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Chapter:- 3. ATOMS AND MOLECULES.

CLASS:- IXth

SUBTEACHER:-VIKASH KR. RAJAK

SUBJECT:-CHEMISTRY

DATE :-01/06/2020



Topic:- Latin names, Atomic Mass of an element.

➤ **Latin names of elements:-**

In chemistry we use the English names of the elements, so we are not familiar with the Latin names of the elements. Most of the confusion, arises in the symbols derived from the Latin names of the elements. Note the following symbols carefully and try to remember them correctly, they have been derived from the Latin names of the elements.

Symbols Derived from Latin Names of the Elements

<i>English name of the element</i>	<i>Symbol</i>	<i>Latin name of the element</i>
1. Sodium	Na	Natrium
2. Potassium	K	Kalium
3. Iron	Fe	Ferrum
4. Copper	Cu	Cuprum
5. Silver	Ag	Argentum
6. Gold	Au	Aurum
7. Mercury	Hg	Hydragyrum
8. Lead	Pb	Plumbum
9. Tin	Sn	Stannum

➤ **ATOMIC MASS OF AN ELEMENT:-**

Actual masses of the atoms of the elements are very, very small.

Example:- one atom of hydrogen(H) has a mass of 1.673×10^{-24} gram or 0.0000000000000000000000001673 gram. It is not convenient to use such small and complicated figures in our calculation; therefore, it was necessary to define atomic masses in such a way that we get simple figures for them. In order to understand the present definition of atomic mass, we should first know the meaning of carbon-12 atom (read as carbon twelve atom) is that atom of carbon which has 6 protons and 6 neutrons in its nucleus so that its mass number is 12.

- Carbon-12 atom has been assigned an atomic mass of exactly 12 atomic mass units was earlier written in short as 'amu' but these days atomic mass unit is denoted by the letter 'u'). This means that a carbon-12 atom has been assigned an atomic mass of exactly 12 u. Now, since a carbon-12 atom has been assigned an atomic mass of 12 atomic mass units, therefore, the atomic mass unit should be equal to $\frac{1}{12}$

(one-twelfth) the mass of a carbon-12 atom. That is :

Atomic mass unit = $\frac{1}{12}$ the mass of a carbon-12 atom

or $1 \text{ u} = \frac{1}{12}$ the mass of a carbon-12 atom.

- The atomic mass of an element is the relative mass of its atom as compared with the mass of a carbon-12 atom taken as 12 units. The atomic mass of an element indicates the number of times one atom of the element is heavier than $\frac{1}{12}$ of a carbon-12 atom. Example, the atomic mass of magnesium is 24 u which indicates that one atom of magnesium is 24 times heavier than $\frac{1}{12}$ of a carbon-12 atom.

Atomic Masses of Some Common Elements

Element	Symbol	Atomic mass	Element	Symbol	Atomic mass
1. Hydrogen	H	1 u	8. Phosphorus	P	31 u
2. Carbon	C	12 u	9. Sulphur	S	32 u
3. Nitrogen	N	14 u	10. Chlorine	Cl	35.5 u
4. Oxygen	O	16 u	11. Potassium	K	39 u
5. Sodium	Na	23 u	12. Calcium	Ca	40 u
6. Magnesium	Mg	24 u	13. Iron	Fe	56 u
7. Aluminium	Al	27 u	14. Copper	Cu	63.5 u

Home Work (Based on study material of 31-05-20)

Answer the following questions:-

- What is symbol of elements?
- What is Dalton's symbol of elements?
- Explain Modern symbol of elements with an example?
- Write the symbol of following elements?

(i) Helium (ii) Neon (iii) Zinc (iv) Manganese (v) Chlorine (vi) Lithium