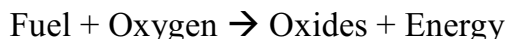


Combustion



What is combustion? It is the very rapid reaction of a substance with oxygen to produce compounds called oxides.



The energy which is produced is mainly in the form of heat and light.

Hydrocarbons

These are compounds composed of carbon and hydrogen in a variety of ratios.

Some examples of hydrocarbons include gasoline for a car, natural gas for a home furnace, or kerosene in a lamp.

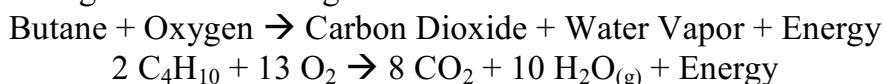
When hydrocarbons combust, they may either undergo complete combustion or incomplete combustion.

Complete hydrocarbon combustion

The word equation is:

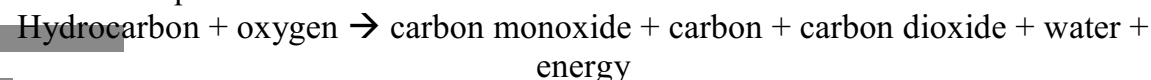


Ex: The burning of butane in a lighter



Incomplete hydrocarbon combustion

The word equation is:



What type of combustion do you have?

Incomplete combustion occurs when there is not enough oxygen available.

When this happens you get carbon monoxide, and carbon produced as well as carbon dioxide water and energy. The easiest way to tell if you have complete or incomplete combustion is by the presence or lack of soot (a black coating). If soot is present, you have incomplete combustion, if it is not, you have complete combustion.

What type of reaction is combustion? Is it endothermic or exothermic, and what type of chemical reaction is it?

Why should you not use your BBQ in the garage?

Bunsen burner



A Bunsen burner will have a different flame type depending on how much air is coming through the air holes at the bottom.

- 1) Air holes closed
- 2) Air holes half open
- 3) Air holes nearly fully open
- 4) Air holes fully open

Less air yields an incomplete, and cooler reaction, while a gas stream well mixed with air, will provide a complete and hotter reaction.

When you light the Bunsen burner, you should always have the air intake at the bottom closed, why is this?

You get a dirty flame, when

You get a clean flame, when

Explosions:

These are a type of combustion, but they occur when the reaction produces a lot of gas. Since most explosions are carried out inside small canisters, the rapid production of gas in a small place leads to an explosion.

An example of an explosive is dynamite.