SI UNITS CONVERSION TABLE (the units added { } is permitted to use)

Kinds of Quantity (Name of Unit)	**Symbol of Unit** [Definition] (a prefix added example)	**Units avoid using** (Relation to SI units)
Length (metre)	**m** (km, mm, μm, nm)	Å (=10^{-10} m=0.1 nm)
Area	**m^2** (cm^2, mm^2, $μm^2$)	
Volume	**m^3** (dm^3, cm^3, mm^3) {L(=10^{-3} m^3=dm^3)}	mL(=10^{-6} m^3=cm^3)
Mass (kilogramme)	**kg** (Mg, g, mg, μg) {t(=10^3 kg=Mg)}	
Density	**kg/m^3** (Mg/m^3)	g/cm^3(=10^3 kg/m^3=Mg/m^3)
Time (second)	**s** (Ms, ks, ms, μs) {min(=60 s)} {h(=3.6 ks)} {d(=86.4 ks)}	1-y≒31.556926×10^6 s (≒365.2422 d)
Frequency (hertz)	**Hz** [s^{-1}] (GHz, MHz, kHz)	
Wave Number	**m^{-1}**	Å^{-1}(=10^{10} m^{-1}) cm^{-1}(=10^2 m^{-1})
Speed	**m/s**	
Acceleration	**m/s^2**	
Diffusion Coefficient **Kinematic Viscosity**	**m^2/s**	St(=10^{-4} m^2/s=cm^2/s)
Power (newton)	**N** [kg・m/s^2]	dyn(=10^{-5} N=10 μN) kgf(=9.80665 N)
Pressure (pascal)	**Pa** [N/m^2] (GPa, MPa, mPa)	kgf/mm^2(=9.80665 MPa) bar(=10^5 Pa=0.1 MPa) Torr(≒133.32 Pa) atm(=101325 Pa)
Surface Tension	**N/m**	dyn/cm(=10^{-3} N/m=mN/m)
Viscosity	**Pa・s**	P(=10^{-1} Pa・s)
Stress Intensity Factor	**MPa・$m^{1/2}$**	kgf/$mm^{3/2}$(=0.31012 MPa・$m^{1/2}$) N/$mm^{3/2}$(=0.031623 MPa・$m^{1/2}$)

Quantity of Substance	**mol**	
Molecular Density	**mol/m^3** {mol/L(=10^3 mol/m^3=kmol/m^3)}	
Molecular Mass Density	**mol/kg**	
Chemical Reaction Rate	**mol/s**	
Energy **Work** **Heat**	**J** ［N・m］ (MJ, kJ, mJ) {eV(=1.60218×10^{-19} J)}	erg(=10^{-7} J=0.1 μJ) kgf・m(=9.80665 J) cal_{th}(=4.1840 J) cal_{IT}(=4.1868 J) kWh(=3.6×10^6 J=3.6 MJ)
Moment of Force	**N・m**	kgf・m(=9.80665 N・m)
Power	**W** ［J/s=V・A］	
Heat Flow Density	**W/m^2** **J/mol** (kJ/mol)	cal/mol(＝4.184J/mol) erg/atom (＝1×10^{-7}J/atom ＝6.022×10^{16}J/mol) eV/atom (＝1.60218×10^{-19}J/atom ＝9.6485×10^4J/mol)
Surface Energy	**J/m^2**	erg/cm^2 (＝10^{-3}J/m^2＝mJ/m^2)
Temperature	**K** {°C(＝*T*(K)-273.15)}	
Thermal Conductivity	**W/(m・K)**	cal/(cm・sec・deg) (＝0.4184kJ/(s・m・K))
Specific Heat	**J/(kg・K)**	cal/(g・deg) (＝4.184kJ/(kg・K))
Entropy	**J/K**	cal/deg(＝4.184J/K)
Molecular Entropy	**J/(mol・K)**	
Current	**A**	
Current Density	**A/m^2**	
Charge	**C**[A・s]	
Voltage	**V**[J/(A・s)]	
Electrical Field Strength	**V/m**	
Resistance	**Ω**[V/A]	
Solution Resistance	**Ωm**	Ωcm(＝10^{-2}Ωm)
Electrical Conductance	**S**[A/V]	

