Chemical Reactions & Equations
Corrosion& Rancidity

Harmful Effects of Combustion:

We have discussed the utility of combustion in releasing energy which our body needs to keep warm and working; however, combustion has harmful effects also. The environmental pollution is basically due to combustion. Poisonous gases like carbon monoxide (CO), sulphur dioxide (SO_2) sulphur trioxide (SO_3) and oxide of nitrogen (NO_x) etc. are being released into the atmosphere as a result of variety of combustion reaction which are taking place. They pollute the atmosphere and make our lives miserable. In addition to these, other harmful effects of combustion are corrosion and rancidity. These are briefly discussed.

(i) Corrosion: Corrosion may be defined as the process of slow eating up of the surfaces of certain metals when kept in open for a long time.

Quite often, when we open the bonnet of a car after a long time, we find a deposit around the terminals of the battery. This is an example of corrosion. Black coating on the surface of silver and green layer on the surface of copper are the examples of corrosion. In case of iron, corrosion is called rusting. Rust is a chemical substance brown in colour and is formed by the chemical action of moist air (containing O_2 and H_2O) on iron. It is basically an oxidation reaction and the formula of rust is Fe_2O_3, xH_2O. It is very slow in nature and once started keeps on.

Both corrosion and rusting are very harmful and case damage to the building, Railway tracks, cars and other objects/ materials where metals are used. We quite often hear that an old building has collapsed on its own causing loss of both lives and property. This is on account of the rusting of iron which is used in making the structure particularly the roof.

(ii) Rancidity: Oxidation has damaging effects on food and eatables. When the fats and oils present in butter and margarine are oxidised, they become rancid. As a result, their smell and taste change. They become quite unpleasant. This is known a rancidity. It can be checked in a number of away.

(A) Manufacturer sometimes add certain food additives to the food materials. These are known as antioxidant and check their oxidation.

(B) Keeping food in air tight containers prevents its oxidation.

(C) Refrigeration of food also slows down rancidity because the temperature inside refrigerator is very low and direct contact with air or oxygen is avoided.

(D) Chips manufacturers generally flush their bags with nitrogen before packing so that they may not be oxidised.