SI Unit rules and style conventions

Object & quantity	An object and any quantity describing the object are distinguished. (Note the difference between "surface" and "area," "body" and "mass," "resistor" and "resistance," "coil" and "inductance.")	
	PROPER	**IMPROPER**
	A body of mass 5 g	A mass of 5 g
Standard symbols	Standardized quantity symbols are used. Similarly, standardized mathematical signs and symbols are used.	
	PROPER	**IMPROPER**
	M_r for relative molecular mass	tg x for tangent of x
	$M(H_2O)$ for molar mass of water	dx/dt for first derivation
	tan x, dx/dt	words, acronyms, or ad hoc groups of letters
	$\log_a x$ (meaning log to the base a of x)	
	lb x ($\log_2 x$), ln x ($\log_e x$), lg x ($\log_{10} x$)	
Numerals & unit symbols	Values of quantities are expressed in acceptable units using Arabic numerals and symbols for units. Equivalent values in other units are given in parentheses following values in acceptable units only when deemed necessary for the intended audience.	
	PROPER	**IMPROPER**
	m = 5 kg	m = five kilograms, m = five kg
	the current was 15 A	the current was 15 amperes
	d = 381 mm (d = 15 in)	d = 15 in (d = 381 mm), d = 15 in
Prefix	The prefixes used to denote decimal fractions and multiples of SI units and derived SI units. SI prefixes strictly represent powers of 10, they should not be used to represent powers of 2. The prefix always takes precedence over any exponentiation. The prefix attaches directly to the name of a unit, and a prefix symbol attaches directly to the symbol for a unit. Prefix symbols cannot stand alone.	
	PROPER	**IMPROPER**
	mg	µkg
	µs, ms	µ s, m·s, m×s
	m·s, m s	µ (meaning 10^{-6} m)
	cm^3 is $(10^{-2}$ m$)^3$ respectively 10^{-6} m^3	cm^3 meaning 10^{-2} m^3
	megaherc, MHz (10^6 Hz)	megaHz, µFarad
	1 kbit = 1000 bit	1 kbit = 1024 bit
Style convention	Values of quantities are expressed in acceptable units using Arabic numerals and the symbols for the units. There is a space between the numerical value and unit symbol, even when the value is used in an adjectival sense, except in the case of superscript units for plane angle. Unit symbols are not followed by a period unless at the end of a sentence.	
	PROPER	**IMPROPER**
	a = 5 m or a/m = 5	25kg sphere, 25-km road
	T = 25 °C	T = 25°C, T = 25° C
	The ordinate of a graph is labeled $T/(10^3$ K). Ordinate value of 3.2 correspond with $T = 3.2 \cdot 10^3$ K = 3200 K	an angle of 2 ° 3 ′ 4 ″
	α = 2°3'4" = 2,07° (decimal form is recommended)	a (u metrima) = 5
	"The length of the bar is 75 cm." or "It is 75 cm long."	"The bar is 75 cm. long."
Typeface	Variables and quantity symbols are in italic type. Unit symbols are in roman type. Numbers should generally be written in roman type. These rules apply irrespective of the typeface used in the surrounding text.	
	PROPER	**IMPROPER**
	"Maximum weight is 250 kg***!"***	***"Maximum weight is 250 kg!"***
	HOUSE FOR SALE: TOTAL AREA 100 m^2	HOUSE FOR SALE: TOTAL AREA 100 M^2
	e elementary charge	**e** elementary charge
	f = 50 Hz	f = 50 *Hz*, f = 50 Hz
Subscripts and superscripts	Symbols used as subscripts and superscripts are italic if they represent quantities or variables, but symbols are roman if descriptive.	
	PROPER	**IMPROPER**
	c_p, specific heat capacity at constant pressure	c_p, specific heat capacity at constant pressure
	m_p, mass of the proton	m_p, mass of the proton
	N_A Avogadro constant, A Avogadro	N_A Avogadro constant
Mixing symbols & names	Unit symbols and unit names are not mixed and mathematical operations are not applied to unit names. Information is not mixed with unit symbols or names.	
	PROPER	**IMPROPER**
	kg/m^3	kilogram/m^3
	$kg \cdot m^{-3}$	kg po m^3
	kilogram per cubic meter	kilogram/cubic meter
	the water content is 20 mL/kg	20 mL H_2O/kg or 20 mL water/kg

