

Chemistry - 10th Class Chemistry English Medium Chapter 12 Preparation

Q1. Define hydrocarbons.

Ans 1: Hydrocarbons are those compounds which are made up of only carbon and hydrogen elements.

Q2. What is Synthetic detergents.

Ans 1: Long chain hydrocarbons obtained from petroleum are used to make synthetic detergents and washing powders. These detergents are sodium salts of alkyl hydrogen sulphate. These detergents have better and stronger cleaning properties than that of sofaps. They can be used even in hard water.

Q3. What do you mean by halogenations?

Ans 1: A reaction in which one or more hydrogen atoms of a saturated compounds are replaced with halogen atom is called halogenations.

Q4. Why the burning of alkanes require sufficient supply of oxygen?

Ans 1: Alkanes burn in the presence of excess of air or oxygen to produce a lit of heat, carbon dioxide and water. This reaction takes place in automobile combustion engines, domestic heaters and cooking appliances. It is highly exothermic reaction and because of it alkanes are used as fuel

 $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$ +heat

Ans 2: In the limited supply of oxygen, there is incomplete combustion. As a result, carbon monoxide is produced that creates suffocation and cause death. In this limited supply of oxygen, there is incomplete combustion. As a result, carbon monoxide is produced that creates suffocation and cause death

 $3CH_4 + 4O_2 \rightarrow 2CO + C + 6H_2O$

Q5. Justify the alkane give substitution reaction

Ans 1: A reaction in which one or more hydrogen atoms of a saturated compound are replaced with some other atoms (like halogen) is called a substitution reaction. Because alkanes has single bonds not double bonds so it do not add more atoms, it give substitution reaction

Q6. Why hydrocarbon used as a fuel

Ans 1: The main constituent of fuels (coal, petroleum and natural gas) are hydrocarbons. When hydrocarbons are burnt in air the reaction is called combustion. It is highly exothermic reaction, i-e it produces a lot of heatThe basic combustion reaction is CH4 + 2O2? CO2 + 2H2O + heat

Ans 2: The heat energy thus produced is used to meet needs of energy in homes, transportation, as well as in industries

Q7. Give a few uses of ethane.

Ans 1: Ethane is used

- 1: for a artificial ripening of fruits
- 2: as a general anaesthetic
- 3: for manufacture of polythene: Polythene is a plastic material used in packaging, toys, bags etc ethyl alcohol, ethylene, glycol, diethyl ether etc; ethylene oxide is used as a fumigant, ethylene glycol is used as an anti-freeze, diethyl ether and ethyl alcohol are used as solvents and
- 4: for making poisonous mustard gas which is used in chemical warfar

Q8. Why are alkenes reactive?

Ans 1: Alkenes are reactive compounds because the electrons of the double bond are easily available for reaction

Q9. How can you identify ethene from ethene?

Ans 1: We identify ethene from ethene by bromine water test, ethane does not give bromine water test while ethane decolourized the bromine water because ethene is saturated and ethane is unsaturated hydrocarbon

Q10. Why are hydrocarbons considered as parent organic compounds?

Ans 1: Hydrocarbons are regarded as the parent organic compounds since other organic compounds are considered to be derived from them by the replacement of one or more hydrogen atoms by other atoms or groups of atoms