



SLOVENSKI STANDARD
oSIST prEN ISO 13338:2021
01-junij-2021

Plinske jeklenke - Plini in zmesi plinov - Določanje agresivnosti plinov in njihovih zmesi na tkiva za izbiro izhodnega priključka ventila na jeklenki (ISO/DIS 13338:2021)

Gas cylinders - Gases and gas mixtures - Determination of corrosiveness for the selection of cylinder valve outlet (ISO/DIS 13338:2021)

Gasflaschen - Gase und Gasgemische - Bestimmung der Ätzwirkung auf lebendes Gewebe zur Auswahl von Ventilausgängen (ISO/DIS 13338:2021)

Bouteilles à gaz - Gaz et mélanges de gaz - Détermination de la corrosivité sur les tissus pour le choix des raccords de sortie de robinets (ISO/DIS 13338:2021)

<https://standards.iteh.ai/catalog/standards/sist/031bcd7e-f408-44b8-8eee-5f4a0420d4a/osist-pren-iso-13338-2021>

Ta slovenski standard je istoveten z: prEN ISO 13338

ICS:

23.020.35	Plinske jeklenke	Gas cylinders
71.100.20	Industrijski plini	Gases for industrial application

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en,fr,de

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DRAFT INTERNATIONAL STANDARD

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Gas cylinders — Gases and gas mixtures — Determination of corrosiveness for the selection of cylinder valve outlet

ICS: 23.020.35; 71.100.20

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ISO/CEN PARALLEL PROCESSING



Reference number
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ISO/DIS 13338:2021(E)

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).

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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*, Subcommittee SC 2, *Cylinder fittings*, 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 13338:2017), which has been technically revised with the following change:

The main changes compared to the previous edition are as follows:

- clarification in the document of the corrosiveness of gases and gases mixtures;
- clarification of the definition of FTSC codes for corrosiveness gases and gas mixtures in Clause 4;
- minor editorial changes in Table 1.

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.

Introduction

ISO 5145 specifies the dimensions of different valve outlets for different compatible gas groups. These compatible gas groups are determined according to practical criteria defined in ISO 14456.

These criteria are based on certain physical, chemical, toxic and corrosive properties of the gases. In particular, the gas corrosiveness is considered in this document.

The aim of this document is to assign a classification category for each gas that takes into account the tissue corrosiveness of the gas for skin, eyes and the respiratory tract as well as the potential for a corrosiveness related acid/base chemical reaction.

For gas mixtures containing corrosive components, a calculation method based on the additivity method of the GHS is proposed.

However, for gas mixtures containing corrosive gas components, some valve outlets standards require the use of the corrosive category regardless of the corrosive gas concentration.

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Gas cylinders — Gases and gas mixtures — Determination of corrosiveness for the selection of cylinder valve outlet

1 Scope

This document provides:

- for pure gases and some liquids, a complete list indicating their corrosiveness;
- for gas mixtures, a calculation method, in the absence of experimental data, relating to the corrosiveness of each of their components;

in order to determine the corrosiveness of gases and gas mixtures so that a suitable outlet connection can be assigned to each of them.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

3.1.1

tissue corrosiveness of gases or gas mixtures

ability of a gas to damage or destroy living tissues (eyes, skin and mucous membranes)

Note 1 to entry: It corresponds to GHS hazard category skin corrosion 1, 1A, 1B or 1C or GHS hazard category eye damage 1.

3.1.2

irritant gas

gas which may cause a temporary reaction to the skin, eyes and mucous membranes

Note 1 to entry: It corresponds to GHS hazard category skin irritation 2 or GHS hazard category eye irritation 2.

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3.2 Symbols

<i>L</i>	limit
<i>V</i>	volume
<i>C</i>	indicates a corrosive component
<i>i</i>	indicates an irritant component
<i>nc</i>	indicates a non-corrosive, non-irritant component

4 Classification

In accordance with the above, gases and gas mixtures are classified into the following tissue corrosiveness categories:

- C: corrosive;
- i: irritant;
- nc: non-corrosive, non-irritant.

For a complete definition for purposes of the gas cylinder connection that takes into account all aspects of corrosiveness including tissue corrosiveness and acid/base chemical reactivity, the subdivisions of the FTSC code given in the notes to of Table 1 shall also be taken into account:

- 0: non-corrosive (nc, i or C);
- 1: forms non-halogen acids (nc, i or C);
- 2: basic (C);
- 3: forms halogen acids (C).

5 Categories of corrosiveness for pure gases

The corrosiveness category of each gas (C, i or nc) corresponding to the classification defined in Clause 3 is shown in Table 1.

Table 1 — Corrosiveness categories of pure gases

Gas/liquid name	Chemical formula	Synonym	C Code	Tissue corrosiveness category
Ammonia ^a	NH ₃	R717	2	C
Antimony pentafluoride ^a	SbF ₅		3	C
NOTES Key FTSC (ISO 14456) 0 = non-corrosive 1 = forms non-halogenated acids 2 = basic 3 = forms halogenated acids ^a Some products, being liquid at normal ambient conditions, are included in this grouping because valve outlets are necessary when these products are supplied together with a propellant in a pressure container. ^b This category is conservative and is used to indicate that this a weak acid.				