

## **Cryogenic vessels - Large transportable non-vacuum insulated vessels - Part 1: Fundamental requirements**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14398-1:2003 sisaldab Euroopa standardi EN 14398-1:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 17.09.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14398-1:2003 consists of the English text of the European standard EN 14398-1:2003.</p> <p>This document is endorsed on 17.09.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This European Standard specifies the fundamental requirements for large transportable non-vacuum insulated cryogenic vessels and designed to operate above atmospheric pressure. This standard applies to large transportable non-vacuum insulated cryogenic vessels for fluids as specified in 3.1 and is not applicable to such vessels designed for toxic fluids</p>	<p><b>Scope:</b></p> <p>This European Standard specifies the fundamental requirements for large transportable non-vacuum insulated cryogenic vessels and designed to operate above atmospheric pressure. This standard applies to large transportable non-vacuum insulated cryogenic vessels for fluids as specified in 3.1 and is not applicable to such vessels designed for toxic fluids</p>
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**Võtmesõnad:** acceptance testing, coolers, gas cylinders, mechanical propert, mobile, properties, repeat tests, safety requirements, sample surveys, specification (approval), specifications, stickers, surveillance (approval), temperature, testing, thermal stress, transport boxes

ICS 23.020.40

English version

## Cryogenic vessels - Large transportable non-vacuum insulated vessels - Part 1: Fundamental requirements

Réipients cryogéniques - Grands réipients transportables  
non isolés sous vide - Partie 1: Exigences fondamentales

Kryo-Behälter - Große ortsbewegliche, nicht vakuum-  
isolierte Behälter - Teil 1: Grundanforderungen

This European Standard was approved by CEN on 10 July 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

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## Foreword

This document (EN 14398-1:2003) has been prepared by Technical Committee CEN/TC 268 “Cryogenic vessels”, 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 February 2004, and conflicting national standards shall be withdrawn at the latest by February 2004.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports the objectives of the framework Directives on Transport of Dangerous Goods.

EN 14398 consists of the following Parts under the general title, *Cryogenic vessels – Large transportable non-vacuum insulated vessels*:

- *Part 1: Fundamental requirements*
- *Part 2: Design, fabrication, inspection and testing*
- *Part 3: Operational requirements*

Annex A is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard specifies the fundamental requirements for large transportable non-vacuum insulated cryogenic vessels and designed to operate above atmospheric pressure.

This standard applies to large transportable non-vacuum insulated cryogenic vessels for fluids as specified in 3.1 and is not applicable to such vessels designed for toxic fluids.

## 2 Normative references

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1252-1, *Cryogenic vessels - Materials - Part 1: Toughness requirements for temperatures below -80 °C.*

EN 1252-2, *Cryogenic vessels - Materials - Part 2: Toughness requirements for temperatures between -80°C and -20 °C.*

EN 1626, *Cryogenic vessels - Valves for cryogenic service.*

EN 1797, *Cryogenic vessels - Gas/material compatibility.*

EN 10204, *Metallic products - Types of inspection documents.*

EN 12300, *Cryogenic vessels - Cleanliness for cryogenic service.*

EN 13648-1, *Cryogenic vessels - Safety devices for protection against excessive pressure - Part 1 : Safety valves for cryogenic service.*

EN 13648-2, *Cryogenic vessels - Safety devices for protection against excessive pressure - Part 2 : Bursting disc safety devices for cryogenic service.*

EN 13648-3, *Cryogenic vessels - Safety devices for protection against excessive pressure - Part 3 : Determination of required discharge - Capacity and sizing.*

EN 14398-2, *Cryogenic vessels - Large transportable non-vacuum insulated vessels - Part 2 : Design, fabrication, inspection and testing.*

EN 14398-3, *Cryogenic vessels - Large transportable non-vacuum insulated vessels - Part 3: Operational requirements.*

## 3 Terms and definitions

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

### 3.1

#### **cryogenic fluid (refrigerated liquefied gas)**

gas which is partially liquid because of its low temperature<sup>1)</sup>. In the context of all parts of this standard the (refrigerated but) non-toxic gases and mixtures of them given in Table 1 are referred to as cryogenic fluids

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<sup>1)</sup> This includes totally evaporated liquids and supercritical fluids.