International Standard

ISO 14456

Gas cylinders — Gas properties and associated classification (FTSC) codes

Bouteilles à gaz — Propriétés des gaz et codes de classification associés (FTSC)

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Foreword

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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 document 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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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 second edition cancels and replaces the first edition (ISO 14456:2015), which has been technically revised. It also incorporates the Amendment ISO 14456:2015/Amd.1:2019.

The main changes are as follows:

— corrections to CAS numbers and FTSC codes;

— consequential revisions as a result of a new edition of ISO 5145;

— addition of new FTSC codes for commonly used gases and liquids.

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

This document establishes a method of allocating a four-digit code number (FTSC) to any gases and liquids that are transported under pressure or mixture of gases contained in cylinders. This code number categorizes the gas, liquids that are transported under pressure or gas mixture in terms of its physical-chemical properties and/or flammability, toxicity, state of gas, and corrosiveness (see 4.1). FTSC is the abbreviation of these properties.

The FTSC code enables gases and liquids that are transported under pressure or gas mixtures to be assigned to one of the 15 “compatible” gas groups.

The properties and the selection criteria are aligned as appropriate with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).[11]

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Gas cylinders — Gas properties and associated classification (FTSC) codes

1 Scope

This document gives a list of FTSC (fire potential, i.e. “oxidizing power and flammability”, toxicity, state of the gas, and corrosiveness) codes determined according to the relevant properties of gases and of some liquids that are transported under pressure.

It does not cover material compatibility with gases which is covered by the ISO 11114 series.

2 Normative references

There are no normative references in this document.

3 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:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
gas mixture
combination of different single gases and/or liquids deliberately mixed in specified proportions resulting in a homogeneous gaseous mixture

[SOURCE: ISO 10286:2021, 3.5.2, modified]

3.2
liquefied gas
gas, which, when packaged for transport, is partially liquid (or solid) at temperatures above −50 °C

[SOURCE: ISO 10286:2021, 3.5.4]

3.3
compressed gas
gas, which, when packaged under pressure for transport, is entirely gaseous at −50 °C

Note 1 to entry: This category includes all gases with a critical temperature less than or equal to −50 °C.

[SOURCE: ISO 10286:2021, 3.5.3]

3.4
lethal concentration 50
LC_{50}
concentration of a substance in air exposure to which, for a specified length of time, is expected to cause the death of 50 % of the entire defined experimental animal population after a defined time period

Note 1 to entry: Lethal concentration is usually measured as ppm (volume fraction) or mg/m^3.

[SOURCE: ISO 10298:2018, 3.1, modified — Note 1 to entry has been changed.]

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