Background pattern

Description automatically generated

**General formula**

Alkane: **CnH2n+2**​

Alkene: **CnH2n**​

**Naming alkanes**

Meth 1 carbon

Eth 2 carbon

Prop 3 carbon

But 4 carbon

Pent 5 carbon

Hex 6 carbon

**Alkenes**

Alkenes are unsaturated, this means that they contain a carbon carbon double bond.

As a results alkenes are very reaction.

Alkenes can be used to make polymers.

Alkenes will react with bromine water and turn it from orange/brown to colourless. This is a way to test for a double C=C bond in a molecule.

**Combustion**

When a hydrocarbon burns in oxygen carbon dioxide and water are produced. This is called complete combustion.

If there is not enough oxygen present incomplete combustion occurs. Carbon monoxide is made which is poinsonous.

**Properties of hydrocarbons**

These change as the length of the carbon chain changes.

**What is fractional distillation?**

Unrefined crude oil is useless.

Molecules of different sizes must be separated.

This is done in an oil refinery.

The different mixtures are called fractions.

It works due to different sized molecules having different boiling points.

**What is crude oil?**

**Crude oil,**

Crude oil is a thick, dark, smelly liquid.

Made naturally from animals over millions of years.

Finite resource.

A mixture of around 150 hydrocarbons.

**Alkanes**

Compounds containing only carbon and hydrogen. All atoms are joined by single covalent bonds, so they are saturated.

**Homologous series**

Same general formula.

Differ by CH2

Gradual variation in physical properties

Similar chemical properties

As the size of the hydrocarbon increases the molecule becomes:

More viscous

Less flammable

Higher boiling point

Les volatile

**Properties of hydrocarbons**

**Boiling point:** temperature a substance turns from a liquid to a gas

**Volatility:** How easy it is for a substance to change from a liquid to a gas

**Viscosity:** How thick a liquid is

**Flammability**: How easy it is for a substance to catch fire

**Hydrocarbon:** A compound containing only hydrogen and carbon atoms

**Alkane:** A saturated hydrocarbon

**Crude oil:** A liquid mixture of hydrocarbons found in the ground

**Cracking**

Cracking is a reaction in which larger saturated hydrocarbon molecules are broken down into smaller one. A by product is an alkene. Alkenes belong to a different homologous series.

**Hydrocarbons**

Hydrocarbons are molecules which are made from hydrogen and carbon atoms.

**Year 11 C7: Organic Chemistry**

**Ambitious Vocabulary**

Classification

Compare

**Science**