

how many molecules are there in 14g of nitrogen gas s.t.p (avogadros number- $6.02 \times 10^{23}$ )

$$v(N_2) = \frac{m(N_2)}{M(N_2)}$$

$$v(N_2) = \frac{14}{28} = 0.5 \text{ mol}$$

$$N = 0.5 * 6.02 * 10^{23} = 3.01 * 10^{23}$$

$$\underline{\mathbf{N = 3.01 * 10^{23}}}$$