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**Gas cylinders — Vocabulary**

**Bouteilles à gaz — Vocabulaire**

**Gasflaschen — Vokabular**

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 23, *Transportable gas cylinders*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fifth edition cancels and replaces the fourth edition (ISO 10286:2015), of which it constitutes a minor revision. The changes are as follows:

- changes to the formatting and structure throughout;
- editorial changes to fully align with the rules in ISO/IEC Directives Part 2.

In addition to text written in the official ISO languages (English, French), this document gives text in German. This text is published under the responsibility of the Member Body for Germany (DIN) and is given for information only. Only the text given in the official languages can be considered as ISO text.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

The terms and definitions in this document are given in the following layout:

<b>preferred term(s)</b>	in bold typeface
admitted term(s)	or synonyms, in normal typeface
DEPRECATED: deprecated term	deprecated term(s), in normal typeface, with the designation “DEPRECATED”:
definition	the definition, where available, in normal typeface
Note 1 to entry:	notes to entry, cross-references and examples.
Figures/non-verbal representations	

The terms in this document are sorted in systematic order as far as possible. Further guidance on terminological presentation can be found in ISO 10241-1.

The definitions support the understanding of the terms used in this document. They have been prepared with due regard to possible uses in different fields related to gas cylinders. However, it is possible that they will require adaption for particular uses.

Within this document, the term “ADR” is for simplification used as to also include similar regulations such as RID and ADN, where appropriate.

This document has been written so that it is suitable to be referenced in the UN Model Regulations<sup>[4]</sup>.

[Table 1](#) shows a hierarchical overview of pressure receptacles according to the UN Model Regulations.

[Annex A](#) shows the different pressures for pressure receptacles in relation to each other.

[Annex B](#) shows a table including equivalent terms for additional terminology.

[Annex C](#) shows figures related to the additional terminology given in [Annex B](#).

Terms given in square brackets are not within the scope of this document. They are shown for information only.

**Table 1 — Hierarchical overview of terms for pressure receptacles**

battery vehicle <sup>d</sup>	small receptacle containing gas (gas cartridge) and aerosol dispenser	MEGC (multiple-element gas container)	pressure receptacle						[tank <sup>a</sup> ]
			cylinder	tube	pressure drum	bundle of cylinders	salvage pressure receptacle	[closed cryogenic receptacle <sup>b</sup> ]	
<p><sup>a</sup> In scope of CEN/TC 296 and CEN/TC 286.</p> <p><sup>b</sup> In scope of ISO/TC 220.</p> <p><sup>c</sup> In scope of ISO/TC 197.</p> <p><sup>d</sup> This designation is used in the ADR.</p> <p>NOTE Within this document, for simplification, the use of the term “ADR” also includes similar regulations such as RID and ADN, where appropriate.</p>									

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# Gas cylinders — Vocabulary

## 1 Scope

This document defines terms for gas cylinders.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1 Terms related to pressure receptacles

#### 3.1.1 All pressure receptacles

##### 3.1.1.1

##### **pressure receptacle**

DEPRECATED: receptacle

cylinder, tube, pressure drum, closed cryogenic receptacle, metal-hydride storage system, bundle of cylinders or salvage pressure receptacle

EXAMPLE Seamless gas cylinder:



##### 3.1.1.2

##### **gas cylinder cylinder**

transportable pressure receptacle of a water capacity not exceeding 150 l

Note 1 to entry: In ISO/TC 58 standards, the term “gas cylinder” is frequently used for clarification.

**3.1.1.3**

**tube**

seamless transportable pressure receptacle of a water capacity exceeding 150 l but not more than 3 000 l

Note 1 to entry: In ISO/TC 58, standards for composite tubes also with a higher water capacity are under development.

**3.1.1.4**

**pressure drum**

welded transportable pressure receptacle of a water capacity exceeding 150 l and of not more than 1 000 l

**3.1.1.5**

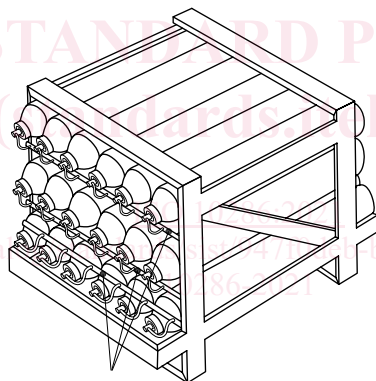
**bundle of cylinders**

cylinder bundle

DEPRECATED: cylinder pack

assembly of cylinders that are fastened together and which are interconnected by a manifold and transported as a unit having a total water capacity not exceeding 3 000 l except that bundles intended for the transport of toxic gases shall be limited to 1 000 l total water capacity

EXAMPLE



Note 1 to entry: In ISO/TC 58 standards, the term “bundle” is frequently used for simplification.

