



**Selection and use of highway tanks, TC portable tanks, and other large containers for the transportation of dangerous goods, Classes 3, 4, 5, 6.1, 8, and 9**



# Legal Notice for Standards

Canadian Standards Association (operating as “CSA Group”) develops standards through a consensus standards development process approved by the Standards Council of Canada. This process brings together volunteers representing varied viewpoints and interests to achieve consensus and develop a standard. Although CSA Group administers the process and establishes rules to promote fairness in achieving consensus, it does not independently test, evaluate, or verify the content of standards.

## Disclaimer and exclusion of liability

This document is provided without any representations, warranties, or conditions of any kind, express or implied, including, without limitation, implied warranties or conditions concerning this document’s fitness for a particular purpose or use, its merchantability, or its non-infringement of any third party’s intellectual property rights. CSA Group does not warrant the accuracy, completeness, or currency of any of the information published in this document. CSA Group makes no representations or warranties regarding this document’s compliance with any applicable statute, rule, or regulation.

IN NO EVENT SHALL CSA GROUP, ITS VOLUNTEERS, MEMBERS, SUBSIDIARIES, OR AFFILIATED COMPANIES, OR THEIR EMPLOYEES, DIRECTORS, OR OFFICERS, BE LIABLE FOR ANY DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO SPECIAL OR CONSEQUENTIAL DAMAGES, LOST REVENUE, BUSINESS INTERRUPTION, LOST OR DAMAGED DATA, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER THEORY OF LIABILITY, ARISING OUT OF OR RESULTING FROM ACCESS TO OR POSSESSION OR USE OF THIS DOCUMENT, EVEN IF CSA GROUP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES.

In publishing and making this document available, CSA Group is not undertaking to render professional or other services for or on behalf of any person or entity or to perform any duty owed by any person or entity to another person or entity. The information in this document is directed to those who have the appropriate degree of experience to use and apply its contents, and CSA Group accepts no responsibility whatsoever arising in any way from any and all use of or reliance on the information contained in this document.

CSA Group is a private not-for-profit company that publishes voluntary standards and related documents. CSA Group has no power, nor does it undertake, to enforce compliance with the contents of the standards or other documents it publishes.

## Intellectual property rights and ownership

As between CSA Group and the users of this document (whether it be in printed or electronic form), CSA Group is the owner, or the authorized licensee, of all works contained herein that are protected by copyright, all trade-marks (except as otherwise noted to the contrary), and all inventions and trade secrets that may be contained in this document, whether or not such inventions and trade secrets are protected by patents and applications for patents. Without limitation, the unauthorized use, modification, copying, or disclosure of this document may violate laws that protect CSA Group’s and/or others’ intellectual property and may give rise to a right in CSA Group and/or others to seek legal redress for such use, modification, copying, or disclosure. To the extent permitted by licence or by law, CSA Group reserves all intellectual property rights in this document.

## Patent rights

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights. CSA Group shall not be held responsible for identifying any or all such patent rights. Users of this standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.

## Authorized use of this document

This document is being provided by CSA Group for informational and non-commercial use only. The user of this document is authorized to do only the following:

If this document is in electronic form:

- load this document onto a computer for the sole purpose of reviewing it;
- search and browse this document; and
- print this document if it is in PDF format.

Limited copies of this document in print or paper form may be distributed only to persons who are authorized by CSA Group to have such copies, and only if this Legal Notice appears on each such copy.

In addition, users may not and may not permit others to

- alter this document in any way or remove this Legal Notice from the attached standard;
- sell this document without authorization from CSA Group; or
- make an electronic copy of this document.

If you do not agree with any of the terms and conditions contained in this Legal Notice, you may not load or use this document or make any copies of the contents hereof, and if you do make such copies, you are required to destroy them immediately. Use of this document constitutes your acceptance of the terms and conditions of this Legal Notice.



# *Standards Update Service*

*CSA B621:20*

*November 2020*

**Title:** *Selection and use of highway tanks, TC portable tanks, and other large containers for the transportation of dangerous goods, Classes 3, 4, 5, 6.1, 8, and 9*

To register for e-mail notification about any updates to this publication

- go to [store.csagroup.org](https://store.csagroup.org)
- click on **Product Updates**

The **List ID** that you will need to register for updates to this publication is **2427674**.

If you require assistance, please e-mail [techsupport@csagroup.org](mailto:techsupport@csagroup.org) or call 416-747-2233.

Visit CSA Group's policy on privacy at [www.csagroup.org/legal](https://www.csagroup.org/legal) to find out how we protect your personal information.

**Canadian Standards Association (operating as “CSA Group”)**, under whose auspices this National Standard has been produced, was chartered in 1919 and accredited by the Standards Council of Canada to the National Standards system in 1973. It is a not-for-profit, nonstatutory, voluntary membership association engaged in standards development and certification activities.

