

Values of some physical constants

Quantity	Symbol	Value
Avogadro's number	$N_0$	$6.0222 \times 10^{23}$
Planck constant	$h$	$6.6262 \times 10^{-27}$ erg-sec
	$h/2\pi$	$1.0546 \times 10^{-27}$ erg-sec
Boltzmann constant	$k$	$1.3806 \times 10^{-16}$ erg/molecule-deg K
gas constant	$R$	$8.3143 \times 10^7$ ergs/mole-deg K $1.9872$ cal/mole-deg K
speed of light	$c$	$2.9979 \times 10^{10}$ cm/sec
proton charge	$e$	$4.8032 \times 10^{-10}$ esu
electron mass	$m_e$	$9.1096 \times 10^{-28}$ g
atomic mass unit	$amu$	$1.6605 \times 10^{-24}$ g
Bohr magneton	$\mu_B$	$9.2741 \times 10^{-21}$ erg/gauss
nuclear magneton	$\mu_N$	$5.0509 \times 10^{-24}$ erg/gauss

Source: B. N. Taylor, W. H. Parker, and D. N. Langenberg, *Rev. Mod. Phys.*, 41, p. 375, 1969

Energy conversion factors

	ergs	eV	$\text{cm}^{-1}$	$^{\circ}\text{K}$	kcal	kcal/mole	atomic units
1 erg	1	$6.2420 \times 10^{11}$	$5.0348 \times 10^{15}$	$7.2441 \times 10^{15}$	$2.3901 \times 10^{-11}$	$1.4394 \times 10^{13}$	$2.294 \times 10^{10}$
1 eV	$1.6021 \times 10^{-12}$	1	$8.0657 \times 10^3$	$1.1605 \times 10^4$	$3.8390 \times 10^{-23}$	$2.3119 \times 10^1$	$3.675 \times 10^{-2}$
$1\text{cm}^{-1}$	$1.9862 \times 10^{-16}$	$1.2398 \times 10^{-4}$	1	1.4388	$4.7471 \times 10^{-27}$	$2.8588 \times 10^{-3}$	$4.556 \times 10^{-6}$
$1^{\circ}\text{K}$	$1.3804 \times 10^{-16}$	$8.6167 \times 10^{-5}$	$6.9502 \times 10^{-1}$	1	$3.2993 \times 10^{-27}$	$1.9869 \times 10^{-3}$	$3.116 \times 10^{-6}$
1 kcal	$4.1840 \times 10^{10}$	$2.6116 \times 10^{22}$	$2.1066 \times 10^{26}$	$3.3009 \times 10^{26}$	1	$6.0222 \times 10^{23}$	$9.597 \times 10^{20}$
1 kcal/mole	$6.9446 \times 10^{-14}$	$4.3348 \times 10^{-2}$	$3.4964 \times 10^2$	$5.0307 \times 10^2$	$1.6598 \times 10^{-24}$	1	$1.594 \times 10^{-3}$
1 atomic unit	$4.360 \times 10^{-11}$	27.21	$2.195 \times 10^5$	$3.158 \times 10^5$	$1.042 \times 10^{-21}$	$6.275 \times 10^2$	1