

CHEMICAL REACTIONS & EQUATIONS - I

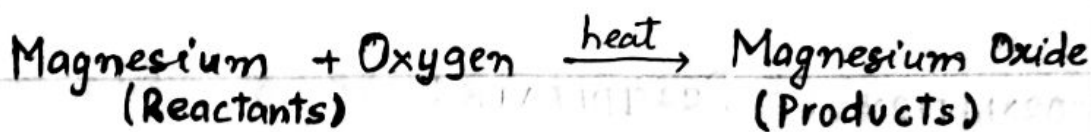
CHEMICAL REACTION: The process in which a substance undergoes change to produce new substance with new properties is called a chemical reaction.

⇒ The substances which take part in a chemical reaction and undergo change are called Reactants

⇒ The substances which are produced as a result of chemical reaction are called Products

EXAMPLES OF CHEMICAL REACTIONS

- Burning of Magnesium in air to form Magnesium oxide.



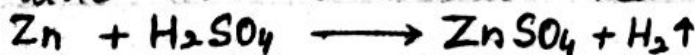
CHARACTERISTICS OF CHEMICAL REACTION

The important characteristics of chemical reactions are:

- 1) **EVOLUTION OF GAS:** Some chemical reactions are accompanied by evolution of gas. e.g

Chemical reaction between Zinc and dilute

Sulphuric acid is characterized by evolution of ^{H₂} gas.



METALS & NON-METALS - 4

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DEFINITION OF METALS & NON-METALS

METALS: Any of class of chemical elements that are typically lustrous solids and good conductors of heat and electricity are called metals. e.g Iron, Zinc, Copper, Aluminium, Calcium etc.

NON-METALS: Any of the class of chemical elements that do not conduct heat and electricity and are neither malleable nor ductile are called non-metals. e.g Carbon, Sulphur, Phosphorous, Silicon, Hydrogen etc.

USES OF METALS

- 1) Metals like Copper and Aluminium are used to make electric wires.
- 2) Liquid mercury is used in thermometers.
- 3) Aluminium foils are used in packing of food materials, medicines etc.
- 4) Gold and Silver are used in jewellery.
- 5) Metals like Iron, Copper are used to make household utensils.

USES OF NON-METALS

- 1) Liquid Hydrogen is used as rocket fuel.
- 2) Nitrogen is used to preserve food materials.

ACIDS BASES & SALTS - 5

DEFINE AN INDICATOR? NAME INDICATORS USED FOR TESTING?

An indicator is a dye that changes colour when it is put into an acid or base. It tells us whether the substance is an acid or base.

The three common indicators are:

Natural Indicators: For example Litmus.

Synthetic Indicators: For example Methyl orange & Phenolphthalein.

Universal Indicator: It is a mixture of many dyes which gives different colors at different pH values.

EXPLAIN LITMUS AS AN INDICATOR?

Litmus is a natural indicator. Litmus solution is extracted from Lichen plant. Litmus solution is neither acidic nor basic and its color is purple. Two types of litmus solutions are used. (Red litmus and Blue litmus). If blue litmus solution turns red, the substance is acidic and if red litmus solution turns into blue, the substance is basic.

CARBON & ITS COMPOUNDS - 3

CARBON: The word carbon is derived from Latin word 'Carbo' which means Coal.

- It is an element (non-metal)
- It's atomic number is 6
- Electronic configuration : 2,4
- No. of valence electrons : 4

ORGANIC AND INORGANIC COMPOUNDS OF CARBON

ORGANIC COMPOUNDS: Are compounds of carbon containing usually hydrogen and one or more more additional elements like oxygen, nitrogen, sulphur etc

INORGANIC COMPOUNDS: Compounds in which carbon is linked to other atoms such as oxygen, halogens etc and do not have C-C bonds are called Inorganic Compounds.

DIFFERENCE B/W ORGANIC & INORGANIC COMPOUNDS

1) ORGANIC COMPOUNDS

- 1) They are generally covalent in nature
- 2) They show isomerism
- 3) They are highly combustible.

INORGANIC COMPOUNDS

- 1) They are ionic compounds
- 2) They do not show isomerism.
- They are non-combustible except H_2 , Co etc.