Abbreviations	Abbreviations such as sec, cc, or mps are avoided and only standard unit symbols, prefix symbols, unit names, and prefix names are used. The combinations of letters "ppm," "ppb," and "ppt," and the terms part per million, part per billion, and the like, are not used to express the values of quantities.	
	PROPER	**IMPROPER**
	s or second; cm3 or cubic centimeter; m/s or meter per second	sec; cc; mps
	2.0 µL/L; 2.0×10^{-6} *V;*	ppm, part per million
	4.3 nm/m; 4.3×10^{-9} *l;*	ppb, part per billion (billion is 10^9 in America but 10^{12} in Europe)
	where *V* and *l* are the quantity symbols for volume and length.	
Unit modifications	Unit symbols (or names) are not modified by the addition of subscripts or other information. Unit symbols are unaltered in the plural.	
	PROPER	**IMPROPER**
	P_{max} = 150 W	P = 150 W_{max}
	a mass fraction of 10 %	10 % (*m*/*m*) or 10 % (by weight)
	the water content is 20 mL/kg	20 mL H_2O/kg or 20 mL water/kg
	l = 75 cm	*l* = 75 cms
Multiplication	Symbols for units formed from other units by multiplication are indicated by means of either a halfhigh (that is, centered) dot or a space. (This character, accessed in MS Word via CTRL+SHIFT+SPACE.) The space may be omitted if it does not cause confusion.	
	PROPER	**IMPROPER**
	The speed of sound is 344 $m\cdot s^{-1}$ (meter per second)	The speed of sound is 344 ms^{-1} (reciprocal millisecond)
	The half-life of ^{113}Cs is 21 ms^{-1} (reciprocal millisecond)	The half-life of ^{113}Cs is 21 $m\cdot s^{-1}$ (meter per second)
	m·s, m s	ms, m×s
	N·m, N m or Nm	
Division	Symbols for units formed from other units by division are indicated by means of a solidus (oblique stroke, /), a horizontal line, or negative exponents. To avoid ambiguity, the solidus must not be repeated on the same line unless parentheses are used. Negative exponents should be used in complicated cases.	
	PROPER	**IMPROPER**
	$\frac{m}{s}$, m/s, $m\cdot s^{-2}$	m ÷ s, m/s/s,
	m kg/(s^3 A), m kg s^{-3} A^{-1}	$m\cdot kg/s^3/A$
Mathematical notation	It must be clear to which unit symbol a numerical value belongs and which mathematical operation applies to the value of a quantity.	
	PROPER	**IMPROPER**
	35 cm × 48 cm	35 × 48 cm
	123 g do 200 g or (123 do 200) g	123g - 200 g or 123 do 200 g
	70 % ± 5 % or (70 ± 5) %	70 ± 5 %
	240 × (1 ± 10 %) V	240 V ± 10 % (one cannot add 240 V and 10 %)
Digit spacing	The digits of numerical values having more than four digits on either side of the decimal marker are separated into groups of three using a thin, fixed space counting from both the left and right of the decimal marker. Commas are not used to separate digits into groups of three.	
	PROPER	**IMPROPER**
	15 739.012 53	15739.01253 or 15,739.012 53 or 15.739,012 53
Percent	The symbol % represents simply a number 0.01. When it is used, a space is left between the symbol % and the number by which it is multiplied.	
	PROPER	**IMPROPER**
	$l_1 = l_2(1 + 0.2\ \%)$	The length l_1 exceeds the length l_2 by 0.2 %
	"The mass fraction is 0.67" or "The mass fraction is 67 %"	"Percentage by mass is 67 %" or x_B = 0.25 percent
		The fraction is 67 % (m/m)
Obsolete Terms	The obsolete terms normality, molarity, and molal and their symbols N, M, and m are not used.	
	PROPER	**IMPROPER**
	amount-of-substance concentration of B (more commonly called concentration of B), and its symbol c_B or c(B) and SI unit mol/m^3 (or a related acceptable unit, mol/dm^3, mol/L)	normality and the symbol *N*
		molarity and the symbol M
		molal and the symbol m
	molality of solute B, and its symbol b_B or m_B and SI unit mol/kg (or a related unit of the SI)	
Weight vs. mass	When the word "weight" is used, the intended meaning must be clear. (In science and technology, weight is a force, for which the SI unit is the newton; in commerce and everyday use, weight is usually a synonym for mass, for which the SI unit is the kilogram.)	

This document gives the rules and style conventions for the use of the International System of Units designed to help authors review the conformity of their manuscripts with proper SI usage and the basic principles concerning quantities and units. For more information on conventions used in technical writing, see the informative SI Unit rules and style conventions by the NIST as well as the BIPM's SI brochure.

Bibliography:

1. "The International System of Units (SI)." Bureau International des Poids et Mesures. 30 Nov 2010. <http://www.bipm.fr/en/si/>.
2. "The International System of Units from NIST." Oct 2000. National Institute of Standards and Technology. 30 Nov 2010. <http://physics.nist.gov/cuu/>.