**3.1.1.6**

**salvage pressure receptacle**

pressure receptacle with a water capacity not exceeding 1 000 l into which are placed damaged, defective, leaking or non-conforming pressure receptacle(s) for the purpose of transport, e.g. for recovery or disposal

**3.1.1.7**

**small receptacle containing gas**

gas cartridge

non-refillable receptacle having a water capacity not exceeding 1 000 ml for receptacles made of metal and not exceeding 500 ml for receptacles made of synthetic material or glass, containing under pressure a gas or mixture of gases

Note 1 to entry: This definition is used in the ADR only. There is no definition in the UN Model Regulations.

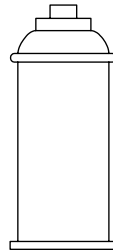
Note 2 to entry: This note applies to the German language only.

### 3.1.1.8 aerosol dispenser

aerosol

non-refillable receptacle made of metal, glass or plastics and containing a gas, compressed, liquefied or dissolved under pressure, with or without a liquid, paste or powder and fitted with a release device allowing the contents to be ejected

EXAMPLE



Note 1 to entry: This note applies to the German language only.

### 3.1.1.9 metal-hydride storage system

single complete hydrogen storage system, including a receptacle, metal hydride, pressure relief device, shut-off valve, service equipment and internal components used for the transport of hydrogen only

### 3.1.1.10

#### cryogenic receptacle

transportable thermally insulated receptacle for refrigerated liquefied gases, of a water capacity of not more than 1 000 l

### 3.1.1.11

#### MEGC

#### multiple-element gas container

multimodal assembly of cylinders, tubes or bundles of cylinders which are interconnected by a manifold and assembled within a framework, including service equipment and structural equipment necessary for the transport of gases

Note 1 to entry: This definition is taken from the UN Model Regulations. ADR uses a different definition.

### 3.1.1.12

#### battery vehicle

vehicle containing elements which are linked to each other by a manifold and permanently fixed to a transport unit

Note 1 to entry: The following elements are considered to be elements of a battery-vehicle: cylinders, tubes, bundles of cylinders and pressure drums, as well as certain tanks destined for the carriage of gases with a capacity of more than 450 l.

Note 2 to entry: This term is used in the ADR only. There is no definition in the UN Model Regulations.

### 3.1.1.13

#### tank

portable tank, including a tank container, a road tank-vehicle, a rail tank-wagon or a receptacle to contain solids, liquids or gases, having a capacity of not less than 450 l when used for the transport of gases

Note 1 to entry: This definition is taken from the UN Model Regulations. ADR uses a different definition.

**3.1.1.14**  
**portable**

capable of being carried by hand

Note 1 to entry: When used in connection with tanks, this means “transportable”.

**3.1.2 All gas cylinders**

**3.1.2.1**  
**composite cylinder**

cylinder reinforced by continuous filaments held in a matrix

**3.1.2.2**  
**acetylene cylinder**

cylinder manufactured and suitable for the transport of acetylene, containing a porous material and solvent (where applicable) for acetylene with a valve and other accessories affixed to the cylinder

**3.1.2.3**  
**cylinder end**

cylinder base or cylinder shoulder

**3.1.3 Composite gas cylinders**

**3.1.3.1**  
**composite overwrap**

combination of fibres (including steel wire) and matrix

**3.1.3.2**  
**matrix**

material that is used to bind and hold the fibres in place

**3.1.3.3**  
**liner**

inner portion of a composite cylinder, comprising a metallic or non-metallic vessel, whose purpose is both to contain the gas and transmit the gas pressure to the composite overwrap

**3.1.4 Acetylene cylinders**

**3.1.4.1**  
**porous material**

single- or multiple-component material introduced to, or formed in, the cylinder shell, that, due to its porosity, allows the absorption of a solvent/acetylene solution

Note 1 to entry: The porous material can be either:

- monolithic, consisting of a solid product obtained by reacting materials or by materials connected together with a binder; or
- non-monolithic, consisting of granular, fibrous or similar materials without the addition of a binder.

