

Chemistry - 10th Class Chemistry English Medium Chapter 12 Preparation

Q1. What is petrochemical industry.

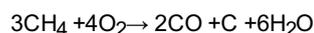
Ans 1: The organic compounds prepared from hydrocarbons are called petrochemicals. some of the important petrochemicals are methyl alcohol, ethyl alcohol, formic acid, chloroform, carbon tetrachloride, ethylene, butadiene, benzene, toluene, etc.

Q2. 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 lot 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



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



Q3. Why alkanes are called paraffins?

Ans 1: In alkanes all the bonds of carbon atoms are single that means valence electrons of carbon atoms are saturated. Therefore they are least reactive that is the reason, alkanes are called paraffins.

Q4. 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 heat. The basic combustion reaction is $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O} + \text{heat}$

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

Q5. Give the physical properties of alkanes.

Ans 1: Solubility: They are non-polar, therefore, they are insoluble in water but soluble in organic solvents
Density: The density of alkanes increases gradually with the increase of molecular size

Q6. How can you identify ethene from ethene ?

Ans 1: We identify ethene from ethene by bromine water test, ethene does not give bromine water test while ethane decolourized

the bromine water because ethene is saturated and ethane is unsaturated hydrocarbon

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. Define hydrocarbons.

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

Q9. State one important use of each .

Ans 1: Ethene : Ethene is used for artificial ripening of fruits

Acetylene : Acetylene is used to prepare other chemicals , such as alcohols , actaldehyde and acids

Ans 2: Chloroform : these are used in the manufacture if chemical such as carbon black , alcohol , chloroform , CCl_4 , HCHO , CH_3CHO

Ans 3: Carbon tetrachloride : Carbon tetrachloride is used as an industrial solvent and in dry cleaning

Q10. Different between saturated and unsaturated hydrocarbons.

Ans 1: Saturated hydrocarbon:Thy hydrocarbons in which all four valences electrons of carbon atoms are fully satisfied by single bonds with other carbon atoms and hydrogen atoms are called saturated hydrocarbons.

Ans 2: Unsaturated hydrocarbon: The hydrocarbons in which two carbon atoms are linked by a double or a triple bond are called unsaturated hydrocarbons.
