



## Gas cylinders for medical use – Marking for identification of content

*Bouteilles à gaz pour usages médicaux – Marquage pour l'identification du contenu*

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**Descriptors** : gas cylinders, medical equipment, gases, marking, colour codes.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 32 was developed by Technical Committee ISO/TC 58, *Gas cylinders*.

It was submitted directly to the ISO Council, in accordance with clause 6.12.1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 32-1957, and its Amendment 1-1966, which had been approved by the member bodies of the following countries:

Australia	Ireland	South Africa, Rep. of
Belgium	Israel	Spain
Canada	Italy	Sweden
Denmark	Mexico	United Kingdom
Finland	Netherlands	U.S.A.
Hungary	New Zealand	Yugoslavia
India	Pakistan	

The member bodies of the following countries had expressed disapproval of the document on technical grounds:

Austria  
France  
Japan  
Switzerland

# Gas cylinders for medical use – Marking for identification of content

## iTeh STANDARD PREVIEW (standards.iteh.ai)

### 1 SCOPE AND FIELD OF APPLICATION

This International Standard establishes a system of marking and a series of colours for the identification of the content of gas cylinders intended for medical use only.

In the case of gas mixtures, the cylinder shall bear the appropriate colours for the gases comprising the mixture, such colours to be visible from the valve end.

### 2 MARKING

Each cylinder shall be marked with the name of the gas it contains, either in the language of the country in which it is filled, or in the language preferred or adopted in that country, and shall be legibly marked with the chemical formula, except in the case of cyclopropane. The marking shall be at the valve end of the cylinder and preferably away from the cylindrical part of the body.



#### COLOUR MARKING

Each cylinder shall bear a colour corresponding to the gas it contains, as shown in the table below, and applied in such a manner that the colour is visible from the valve end.

Name of gas	Formula	Colour
Oxygen	O <sub>2</sub>	White
Nitrous oxide	N <sub>2</sub> O	Blue
Cyclopropane	—	Orange
Carbon dioxide	CO <sub>2</sub>	Grey
Ethylene	C <sub>2</sub> H <sub>4</sub>	Violet
Helium	He	Brown
Nitrogen	N <sub>2</sub>	Black
Oxygen and carbon dioxide	O <sub>2</sub> + CO <sub>2</sub>	White and grey
Oxygen and helium	O <sub>2</sub> + He	White and brown
Air	—	White and black

The identification colours should approximate as closely as possible to those which are defined in the table below, on the one hand, by the samples and, on the other, by the

chromaticity co-ordinates and illuminance factor of the C.I.E. (International Commission on Illumination) colorimetric system.

Identification colours		Chromaticity co-ordinates*		Illuminance factor* $\beta$ %
		x	y	
Blue		0,191	0,164	7,92
Orange		0,581	0,399	27,6
Grey		0,361	0,381	31,5
Violet		0,351	0,231	5,94
Brown		0,518	0,415	7,08

\* These values are for illuminant B, colour illuminated normally and viewed at 45°.