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Third edition
2020-05

Gas cylinders — Compatibility of cylinder and valve materials with gas contents —

Part 1: Metallic materials

*Bouteilles à gaz — Compatibilité des matériaux des bouteilles et des
robinets avec les contenus gazeux —*

Partie 1: Matériaux métalliques



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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Materials	2
4.1 General.....	2
4.2 Cylinder materials.....	2
4.3 Valve materials.....	3
4.3.1 General.....	3
4.3.2 Particular considerations.....	3
5 Compatibility criteria	3
5.1 General.....	3
5.2 Corrosion.....	4
5.2.1 General.....	4
5.2.2 Corrosion in dry conditions.....	4
5.2.3 Corrosion in wet conditions.....	4
5.2.4 Corrosion by impurities.....	4
5.3 Hydrogen embrittlement phenomenon.....	5
5.4 Generation of dangerous products.....	5
5.5 Violent reactions (e.g. ignition).....	5
5.6 Stress corrosion cracking.....	5
6 Material compatibility	5
6.1 Table of compatibility for single gases.....	5
6.2 Compatibility for gas mixtures.....	5
6.3 Using Table 1	6
6.3.1 Conventions and numbers.....	6
6.3.2 Abbreviations for materials.....	6
Annex A (informative) Gas/materials NQSAB compatibility code	37
Bibliography	48

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).

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).

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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.

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 third edition cancels and replaces the second edition (ISO 11114-1:2012), which has been technically revised. It also incorporates the Amendment ISO 11114-1:2012/Amd.1:2017. The main changes compared to the previous edition are as follows:

- inclusion of all changes in ISO 11114-1:2012/Amd.1:2017;
- clarification of the definition of dry;
- addition of notes in [Table 1](#).

A list of all parts in the ISO 11114 series can be found on the ISO website.

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.

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Introduction

Industrial, medical and special gases (e.g. high-purity gases, calibration gases) can be transported or stored in gas cylinders. An essential requirement of the material from which such gas cylinders and their valves are manufactured is compatibility with the gas content.

Compatibility of cylinder materials with gas content has been established over many years by practical application and experience. Existing national and international regulations and standards do not fully cover this aspect.

This document is based on current international experience and knowledge.

This document has been written so that it is suitable to be referenced in the UN Model Regulations^[1].