KINETIC THEORY OF GASES

OIL ideal gas equation. PV 'AI' where 1.L is number of moles and R is gas constant

Pressure exerted by Ideal gai n ofarlitAirlef Is $P = \frac{1}{3}\frac{MM}{V}$ V

12 .R.M.5_ velocity = r_a (3). Average welockw = $\sqrt{\frac{BaT}{cm}}$

41% Most probable velocity v_{rrip}

[5 Mean free path. VI.)

$$\frac{\sqrt{2}}{4\pi 2FVECl^2}$$

Vintre = Number density and d = diarnieter of mellecure

Table 2: Some Important points about molecules of eas

5	AID:PrniCity	F Of degree of freedom'			$\gamma = 1 + \frac{2}{n}$
	Monciatomic	3	$\frac{LI}{2}$		
	Dlatornk		2	E Ir.4	
	Linear molecule ITriaLOrnIc}		$\frac{7}{2}$ Tn II.	Ee M INI	$\frac{7}{5}$
	Nan-linear molecule {Triatornici		4R	3R	$\frac{4}{3}$

For nniiituire of gas, molar speUtli lwat at constant Yol ti me is giwen $C_{mix} = \frac{n_1 C_{v1} + n_2 C_{v2}}{n_1 \pm n_2}$

Where ni and n} are number of moles .o.f two gases mixed together $C_{u;}$ and C_{y2} are molar specific heat .at constant wohame of 2 gas.

{711 For crifiliDure of gam with n_1 8 n_2 moles the following relation holds true.

$\gamma_{-1} \quad \gamma_1 - 1 \quad \gamma_2 - 1$