CSA Group standards reflect a national consensus of producers and users — including manufacturers, consumers, retailers, unions and professional organizations, and governmental agencies. The standards are used widely by industry and commerce and often adopted by municipal, provincial, and federal governments in their regulations, particularly in the fields of health, safety, building and construction, and the environment.

Individuals, companies, and associations across Canada indicate their support for CSA Group’s standards development by volunteering their time and skills to Committee work and supporting CSA Group’s objectives through sustaining memberships. The more than 7000 committee volunteers and the 2000 sustaining memberships together form CSA Group’s total membership from which its Directors are chosen. Sustaining memberships represent a major source of income for CSA Group’s standards development activities.

CSA Group offers certification and testing services in support of and as an extension to its standards development activities. To ensure the integrity of its certification process, CSA Group regularly and continually audits and inspects products that bear the CSA Group Mark.

In addition to its head office and laboratory complex in Toronto, CSA Group has regional branch offices in major centres across Canada and inspection and testing agencies in eight countries. Since 1919, CSA Group has developed the necessary expertise to meet its corporate mission: CSA Group is an independent service organization whose mission is to provide an open and effective forum for activities facilitating the exchange of goods and services through the use of standards, certification and related services to meet national and international needs.

For further information on CSA Group services, write to  
CSA Group  
178 Rexdale Boulevard  
Toronto, Ontario, M9W 1R3  
Canada



**Standards Council of Canada**  
**Conseil canadien des normes**

A National Standard of Canada is a standard developed by a Standards Council of Canada (SCC) accredited Standards Development Organization, in compliance with requirements and guidance set out by SCC. More information on National Standards of Canada can be found at [www.scc.ca](http://www.scc.ca).

SCC is a Crown corporation within the portfolio of Innovation, Science and Economic Development (ISED) Canada. With the goal of enhancing Canada's economic competitiveness and social well-being, SCC leads and facilitates the development and use of national and international standards. SCC also coordinates Canadian participation in standards development, and identifies strategies to advance Canadian standardization efforts.

Accreditation services are provided by SCC to various customers, including product certifiers, testing laboratories, and standards development organizations. A list of SCC programs and accredited bodies is publicly available at [www.scc.ca](http://www.scc.ca).

Standards Council of Canada  
600-55 Metcalfe Street  
Ottawa, Ontario, K1P 6L5  
Canada

Cette Norme Nationale du Canada est disponible en versions française et anglaise.

*Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users to judge its suitability for their particular purpose.*

*®A trademark of the Canadian Standards Association, operating as “CSA Group”*

# *National Standard of Canada*

*CSA B621:20*

## *Selection and use of highway tanks, TC portable tanks, and other large containers for the transportation of dangerous goods, Classes 3, 4, 5, 6.1, 8, and 9*



*®A trademark of the Canadian Standards Association,  
operating as "CSA Group"*



*Published in November 2020 by CSA Group  
A not-for-profit private sector organization  
178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3*

*To purchase standards and related publications, visit our Online Store at [store.csagroup.org](https://store.csagroup.org)  
or call toll-free 1-800-463-6727 or 416-747-4044.*

*ICS 13.300; 23.020.20  
ISBN 978-1-4883-2599-1*

*© 2020 Canadian Standards Association  
All rights reserved. No part of this publication may be reproduced in any form whatsoever  
without the prior permission of the publisher.*

# Contents

Technical Committee on Highway Tanks and Portable Tanks for Transportation of Dangerous Goods	3
Preface	8
<b>1 Scope</b>	<b>10</b>
<b>2 Reference publications</b>	<b>11</b>
<b>3 Definitions</b>	<b>12</b>
<b>4 Selection of the means of containment</b>	<b>13</b>
4.1 General requirements	13
4.2 Means of containment	13
4.3 Dangerous goods and containment material compatibility	13
4.4 MAWP and pressure-relief valve settings	14
4.5 CSA B620-1987, CAN/CSA-B620-98, B620-03, CSA B620-09, CSA B620-14 specifications	14
<b>5 Highway tanks</b>	<b>15</b>
5.1 Equivalent and substitute specifications	15
5.1.1 General	15
5.1.2 Ground clearance for equivalent and substitute specifications	15
5.2 Restriction on use of DOT 407, DOT 412, TC 412, MC 312, and TC 312 highway tanks	16
5.3 Specification TC 350 tanks	16
5.4 Inspection and testing	16
<b>6 Portable tanks</b>	<b>17</b>
6.1 General	17
6.2 Bottom discharge outlets — TC 60, CTC 60, and DOT 60 portable tanks	17
6.3 Inspection and testing	18
6.4 Selection and use of TC 56, CTC 56, and DOT 56 tanks	18
6.5 Selection and use of TC 57, CTC 57, and DOT 57 tanks	18
6.6 Selection and use of TC 106, TC 110, CTC 106, CTC110, DOT 106, DOT110, ICC106, and ICC110 tanks	19
6.7 Tank protection	19
<b>7 Use of means of containment</b>	<b>19</b>
7.1 General requirements	19
7.2 Pre-loading requirements	20
7.3 Loading requirements	20
7.4 Post-loading requirements	21
7.5 Pre-unloading requirements	21
7.6 Unloading requirements	21
7.7 Post-unloading requirements	21
<b>8 Tank selection requirements for dangerous goods of Classes 3, 4, 5, 6.1, 8, and 9</b>	<b>22</b>
8.1 Classification, prohibition, and exemption under the <i>TDG Act and Regulations</i>	22
8.2 General tank selection requirements	22

