

Physical Constants

Constant	Symbol	Value
Atomic Mass Unit	u	$1.661 \times 10^{-27} \text{ kg} = 1.00 \text{ u}$
Avogadro's Number	N_A	$6.022 \times 10^{23} \text{ mol}^{-1}$
Boltzmann Constant	k	$1.381 \times 10^{-23} \text{ J/K}$
Electron Charge	e	$1.602 \times 10^{-19} \text{ C}$
Electron Mass	m_e	$9.109 \times 10^{-31} \text{ kg}$
Faraday's Constant	F	$9.649 \times 10^5 \text{ C/mol}$
Molar Volume of IG at STP	V_m	$22.41 \text{ dm}^3 \cdot \text{mol}^{-1}$
Nernst Constant (298K)	$2.303 \times RT/F$	0.0592 V
Neutron Mass	m_n	$1.675 \times 10^{-27} \text{ kg}$
Planck's Constant	h	$6.626 \times 10^{-34} \text{ J}\cdot\text{s}$
Proton Mass	m_p	$1.673 \times 10^{-27} \text{ kg}$
Speed of Light	c	$2.998 \times 10^8 \text{ m/s}$
Standard Atm Pressure	P	1.00 atm 101.3 kPa 760.0 mm Hg 760.0 torr
Standard State Pressure	P	100.0 kPa
Standard Temperature	T	273.15 K = 0°C
Standard Temp & Pressure	STP	273.15 K, 1.00 atm
Thermodynamic Ref Temp	T	298.15 K = 25°C
Universal Gas Constant	R	$8.315 \text{ J}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$ $0.08206 \text{ dm}^3 \cdot \text{atm}\cdot\text{mol}^{-1}\cdot\text{K}^{-1}$