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| **MOLECULAR FORMULA** |  |
| The molecular formula of a compound is defined as: **"The formula of a compound which not only expresses the relative number of atoms of each kind but also expresses the actual number of atoms of each element present in one molecule".** | |
| Molecular formula and empirical formula of a compound are related as: **MOLECULAR FORMULA = (EMPIRICAL FORMULA)n** | |
| Where "n" is an integer and is given by: | |
| n = molecular mass of compound / Empirical formula mass of compound | |
| Molecular formula of propane = C3H8.    Molecular formula of sugar = C12H22O11. | |
| **SYMBOL** |  |
| **A symbol is an abbreviation or short form for the chemical name of an element** | |
| A symbol represents only one atom of an element. | |
| **EXAMPLE:**    Carbon = C, Hydrogen= H, Chlorine = Cl, Gold = Au, Silver = Ag, Sodium = Na, bismuth = Bi etc. | |
| **FORMULA** |  |
| **The representation of a molecule of a substance or compound in the form of symbols is called "formula".** | |
| With the help of formula we can find.     (1) Name of elements present in the molecule.    (2) Number of atoms of each element.    (3) Composition of compound. | |
| **EXAMPLE:**    NH3, CO2, CaCO3, H2O, H2SO4 etc. | |
| **COMPOUND** |  |
| **"Compounds are pure substances, which consist of two or more elements combined chemically in a fixed ratio."** | |
| Compounds always have a definite composition. | |
| **EXAMPLE:**    H2SO4, CaCl2, H2O, CO2 etc. | |
| **MIXTURE** |  |
| **"A mixture is a substance, which consists of two or more pure substances not chemically combined with each other in a definite composition ."** | |
| Mixtures do not have definite composition. | |
| **EXAMPLE:**    Air, soil, brass ( cu + zinc) etc. | |
| **DIFFERENCE BETWEEN COMPOUND AND MIXTURE** | |
| |  |  |  | | --- | --- | --- | | **S.No** | **COMPOUND** | **MIXTURE** | | 1. | It is a pure substance. | It is an impure substance. | | 2. | It can not be separated by physical method. | It can be separate by physical method. | | 3. | Element loose their properties in a compound. | Substances forming mixture retain their properties. | | 4. | Its composition is fixed through out its mass. | It has no fixed composition. | | 5. | It has fixed melting point. | It has no sharp melting point. | | |