

CHEMISTRY STUDY MATERIALS FOR CLASS 10

(NCERT Based: Revision of Chapter -01)

GANESH KUMAR

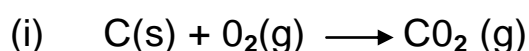
DATE:- 30/07/2020

Chemical Reactions and Equations

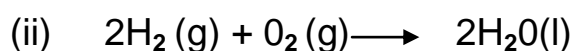
Calcium hydroxide is used for white washing on walls. This is a precipitate reaction, when calcium hydroxide is painted on walls it reacts with CO₂ present in air to form a thin layer of calcium carbonate and also produce water which get evaporated.

Some other examples of combination reactions;

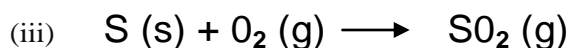
Burning of coal:



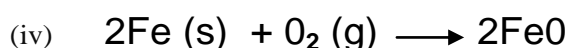
Formation of water:



Formation of sulphur dioxide:

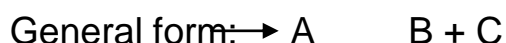


Formation of Ferrous oxide:

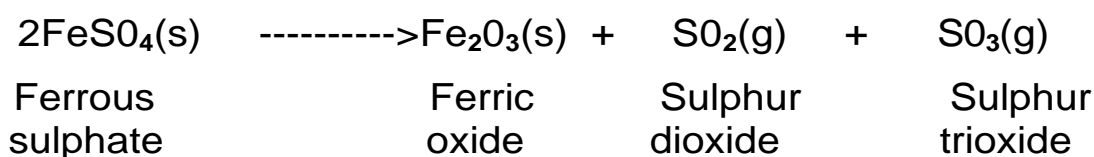


2. Decomposition Reaction

The reaction in which a single reactant breaks down into two or more than two simpler products is known as decomposition reaction.

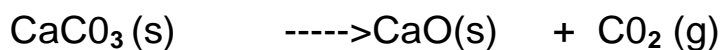


Example of Decomposition Reaction



Ferrous sulphate crystals ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$) lose water when heated and the colour of the crystals changes. It then decomposes to ferric oxide (Fe_2O_3), sulphur dioxide (SO_2) and sulphur trioxide (SO_3). Ferric oxide is a solid, while SO_2 and SO_3 are gases.

Another Example of Decomposition Reaction



(Limestone) (Quicklime)

On heating calcium carbonate decomposes to calcium oxide and carbon dioxide.

Calcium Oxide: It's common name is quick lime or burnt lime. It is white in colour, caustic, alkaline and crystalline. It obtained from thermal decomposition of calcium carbonate (limestone).

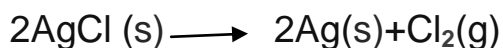
Uses of Calcium oxide:

- (I) Manufacturing of cement
- (II) Manufacturing of various types of glass.
- (III) In agriculture It is used for treating acidic soils.
- (IV) White washing :it is used with water

Thermal Decomposition:

When a decomposition reaction is carried out by heating, it is called thermal decomposition.

Decomposition of Silver chloride:



White silver chloride turns grey in sunlight. This is due to the decomposition of silver chloride into silver and chlorine by light.

- This Reaction is used in black and white photography.
- All decomposition reactions require energy either in the form of heat, light or electricity for breaking down reactants.
