

Ideal gas equation

1. $pV = N k T$

N – number of molecules

k – Boltzman´s constant

$$k = 1.38 \times 10^{-23} \text{ J.K}^{-1}$$

$$n = N / N_A$$

n – number of moles

N_A – Avogadro constant ($6 \times 10^{23} \text{ mol}^{-1}$)

$$n = m / M_m$$

m – mass (kg)

M_m – molar mass (kg)

2. $p V = n R T$

R – molar gas constant ($R = 8.31 \text{ J.K}^{-1}$)

3. Gas in an isolated tank:

$$p V / T = \text{constant.}$$