

Fire Prevention Training

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Fires destroy 28,000 industrial facilities each year, causing \$596 million in direct property damage. Ninety percent of these fires can be attributed to human error. Fires can be prevented with an awareness of the hazards and safe work practices.

These include: good housekeeping practices, proper procedures when handling flammable material, knowing what to do if a fire breaks out, and the proper use of fire extinguishers. Keep passage ways and exits clear, ensure fire extinguishers and fire alarm pull stations are accessible at all times. Place trash in proper receptacles, and ensure that fire doors are not propped open.

A fire needs three elements to exist: oxygen, heat and fuel. Fuel is anything that will burn when exposed to heat. It can be a solid, liquid or gas. Fuel sources include paper, wood, oil, grease, chemicals, and flammable liquids. The leading heat sources that could cause these fuel sources to burn include electricity, cigarettes, cutting and welding, sparks from tools, and friction. To prevent a fire from occurring, you need to eliminate any of the elements needed for a fire to exist. Good housekeeping can help you to separate the heat sources from fuel sources. This is done by keeping waste to a minimum, equipment well maintained, and storage areas organized. A poorly kept facility increases the chances for a fire and allows a fire to quickly get out of hand.

Useful Terminology :

Flammable Liquids are commonly used in the work environment and are often taken for granted. Liquids, themselves, do not burn, but they form vapors that do burn.

Flashpoint is the lowest temperature at which the vapor from combustible liquid can be made to ignite. The lower the flashpoint, the more dangerous the liquid.

Flammable Range is the volume of vapor needed in the air for a fire to start if it needs a heat source. It is measured in percentages.

Spontaneous Combustion occurs when a flammable liquid catches on fire without an outside heat source, such as a spark or a match. The temperature at which this occurs is called the Ignition Temperature.

Fire Extinguishers are classified according the type of fire they are effective against. The type of fuel that a fire is composed of determines its classification.

Class A Fires are composed of dry combustibles like paper, wood, and plastics. Class A extinguishers contain water to remove the heat from the fire.

Class B Fires are usually fueled by grease, oil, paint, or flammable liquids. Class B extinguishers contain dry chemicals, carbon dioxide, or other agents.

Class C Fires are electrical fires. An extinguisher rated for class C fires contains an agent that is non-conductive.

Class D Fires are used on exotic metals such as magnesium, sodium, and potassium. No other fire extinguisher is effective against these combustible metal fires. Using an extinguisher that is not properly rated for the fire could actually spread the fire and make it worse.

Using a Fire Extinguisher:

When using a fire extinguisher remember the acronym **P.A.S.S.**

- ◆ Pull the pin.
- ◆ Aim low, at the base of the fire.
- ◆ Squeeze the handle to release the extinguisher agent.
- ◆ Sweep from side to side to keep the fire from spreading.