Conductivity	**S/m**	
Electric Capacitance	**F**[C/V]	
Permittivity	**F/m**	
Luminous Intensity	**cd**	
Luminous Flux	**lm**[cd・sr]	
Illuminance	**lx**[cd・sr/m^2]	
Angle	**rad** {1°＝(π/180)rad} {1′＝(π/10800)rad} {1″ ＝(π/648000)rad}	
Solid Angle	**sr**	
Radiation Strength	**J/(m^2・s)**	erg/cm^2・s(＝mJ/(m^2・s))
Exposure	**C/kg** (μC/kg, nC/kg)	R(＝2.58×10^{-4}C/kg ＝0.258mC/kg)
Absorbed Dose	**Gy**[J/kg]	rad (＝10^{-2}J/kg＝10mGy))
Radioactivity	**Bq**[s^{-1}] (MBq, kBq)	Ci (＝3.7×10^{10}/s＝37GBq)
Mass Absorption Coefficient	**m^2/kg**	cm^2/g(＝0.1m^2/kg)
Equivalent Dose	**Sv**[J/kg]	rem(＝100Sv)

Kinds of Quantity (Name of Unit)	**Symbol of Unit** [Definition]	**Units avoid using** (Relation to SI units)	**Symbol of Unit** [Definition]	**Units avoid using** (Relation to MKSA units)
	SI Unit (E－B correspondence) $B=\mu_0(H+M)$	**CGS Unit** $B=H+4\pi M$	**MKSA Unit** (E－H correspondence) $B=\mu_0 H+I$	**CGS Unit** $B=H+4\pi M$
Magnetic Field Strength	**A/m**	Oe (=10^3 / 4π) A/m	**A/m**	Oe (=10^3 / 4π) A/m
Magnetic Flux (weber)	**Wb**	Mx (=10^{-8} Wb = 10 nWb)	**Wb**	Mx (=10^{-8} Wb = 10 nWb)
Magnetic Field (tesla)	**T** **Wb/m²**	G(＝10^{-4}T＝0.1mT), ((＝10^{-4}Wb/m²＝0.1mWb/m²))	**T** **Wb/m²**	G(＝10^{-4}T＝0.1mT), ((＝10^{-4}Wb/m²＝0.1mWb/m²))
Energy Density	**J/m³**	G・Oe(0.1/4π)J/m³	**J/m³**	G・Oe(0.1/4π)J/m³
(Volume) Magnetic Field Strength	**A/m** **J/(T・m³)**	emu/cm³, emu/cc (＝10^3A/m, 10^3J/(T・m³))	**Wb/m²**	emu/cm³, emu/cc (4π×10^{-4}Wb/m²)
(Mass) Magnetic Field Strength	**(A・m²)/kg** **J/(T・kg)**	emu/g(＝A・m²/kg＝J/(T・kg))	**(Wb・m)/kg**	emu/g(4π×10^{-7}Wb・m/kg)
Inductance (henry)	**H** **Wb/A**		**H**	
(Volume) Magnetic Susceptibility	**No Dimensions**	No Dimensions (=4π)	**H/m**	No Dimensions(＝$(4\pi)^2$・10^{-7}H/m)
(Mass) Magnetic Susceptibility	**m³/kg**	cm³/g(＝4π・10^{-3}m³/kg)	**Hm²/kg**	cm³/g(＝$(4\pi)^2$・10^{-10}Hm²/kg)
Magnetic Permeability	**H/m**	No Dimensions (=4π・10^{-7} H/m)	**H/m**	No Dimensions (=4π・10^{-7} H/m)