

## Abbreviations of units

Recommended Units*				
Quantity	Unit	Unit symbol	Recommended subunits	Units not recommended
Length	meter	m	mm, $\mu\text{m}$ , nm	cm, $\mu$ , u, m $\mu$ , $\Lambda$
Area	square meter	m <sup>2</sup>	mm <sup>2</sup> , $\mu\text{m}^2$	cm <sup>2</sup> , $\mu^2$
Volume	cubic meter liter	m <sup>3</sup> L	dm <sup>3</sup> , cm <sup>3</sup> , mm <sup>3</sup> , $\mu\text{m}^3$ mL, $\mu\text{L}$ , nL, pL, fL	cc, ccm, $\mu^3$ , u <sup>3</sup> , $\lambda$ , uL, $\mu\mu\text{L}$ , uuL
Mass	kilogram	kg	g, mg, $\mu\text{g}$ , ng, pg	Kg, gr, $\gamma$ , ug, m $\mu\text{g}$ , mug, $\gamma\gamma$ , $\mu\mu\text{g}$ , uug
Number	dimensionless		$10^9$ , $10^6$ , $10^3$ , $10^{-3}$	all other factors
Amount of substance	mole	mol	mmol, $\mu\text{mol}$ , nmol	M, eq, val, g-mol, mM, meq, mval, $\mu\text{M}$ , meq, $\mu\text{val}$ , nM, neq, nval
Mass concentration	kilogram per liter	kg/L	g/L, mg/L, $\mu\text{g/L}$ , ng/L	g/mL, %, g%, %(w/v), g/100 mL, g/dL, o/oo, g/o/oo, o/oo(w/v), mg%, mg%(w/v), mg/100 mL, mg/dL, ppm, ppm(w/v), $\mu\text{g}\%$ , $\mu\text{g}\%$ (w/v), $\mu\text{g}/100\text{ mL}$ , $\mu\text{g}/\text{dL}$ , $\gamma\%$ , ppb, ppb(w/v), $\mu\mu\text{g}/\text{mL}$ , uug/mL
Mass fraction	dimensionless		$10^{-3}$ , $10^{-6}$ , $10^{-9}$ , $10^{-12}$	kg/kg, g/g, %, %(w/w), g/kg, o/oo, o/oo(w/w), mg/kg, ppm, ppm(w/w), $\mu\text{g}/\text{kg}$ , ppb, ppb(w/w), ng/kg
Volume fraction	dimensionless		$10^{-3}$ , $10^{-6}$	L/L, mL/mL, %, %(v/v), vol%, mL/L, o/oo, o/oo(v/v), $\mu\text{L}$ , ppm, ppm(v/v)
Substance concentration	mole per liter	mol/L	mmol/L, $\mu\text{mol}/\text{L}$ , nmol/L	M, eq/L, val/L, N, n, mM, meq/L, mval/L, $\mu\text{M}$ , uM, $\mu\text{eq}/\text{L}$ , nM, neq/L
Molality	mole per kilogram	mol/kg	mmol/kg, $\mu\text{mol}/\text{kg}$	m, mmol/g, $\mu\text{mol}/\text{mg}$ , mm, $\mu\text{m}$ , um
Mole fraction	dimensionless		$10^{-3}$ , $10^{-6}$	mol/mol, %, mol%, mmol/mol, o/oo, mol o/oo, $\mu\text{mol}/\text{mol}$
Number concentration	reciprocal liter	L <sup>-1</sup> or 1/L	$10^3\text{L}^{-1}$ , $10^3/\text{L}$ ; $10^3\text{L}^{-1}$ , $10^6\text{L}^{-1}$ , $10^9\text{L}^{-1}$ ; $10^3\text{L}$ , $10^6\text{L}$ , $10^9\text{L}$	L/mL, mL <sup>-1</sup> , L/ $\mu\text{L}$ , L/uL, $\mu\text{L}^{-1}$
Rate of conversion	katal; Unit	kat (mol/s); U/L	nkat; mU/L, $\mu\text{U}/\text{L}$	U/dL

\*International Union of Pure and Applied Chemistry/International Federation of Clinical Chemistry