

Ideal Gas EOS @model

@wikipedia

Equation of State for the Ideal Gas:

(1) $\rho(T, p) = \frac{M}{R} \cdot \frac{p}{T}$

where

ρ	Gas density	p	Gas pressure	M	Gas molar mass
		T	Gas temperature	R	Gas constant

Alternative forms

(2) $p = n k T$		(3) $p = \rho_m R T$		(4) $p = \frac{R T}{V_m}$		(5) $p V = \nu R T$		(6) $Z = 1$	
$n = \frac{\rho}{M}$	Gas concentration	ρ_m	Gas molar density	V_m	Gas molar volume	V	Gas volume	Z	Compressibility factor
k	Boltzmann constant					ν	Amount of gas substance		

See also

Natural Science / Physics / Thermodynamics / Equation of State

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