

# FIRE SAFETY

**HOW FIRES START:** Fire is a **chemical reaction** involving rapid oxidation or burning of a fuel. It needs three elements to occur:



**FUEL** - Fuel can be any combustible material - solid, liquid or gas. Most solids and liquids become a vapor or gas before they will burn.

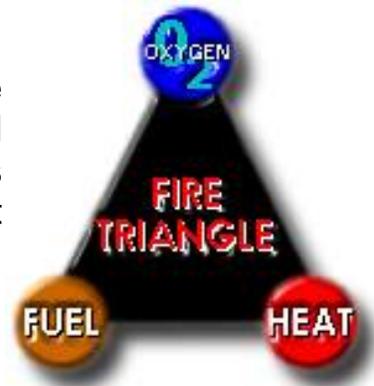


**OXYGEN** - The air we breathe is about 21 percent oxygen. Fire only needs an atmosphere with at least 16 percent oxygen.



**HEAT** - Heat is the energy necessary to increase the temperature of the fuel to a point where sufficient vapors are given off for ignition to occur.

**CHEMICAL REACTION** - A chain reaction can occur when the three elements of fire are present in the proper conditions and proportions. Fire occurs when this rapid oxidation, or burning takes place. Take any one of these factors away, and the fire cannot occur or will be extinguished if it was already burning.



## HOW TO PREVENT FIRES

### Class A — Ordinary combustibles:



- Keep storage and working areas free of trash.
- Place oily rags in covered containers.

### Class B — Flammable liquids or gases:



- Don't refuel gasoline-powered equipment in a confined space, especially in the presence of an open flame such as a furnace or water heater.
- Don't refuel gasoline-powered equipment while it's hot.
- Keep flammable liquids stored in tightly closed, self-closing, spill-proof containers.
- Store flammable liquids away from spark-producing sources.
- Use flammable liquids only in well-ventilated areas.



### **Class C — Electrical equipment:**

- Look for old wiring, worn insulation and broken electrical fittings. Report any hazardous condition to your supervisor.
- Prevent motors from overheating by keeping them clean and in good working order. A spark from a rough-running motor can ignite the oil and dust in it.
- Utility lights should always have some type of wire guard over them. Heat from an uncovered light bulb can easily ignite ordinary combustibles.
- Don't misuse fuses. Never install a fuse rated higher than specified for the circuit.
- Investigate any appliance or electrical equipment that smells strange. Unusual odors can be the first sign of fire.
- Don't overload wall outlets. Two outlets should have no more than two plugs.

### **How to use a portable fire extinguisher? P A S S**

**P**ull the Pin.

**A**im the extinguisher nozzle at the base of the flames.

**S**queeze the trigger while holding the extinguisher upright.

**S**weep the extinguisher from side to side, covering the area of the fire.

### **WHEN NOT TO FIGHT A FIRE?**

In any of these situations, **DON'T FIGHT THE FIRE YOURSELF**. Never fight a fire:

- If the fire is spreading beyond the spot where it started.
- If you can't fight the fire with your back to an escape exit.
- If the fire can block your only escape.
- If you don't have adequate fire-fighting equipment.

**CALL FOR HELP.** Always **call 911 immediately if you have a fire.**

Fire doubles in size every minute, so the first few minutes are critical. If you attempt to fight a fire for five or ten minutes before you call, the damage will be extensive.