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TENDER HEART HIGH SCHOOL, SEC-33B, CHD.

CLASS- IX
CHAPTER- 5

SUBJECT- CHEMISTRY
TEACHER- ANAMIKA

Q:-1 The vapour density of gas is 8. What would be the vol. occupied by 24g of gas at S.T.P?

Ans:- Vapour density (V.D.) of gas = 8

Molecular weight of gas = 2 x V.D
= 2 x 8
= 16g

Vol. of 16g of gas = 22.4L

Vol. of 24g of gas = $\frac{22.4}{16} \times 24$
= 33.6L

Q2 Calculate
(i) The number of moles in 12g of oxygen gas (O = 16)

(ii) The weight of 10^{22} atoms of Carbon [C=12, Avagadro number = 6×10^{23}]

Ans:- (i) Mass of oxygen (W) = 12g

Molar mass of O_2 (M) = $16 \times 2 = 32$

$\therefore$ No. of moles = $\frac{W}{M}$

$$n = \frac{12}{32} = 0.375 mol$$

(ii) No. of carbon atom = 10^{22} atom

Avagadro Number = 6×10^{23}

Molar mass of Carbon = 12

6×10^{23} atom weight = 12g

1 atom ——— $\frac{12}{6 \times 10^{23}}$

10^{22} u — $\frac{12 \times 10^{22}}{6 \times 10^{23}}$

$= 0.2g$

Q:- If 6L of hydrogen and 4L of Chlorine are mixed and exploded and if water is added to the gases formed, find the vol. of residual gas?

Ans:- $H_2 + Cl_2 \longrightarrow 2HCl$

4L of Cl_2 react with 4L of H_2

$\therefore$ Unreacted $H_2 = (6-4) = 2L$