

Definitions of Units (Système International):

Length l meter, $1\text{ m} = 10^1\text{ dm} = 10^2\text{ cm}$
Volume V m^3 , $1\text{ m}^3 = 10^3\text{ liter}$

Amount n number of moles (Avogadro's
Number:
 $L = 6.022 \cdot 10^{23}\text{ particles /mole}$)

Force F Newton; $1\text{ N} = 1\text{ kg m s}^{-2}$

Pressure p (P) Pascal; $1\text{ Pa} = 1\text{ Nm}^{-2} = 1\text{ kg m}^{-1}\text{ s}^{-2}$
 $1\text{ bar} = 10^5\text{ Pa} \approx 1\text{ atm}$
 $1\text{ atm} = 101\,325\text{ Pa} = 760\text{ Torr} \approx$
 760 mm Hg

Standard Pressure $p_0 = 1\text{ bar} = 0.986923\text{ atm} \approx 1\text{ atm}$

Energy E Joule; $1\text{ J} = 1\text{ Nm} = 1\text{ kg m}^2\text{ s}^{-2}$
 $1\text{ eV} = 1.602 \cdot 10^{-19}\text{ J} = 96.47\text{ kJ/mol}$
 $= 23.06\text{ kcal/mol}$

Mechanic Heat Equivalent $1\text{ calorie} = 4.184\text{ J}$

Temperature T 1 K (Kelvin);
 $T([\text{K}]) = T([\text{°C}]) + 273.15\text{ K}$ Celsius
scale defined by freezing point
($T=0\text{°C}$) and boiling point
($T=100\text{°C}$) of water.

Standard temperature $T_0 = 298.15\text{ K}$ (25°C)

Thermal energy $RT = 2.4790\text{ kJ/mol}$ at $T = 298.15\text{ K}$

Atomic mass unit $1\text{ amu} = 1.66056 \cdot 10^{-27}\text{ kg}$