8.3	Requirements for specific dangerous goods	22
8.4	Specific requirements	52

---

# Preface

This is the sixth edition of CSA B621, *Selection and use of highway tanks, TC portable tanks, and other large containers for the transportation of dangerous goods, Classes 3, 4, 5, 6.1, 8, and 9*. It supersedes the previous editions published in 2014, 2009, 2003, 1998, and 1987.

The major changes to this edition include the following:

- non-rectangular TC 44 are no longer limited to diesel fuel only. They are permitted for the transport of other dangerous goods, similar to TC 406 and equivalent tanks;
- revised requirements for tanks with an intermediate bulkhead;
- emergency shutoff marking requirements for manually activated remote shutoff device;
- minimum two chock blocks required when using chock blocks to prevent unintended vehicle movement; and
- revised dangerous goods table sorted by UN number.

This Standard is one of a series of Standards that have been prepared for use in conjunction with the *Transportation of Dangerous Goods Regulations*. It should be noted that this Standard, by itself, does not have the force of law unless it is officially adopted by a regulatory authority. Since the Standard may be adopted into regulations with certain exceptions or additional requirements, it is recommended that the regulations of the relevant jurisdiction be consulted in order to establish the extent to which this Standard has been adopted. Where an industry practice differs from the requirements of this Standard, an application for a permit for equivalent level of safety may be requested from the regulatory authority.

This Standard was prepared giving due consideration to current industry practices in North America, the *US Code of Federal Regulations, Title 49*, and the United Nations publication *Recommendations on the Transport of Dangerous Goods: Model Regulations*. CSA B620:20, *Highway tanks and TC portable tanks for the transportation of dangerous goods*, is the reference document for design, construction, testing, and inspection requirements.

This Standard was prepared by the Technical Committee on Highway Tanks and TC Portable Tanks for Transportation of Dangerous Goods, under the jurisdiction of the Strategic Steering Committee on Public Safety, and it has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

## Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to [inquiries@csagroup.org](mailto:inquiries@csagroup.org) and include “Request for interpretation” in the subject line:*
  - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
  - b) *provide an explanation of circumstances surrounding the actual field condition; and*
  - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*



*Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at [standardsactivities.csa.ca](https://standardsactivities.csa.ca).*

- 5) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to [inquiries@csagroup.org](mailto:inquiries@csagroup.org) and include "Proposal for change" in the subject line:*
- a) *Standard designation (number);*
  - b) *relevant clause, table, and/or figure number;*
  - c) *wording of the proposed change; and*
  - d) *rationale for the change.*

# **CSA B621:20**

## ***Selection and use of highway tanks, TC portable tanks, and other large containers for the transportation of dangerous goods, Classes 3, 4, 5, 6.1, 8, and 9***

### **1 Scope**

#### **1.1**

This Standard details the requirements for the selection and use, handling, filling, and unloading of highway tanks, TC portable tanks, and other large containers when they are used as a primary means of containment for the transportation of dangerous goods of Classes 3, 4, 5, 6.1, 8, and 9.

#### **1.2**

This Standard sets out certain minimum requirements for the selection of the appropriate means of containment for the transportation of dangerous goods. This Standard does not, however, prescribe selection of the materials of construction of the means of containment to ensure chemical compatibility with the dangerous goods. Consequently, it is essential to exercise competent technical and engineering judgment in conjunction with this Standard.

#### **1.3**

Where any requirement of this Standard differs from the *Transportation of Dangerous Goods (TDG) Regulations*, the requirements of the *TDG Regulations* apply. Where there is an inconsistency between this Standard and a referenced publication other than the *TDG Act or Regulations*, the requirements of this Standard prevail. Application of a referenced publication should be made only with careful consideration of this Standard's reference to that particular publication.

#### **1.4**

This Standard does not apply to TC 56, CTC 56, and DOT 56 tanks. Requirements for these tanks are provided in CAN/CGSB-43.146. (See Clause [6.4](#).)

#### **1.5**

This Standard does not apply to TC 57, CTC 57, and DOT 57 tanks. Requirements for these tanks are provided in CAN/CGSB-43.146. (See Clause [6.5](#).)

#### **1.6**

This Standard does not apply to TC 106, TC 110, CTC 106, CTC110, DOT 106, DOT110, ICC106, and ICC110 tanks. Requirements for these tanks are provided in TP14877. (See Clause [6.6](#).)