those used in deep fat fryers.

To operate an extinguisher:



Fire Prevention

- Don't block heaters in changing rooms by hanging wet clothes over them.
- Don't let paper and packaging build up on site.
- Do not smoke on site. Only in designated smoking zones.
- Always use purpose made containers for flammable liquids. Always keep the lids on flammable liquids or liquids with high VOC's.
- Don't overload electrical sockets.
- Ensure that flammable liquids and combustible materials are never stored together.
- Do not use halogen task lighting.
- Always switch off electrical equipment when not in use.

Fire Precautions

- Make sure you know what to do in case of a fire.
- Make sure you know your escape routes and assembly points.
- Keep escape routes clear.
- Don't block access to fire points and extinguishers.

Actions In Event of Fire

- Raise the alarm and then call the fire brigade.
- Close doors and windows to prevent the fire spreading
- Evacuate the area or building.
- If trained to do so, fight the fire with the extinguishers at hand. **DON'T PUT YOURSELF AT RISK!** Always ensure you have an escape route.

Question:

What type of fire can water be used on?

List five ways of preventing fire?

Which extinguisher should you use for flammable liquids?