**3.1.4.2**  
**top clearance**

gap between the inside of the cylinder shoulder and the monolithic porous material

**3.1.4.3**  
**solvent**

liquid that is absorbed by the porous material and is capable of dissolving and releasing acetylene

**3.1.4.4****specified solvent content**

weight of solvent that the acetylene cylinder shall contain and that is established during prototype testing

**3.1.4.5****maximum acetylene content**

<acetylene cylinders> specified maximum weight of acetylene including saturation acetylene in an acetylene cylinder

**3.1.4.6****maximum acetylene content**

<acetylene cylinder bundles> specified maximum weight of acetylene including saturation acetylene in the bundle cylinder

**3.1.4.7****maximum acetylene charge**

maximum acetylene content minus the saturation acetylene

**3.1.4.8****residual gas**

residual acetylene

weight of acetylene including the saturation acetylene contained in an acetylene cylinder returned for filling

**3.1.4.9****saturation acetylene**

saturation gas

acetylene that remains dissolved in the solvent in the acetylene cylinder at atmospheric pressure (1,013 bar) and at a temperature of 15 °C

**3.1.4.10****tare A**

sum of weights of the empty cylinder shell, the porous material, the specified solvent content, the valve, the coating and the valve guard, where applicable, and all other parts that are permanently attached to the acetylene cylinder when it is presented to be filled

**3.1.4.11****tare S**

tare A plus the weight of the saturation acetylene

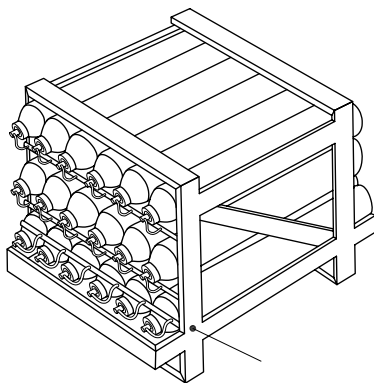
**3.1.4.12****tare F**

tare A minus the specified solvent content

**3.1.5 Bundles of cylinders, battery vehicles and MEGC****3.1.5.1****frame**

structural and non-structural members of a bundle which combine all other components together, while providing protection for the bundle's cylinders, valves and manifold, and which enable the bundle to be transported

EXAMPLE

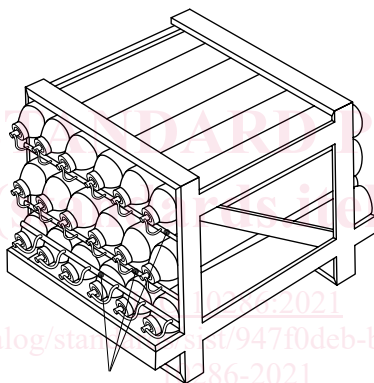


### 3.1.5.2

#### **manifold**

pipng system for connecting pressure receptacle(s) valves or fittings to the main valve(s) or the main connection(s)

EXAMPLE



### 3.1.5.3

#### **main connection**

means of making a gas connection to a bundle/battery vehicle/MEGC

### 3.1.5.4

#### **main valve**

main shut-off valve

DEPRECATED: bundle valve

valve which is fitted to the manifold of a bundle, battery vehicle, battery wagon or MEGC isolating it from the main connection(s)

## 3.2 Terms related to accessories

### 3.2.1

#### **accessory**

device fitted to a pressure receptacle needed for operation and/or transport

EXAMPLE Cylinder valve, valve protection cap/valve guard, fitting, pressure regulator, pressure gauge.

### 3.2.2

#### **fitting**

connecting piece of one or more parts having no shut-off function

**3.2.3****valve operating mechanism**

mechanism which closes and opens the valve orifice and which includes the internal and external sealing systems

EXAMPLE A threaded valve spindle which, when rotated, raises and lowers a seal/seat.

**3.2.4****valve operating device**

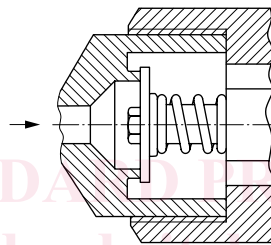
component which actuates the valve operating mechanism

EXAMPLE Handwheel, key, knob, toggle, lever or actuator.

**3.2.5****non-return valve**

automatic valve which allows gas to flow only in one direction

EXAMPLE

**3.2.6****residual pressure valve****RPV**

cylinder valve which incorporates a residual pressure device

**3.2.7****residual pressure device****RPD**

device that prevents ingress of contaminants by maintaining a positive differential pressure between the pressure within the cylinder and the valve outlet

**3.2.8****excess flow device**

device designed to close or partially close when the flow of liquid or vapour passing through it exceeds a predetermined value and to re-open when the pressure differential across the device has been restored below a certain value

EXAMPLE

