

HYDROCARBON

These are compounds that contain both hydrogen and carbon only

They have a molecular formula of C_xH_y (note X and y are positive whole numbers).

Sources of Hydrocarbon

Natural gas like gaseous fuel

petroleum/crude oil

Coal as a solid fuel

Saturated and unsaturated Compounds

Saturated Compounds: these are compounds that contain a single covalent bond.

Alkanes



Unsaturated Compounds: these are compounds that contain both double and triple bonds.

Alkenes



Alkynes



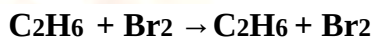
Test for unsaturated compound

Prepared by MAlike Shamel

<https://www.facebook.com/shamelonlineteaching/>

<https://sites.google.com/view/shamelonlineteaching/home>

1. To test whether the hydrocarbon is unsaturated or saturated Bromine test is performed, which involves the addition of bromine water to the hydrocarbon in question; unsaturated hydrocarbons decolorized the bromine water, whereas saturated hydrocarbon will not decolorize it. Bromine water which is brownish-red on reaction with alkene or alkyne i.e. unsaturated compounds forms di or tetra halo compounds which are colorless in nature. while saturated compounds i.e. alkane do not react with bromine water and the color of bromine water remains the same.



2. Alkaline potassium permanganate test (Baeyer's test):

In this test the pink color potassium permanganate disappears when alkaline potassium permanganate is added to an unsaturated hydrocarbon. The disappearance of the pink color may take place with or without the formation of a brown precipitate of manganese oxide.

Note: Decolourization of the pink color of KMnO_4 indicates unsaturation.

The chemical reaction is given below.



(Colourless)

Another test

They rapidly turn acidified orange potassium heptaoxodichromate (VI) solution to green.

