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Second edition  
2019-06

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# Cryogenic vessels — Large transportable vacuum-insulated vessels —

## Part 1: Design, fabrication, inspection and testing

*Réipients cryogéniques — Réipients transportables isolés sous vide  
de grande contenance —*

*Partie 1: Conception, fabrication, inspection et essais*



Reference number  
ISO 20421-1:2019(E)

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Published in Switzerland

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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 220, *Cryogenic vessels*.

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).

This second edition cancels and replaces the first edition (ISO 20421-1:2006), which has been technically revised. It also incorporates ISO 20421-1:2006/Cor 1:2007. The main changes compared to the previous edition are as follows:

- Subclause [12.3](#) has been revised;
- [Annex D](#) has been revised;
- Chinese materials have been added in [Annex G](#).

A list of all parts in the ISO 20421 series can be found on the ISO website.

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## **Introduction**

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

This document does not include the general vehicle requirements, e.g. running gear, brakes, lighting, etc., for which the relevant standards/regulations apply.