

Chemistry Study Materials for Class 9 (NCERT Based notes of Chapter -03)

Ganesh Kumar

Date:- 19/06/2021

Atoms and Molecules

MOLECULES OF ELEMENTS

When two or more atoms of same element combine to form a molecule these are called molecules of element.

Example:

Hydrogen molecule (H_2)

Molecule of hydrogen is formed by the combination of two H-atoms.

Oxygen molecule (O_2).

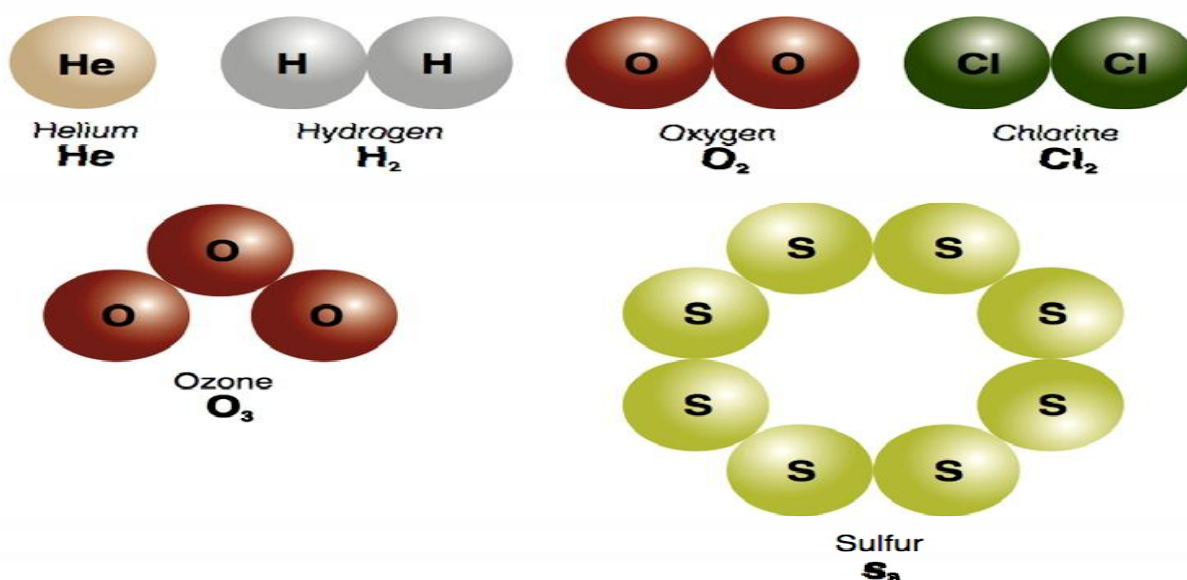
Molecule of oxygen is formed by the combination of two O - atoms.

Sulphur molecule (S_8).

Molecule of sulphur is formed by the combination of eight S - atoms.

Phosphorous molecule (P_4).

Molecule of phosphorous is formed by the combination of four P - atoms.



Molecules of some non-reactive elements are formed by single atom. For example – helium, neon, argon, etc. molecules: Molecules of metals formed as big cluster of atoms. They are represented by their symbols simply. For example: Iron (Fe), Copper (Cu), Zinc (Zn), etc. These molecules are known as giant molecules.

Carbon is a non-metal, but it also exists as giant molecule and represented by its symbol 'C'.

ATOMICITY

Monoatomic:

When molecule is formed by single atom only, it is called monoatomic molecule. Generally noble gas forms monoatomic molecules. For example: Helium (He), Neon (Ne), Argon (Ar), Kr (Krypton), Xenon (Xe), and Radon (Rn).

Diatomic

When molecule is formed by the Diatomic: When molecule is formed by the combination of two atoms of it is called diatomic molecule.

For exp: Hydrogen (H₂), Oxygen (O₂) Nitrogen (N₂), Chlorine (Cl₂), etc.

Triatomic

When molecule is formed by the combination of three atoms it is called triatomic molecule. For example: molecule of ozone (O₃)

Tetra-atomic

When molecule is formed by the combination of four atoms it is called tetra-atomic molecule. For example: Phosphorous molecule (P_4)

Polyatomic

When molecule is formed by the combination of more than two atoms, it is called polyatomic molecule. For example: Sulphur molecule (S_8)

Atomicity of some elements		
Name	Atomicity	Formula
Argon	Monoatomic	Ar
Helium	Monoatomic	He
Oxygen	Diatomic	O_2
Hydrogen	Diatomic	H_2
Nitrogen	Diatomic	N_2
Chlorine	Diatomic	Cl_2
Phosphorous	Tetra-atomic	P_4
Sulphur	Poly-atomic	S_8

