
Quantities and units —

Part 9:

**Physical chemistry and molecular
physics**

AMENDMENT 1

Grandeurs et unités —

Partie 9: Chimie physique et physique moléculaire

AMENDEMENT 1

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Published in Switzerland

Foreword

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to ISO 80000-9:2009 was prepared by Technical Committee ISO/TC 12, *Quantities and units*, in collaboration with IEC/TC 25, *Quantities and units*.

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Part 9: Physical chemistry and molecular physics

AMENDMENT 1

Page iv, Foreword

Add at the end of the 5th paragraph:

in collaboration with IEC/TC 25, *Quantities and units*.

Page v, Introduction, 0.3.1

At the end of the first paragraph, delete the reference to Footnote 1) and the footnote.

Page 4, 9-4, Remarks column

Change the second line to read:

10^{23} mol^{-1}

Page 33, Note 1

Change “ISO 80000-10:—, item 10-92a” to “ISO 80000-10:2009, item 10-92.a”.

Page 34, Annex B

Replace the existing Annex B with the one given on the following page.

Page 37, Bibliography

Replace References [1] and [2] by the following:

[1] ISO 80000-1:2009, *Quantities and units — Part 1: General*

[2] ISO 80000-10:2009, *Quantities and units — Part 10: Atomic and nuclear physics*

Delete the references to Footnotes 1) and 2) and the footnotes.

Annex B (normative)

Symbols for chemical elements and nuclides

Symbols for chemical elements shall be written in roman (upright) font with a capital initial and often followed by one lower case letter. The symbol is not followed by a full stop except at the end of a sentence.

EXAMPLES

H As Th

The attached subscripts and superscripts specifying a nuclide or molecule shall have the following meanings and positions, all physical notations being on the left of the symbol and all chemical notations being on the right.

The nucleon number (mass number) of a nuclide is shown in the left superscript position, as in the following example.

^{14}N

The number of atoms of a nuclide in a molecule is shown in the right subscript position, as in the following example.

$^{14}\text{N}_2$

The atomic number (proton number) is shown in the left subscript position, as in the following example.

$_{64}\text{Gd}$

The state of ionization is shown in the right superscript position, as in the following examples.

Na^+ , PO_4^{3-} , $(\text{PO}_4)^{3-}$

The state of electrical excitation is shown in the right superscript position, as in the following examples.

He^* , NO^*

The state of nuclear excitation is shown with the symbol * in the left superscript position and for a metastable nuclide is indicated by adding the letter m (in roman type) to the mass number of the nuclide, as in the following example.

$^{137*}\text{Xe}$, or when metastable, $^{133\text{m}}\text{Xe}$