Table 1.8.-1. – Derived units used in the Ph. Eur. and equivalence with other units

Quantity name	Quantity symbol	Unit name	Unit symbol	Unit expression in SI base units	Unit expression in other SI units	Conversion of other units into SI units
Wave number	*v*	one per metre	1/m	m^{-1}		
Wavelength	*λ*	micrometre	µm	10^{-6} m		
		nanometre	nm	10^{-9} m		
Area	*A, S*	square metre	m^2	m^2		
Volume	*V*	cubic metre	m^3	m^3		1 mL = 1 cm^3 = 10^{-6} m^3
Frequency	*v*	hertz	Hz	s^{-1}		
Density	*ρ*	kilogram per cubic metre	kg/m^3	$kg·m^{-3}$		1 g/mL = 1 g/cm^3 = 10^3 $kg·m^{-3}$
Velocity, speed	*v*	metre per second	m/s	$m·s^{-1}$		
Force	*F*	newton	N	$m·kg·s^{-2}$		1 dyne = 1 $g·cm·s^{-2}$ = 10^{-5} N 1 kp = 9.806 65 N
Pressure, stress	*p*	pascal	Pa	$m^{-1}·kg·s^{-2}$	$N·m^{-2}$	1 dyne/cm^2 = 10^{-1} Pa = 10− 1 $N·m^{-2}$ 1 atm = 101 325 Pa = 101.325 kPa 1 bar = 10^5 Pa = 0.1 MPa 1 mm Hg = 133.322 387 Pa 1 psi = 6.894 757 kPa 1 Torr = 133.322 368 Pa
Dynamic viscosity	*η*	pascal second	Pa·s	$m^{-1}·kg·s^{-1}$	$N·s·m^{-2}$	1 P = 10^{-1} Pa·s = 10^{-1} $N·s·m^{-2}$ 1 cP = 1 mPa·s
Kinematic viscosity	*v*	square metre per second	m^2/s	$m^2·s^{-1}$	$Pa·s·m^3·kg^{-1}$ $N·m·s·kg^{-1}$	1 St = 1 $cm^2·s^{-1}$ = 10^{-4} m2·s^{-1}
Energy	*W*	joule	J	$m^2·kg·s^{-2}$	N·m	1 erg = 1 $cm^2·g·s^{-2}$ = 1 dyne·cm = 10^{-7} J 1 cal = 4.1868 J
Power, radiant flux	*P*	watt	W	$m^2·kg·s^{-3}$	$N·m·s^{-1}$ $J·s^{-1}$	1 erg/s = 1 dyne·cm·s^{-1} = 10^{-7} W = 10^{-7} $N·m·s^{-1}$ = 10^{-7} $J·s^{-1}$

Absorbed dose (of radiant energy)	*D*	gray	Gy	$m^{2}\cdot s^{-2}$	$J\cdot kg^{-1}$	1 rad = 10^{-2} Gy
Electric potential difference, voltage	*U*	volt	V	$m^{2}\cdot kg\cdot s^{-3}\cdot A^{-1}$	$W\cdot A^{-1}$	
Electric resistance	*R*	ohm	Ω	$m2\cdot kg\cdot s^{-3}\cdot A^{-2}$	$V\cdot A^{-1}$	
Electric charge	*Q*	coulomb	C	A·s		
Activity referred to a radionuclide	*A*	becquerel	Bq	s^{-1}		1 Ci = $37\cdot10^{9}$ Bq = $37\cdot10^{9}$ s^{-1}
Concentration (of amount of substance), molar concentration	*c*	mole per cubic metre	mol/m3	$mol\cdot m^{-3}$		1 mol/L = 1 M = 1 mol/dm^{3} = 10^{3} $mol\cdot m^{-3}$
Mass concentration	*ρ*	kilogram per cubic metre	kg/m3	$kg\cdot m^{-3}$		1 g/L = 1 g/dm^{3} = 1 $kg\cdot m^{-3}$
Catalytic activity	*Z*	katal	kat	$mol\cdot^{s-1}$		