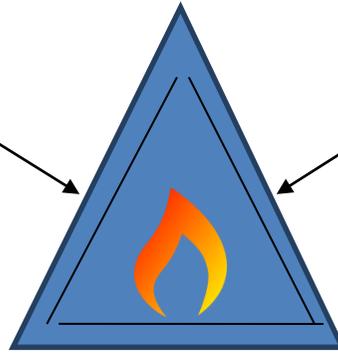


# Combustion Triangle.

## Oxygen

As well as fuel and heat, fires also need oxygen to stay alight. Ambient air is made up of approximately 21% oxygen and, as most fires only require at least 16% oxygen to burn, it acts as the oxidising agent in the chemical reaction. This means that when the fuel burns, it reacts with the oxygen to release heat and generate combustion.



## Heat

In addition to a fuel source, heat must be present in order for ignition to take place. All flammable materials give off flammable vapours which, when heat is present, combust. Heat is also responsible for the spread and maintenance of fire as it removes the moisture from nearby fuel, warming the surrounding area and pre-heating fuel in its path, enabling it to travel and develop with greater ease.

## Fuel

In order for a fire to start there must be a material to burn – and this is referred to as the fuel. Fuel is any kind of combustible material, including paper, oils, wood, gases, fabrics, liquids, plastics and rubber. The fuel for a fire is usually characterised by its moisture content, size, shape and quantity and this will determine how easily the fuel will burn and at what temperature.