

FIRE SAFETY

Fire is a rapid chemical reaction or series of reactions where heat and light are emitted.

Normally it is the rapid emission of heat that causes moderate or severe damage, associated with un-burnt and sometimes toxic fumes along with poisonous gases.

The minimum requirement for a flame is: -

- a **fuel** (that could be a gas or vapour) within certain limits of concentration
- a supply of **oxygen**, above a certain minimum concentration (generally air)
- an **ignition source** above a minimum temperature, energy and duration.



It follows that the elimination of one of the elements will ensure that a fire cannot occur.

A substance that will support combustion is a flammable material.

The risk of fire in the workplace can be minimised by:

- keeping heat sources away from combustible material
- never making makeshift repairs to electrical equipment
- never overloading electrical power supplies
- using cutting or burning or welding equipment in designated areas, and if this cannot be done then by removing combustible materials and completing a risk assessment of the site before work starts
- ensuring smoking materials are disposed of correctly in a suitable receptacle.

There are five commonly available fire extinguishers.

These are all coloured red if manufactured after January 1998; however the contents may be identified by a coloured panel on the extinguisher. The panel is coloured according to the contents of the extinguisher.

Extinguisher type:

Water
Foam (AFFF)
Dry powder
Carbon dioxide

Colour coded:

RED
CREAM
BLUE
BLACK

Halon or BCF extinguishers have generally been withdrawn from use; however they are colour coded as follows:

Halon (BCF)

GREEN

Fire extinguishers acquired before January 1998 may still be in service, and these have the entire extinguisher coloured according to the contents. A blue extinguisher would contain dry powder for example; a black extinguisher would contain carbon dioxide, etc.

It is important that the correct fire extinguisher is used for the type of fire that may occur:

Material involved in the Fire	Extinguisher type				
	Water	Foam	Carbon dioxide	Dry powder	Halon (e.g. BCF)
Solid material, paper, wood, etc.	Yes	Yes	Yes Small fires only	Yes	Yes* Small fires only
Flammable liquids or liquefiable solids	No	Yes	Yes	Yes	Yes
Where electricity may be present	No	No	Yes	Yes	Yes*

*Toxic products may be produced and care must be exercised after use in confined spaces.

Care must be exercised when using a fire extinguisher as some fires cannot be fought with specific types of extinguisher.

Extinguishers must be subject to regular inspection – check that they are fully charged at least each month in the area(s) where you work, and that an annual examination by a competent person takes place. A label attached to the extinguisher normally indicates the date the annual inspection is due.

- Never attempt to fight a fire unless it is safe to do so – you must have an escape route available to you.
- Never fight a fire unless you have been trained to use fire equipment.

Remember, prevention is always better than fighting the fire, so ensure suitable precautions are taken at all times

QUESTIONS – (there may be more than one correct answer)

		A	B	C
1	What type of fire extinguisher can be used on all three types of materials in a fire?	C02	Water	Powder
2	To minimise the risk of a fire, what should you do?	Store combustible materials with heat sources	Always attempt to repair electric appliances	Never overload electrical power supplies
3	If any electrical equipment is damaged should you?	Tell a colleague	Report it to your supervisor immediately	Report it later, because you are busy
4	What extinguisher should not be used on electrical fires?	Water	C02	Foam
5	If you find a Halon extinguisher, what should you do?	Leave it where it is	Report it to your supervisor	Tell a colleague

