



**DIRECTIVE 1999/103/EC OF THE EUROPEAN PARLIAMENT
AND OF THE COUNCIL**

of 24 January 2000

**amending Council Directive 80/181/EEC on the approximation of
the laws of the Member States relating to units of measurement**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the opinion from the commission ⁽¹⁾,

Having regard to the opinion of the Economic and Social Committee ⁽²⁾,

Acting in accordance with the procedure referred to in Article 251 of the Treaty ⁽³⁾,

Whereas:

- (1) At international level the 19th Conférence générale des poids et mesures (1991) extended the list of SI prefixes to be used for multiples and submultiples of SI units.
- (2) The International Organisation for Standardisation (ISO) has revised the principles and rules regarding quantities and units as laid down in the international standard ISO 31; rules for the practical use of the SI system are given by the international standard ISO 1000.
- (3) The text of Council Directive 80/181/EEC ⁽⁴⁾ should be brought into line with these international agreements and standards.
- (4) Certain third countries do not accept on to their market products marked exclusively in the legal units established by Directive 80/181/EEC; companies exporting their products to these countries will be disadvantaged if supplementary indications are disallowed after 31 December 1999; supplementary indications in non-legal units should therefore be authorised for a further period.
- (5) The application of Directive 80/181/EEC should be re-examined and the appropriate measures taken with a view to the use of a global system; the procedure of Article 18 of Council Directive 71/316/EEC ⁽⁵⁾, should apply where appropriate,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Directive 80/181/EEC is hereby amended as follows:

1. In Article 3(2), '31 December 1999' shall be replaced by '31 December 2009'.
2. The following Article shall be added:

'Article 6a

Issues concerning the implementation of this Directive and, in particular, the matter of supplementary indications shall be further examined, and if necessary the appropriate measures adopted in accordance with the procedure referred to in Article 18 of Council Directive 71/316/EEC (*).'

⁽¹⁾ OJ C 89, 30.3.1999, p. 8.

⁽²⁾ OJ C 169, 16.6.1999, p. 1.

⁽³⁾ Opinion delivered on 15 December 1999 (not yet published in the Official Journal). Council Decision of 16 December 1999.

⁽⁴⁾ OJ L 39, 15.2.1980, p. 40. Directive as last amended by Directive 89/617/EEC (JO L 357, 7.12.1989, p. 28).

⁽⁵⁾ OJ L 202, 6.9.1971, p. 1.

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3. The Annex shall be amended as follows:

- (a) In Chapter I, the text under the table in point 1.1.1 shall be replaced by the following:

‘Celsius temperature t is defined as the difference $t = T - T_0$ between the two thermodynamic temperatures T and T_0 where $T_0 = 273,15$ K. An interval or difference of temperature may be expressed either in kelvins or in degrees Celsius. The unit “degree Celsius” is equal to the unit “kelvin”.’

- (b) The definitions of the SI supplementary units following the table in point 1.2.1 shall be replaced by the following:

‘Unit of plane angle

The radian is the angle between two radii of a circle which cut off on the circumference an arc equal in length to the radius.

(International standard ISO 31 — 1: 1992)

Unit of solid angle

The steradian is the solid angle of a cone which, having its vertex in the centre of a sphere, cuts off on the surface of the sphere an area equal to that of a square with sides of length equal to the radius of the sphere.

(International standard ISO 31 — 1: 1992).’

- (c) The table in point 1.3 shall be replaced by the following:

| Factor | Prefix | Symbol |
|------------|--------|------------------|
| 10^{24} | yotta | Y |
| 10^{21} | zetta | Z |
| 10^{18} | exa | E |
| 10^{15} | peta | P |
| 10^{12} | tera | T |
| 10^9 | giga | G |
| 10^6 | mega | M |
| 10^3 | kilo | ▶C1 k ◀ |
| 10^2 | hecto | ▶C1 h ◀ |
| 10^1 | deca | da |
| 10^{-1} | deci | d |
| 10^{-2} | centi | c |
| 10^{-3} | milli | m |
| 10^{-6} | micro | μ |
| 10^{-9} | nano | n |
| 10^{-12} | pico | p |
| 10^{-15} | femto | f |
| 10^{-18} | atto | a |
| 10^{-21} | zepto | z |
| 10^{-24} | yocto | y’ |

- (d) Point 3 shall be replaced by the following:

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‘3. UNITS USED WITH THE SI, WHOSE VALUES IN SI ARE OBTAINED EXPERIMENTALLY

| Quantity | Unit | | |
|----------|--------------------------|--------|---|
| | Name | Symbol | Definition |
| Energy | Electronvolt | eV | The electron volt is the kinetic energy acquired by an electron in passing through a potential difference of 1 volt in vacuum |
| Mass | Unified atomic mass unit | u | The unified atomic mass unit is equal to 1/12 of the mass of an atom of the nuclide ¹² C. |

Note: The prefixes and their symbols listed in 1.3 may be used in conjunction with these two units and with their symbols.’

Article 2

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive before 9 February 2001. They shall forthwith inform the Commission thereof.

When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. Member States shall lay down the procedure for such reference.

Article 3

Without prejudice to Directive 80/181/EEC, Member States shall, after 31 December 1999, authorise or continue to authorise the use of the supplementary indications referred to in Article 3 of that Directive.

Article 4

This Directive shall enter into force on the day of its publication in the *Official Journal of the European Communities*.