



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 23208:2019

# Cryogenic vessels - Cleanliness for cryogenic service (ISO 23208:2017)

**I.S. EN ISO 23208:2019**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN ISO 23208:2019 is the adopted Irish version of the European Document EN ISO 23208:2019, Cryogenic vessels - Cleanliness for cryogenic service (ISO 23208:2017)

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EUROPEAN STANDARD

EN ISO 23208

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2019

ICS 23.020.40

Supersedes EN 12300:1998

English Version

## Cryogenic vessels - Cleanliness for cryogenic service (ISO 23208:2017)

Réceptacles cryogéniques - Propreté en service  
cryogénique (ISO 23208:2017)

Kryo-Behälter - Reinheit für den tiefkalten Betrieb (ISO  
23208:2017)

This European Standard was approved by CEN on 11 February 2019.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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**EN ISO 23208:2019 (E)**

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## **European foreword**

The text of ISO 23208:2017 has been prepared by Technical Committee ISO/TC 220 "Cryogenic vessels" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 23208:2019 by Technical Committee CEN/TC 268 "Cryogenic vessels and specific hydrogen technologies applications" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12300:1998.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 23208:2017 has been approved by CEN as EN ISO 23208:2019 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
23208**

Second edition  
2017-04

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## **Cryogenic vessels — Cleanliness for cryogenic service**

*Réipients cryogéniques — Propreté en service cryogénique*



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**ISO 23208:2017(E)**



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## ISO 23208:2017(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](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 on 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 the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 220, *Cryogenic vessels*.

This second edition cancels and replaces the first edition (ISO 23208:2005), which has been technically revised. The main changes are in [4.1](#).

# Cryogenic vessels — Cleanliness for cryogenic service

## 1 Scope

This document specifies the minimum requirements for the cleanliness of all surfaces of cryogenic vessels and associated accessories that are in contact with the cryogenic fluid at any expected operating conditions.

This document defines the acceptable level of surface and particle contamination to minimize the risk of malfunction of equipment and ensure safety against ignition when in contact with oxygen or oxidizing fluids (see ISO 10156).

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 21010, *Cryogenic vessels — Gas/materials compatibility*

## 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:

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

### 3.1

#### **cryogenic fluid**

gas which is partially liquid because of its low temperature

Note 1 to entry: It includes totally evaporated liquids and supercritical fluids.

Note 2 to entry: In the context of this document, refrigerated but non-toxic gases and mixtures of them are referred to as cryogenic fluids.

Note 3 to entry: See also ISO 21029-1, ISO 20421-1 and/or ISO 21009-1.

### 3.2

#### **oxidizing fluid**

*cryogenic fluid* (3.1) with oxidizing properties

Note 1 to entry: This is in accordance with ISO 10156.

## 4 Requirements

### 4.1 General requirements

Foreign matter such as chips, oxide scale and weld spatter are not acceptable.

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