



ULC Standards
Normes ULC



ANSI/CAN/UL/ULC 2152:2021

JOINT CANADA-UNITED STATES
NATIONAL STANDARD

STANDARD FOR SAFETY

Special Purpose Nonmetallic
Containers and Tanks for Specific
Combustible or Noncombustible Liquids

ULNORM.COM : Click to view the full PDF of UL 2152:2021



ANSI/UL 2152-2021



SCC FOREWORD

National Standard of Canada

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.

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.

ULNORM.COM : Click to view the full PDF of UL 2152 2021

UL Standard for Safety for Special Purpose Nonmetallic Containers and Tanks for Specific Combustible or Noncombustible Liquids, ANSI/CAN/UL/ULC 2152

First Edition, Dated January 26, 2021

Summary of Topics

This First Edition of ANSI/CAN/UL/ULC 2152, Standard for Special Purpose Nonmetallic Containers and Tanks for Specific Combustible or Noncombustible Liquids, has been issued to reflect the latest ANSI and SCC approval dates, and to incorporate the proposals dated January 17, 2020 and July 17, 2020.

The new requirements are substantially in accordance with Proposal(s) on this subject dated January 17, 2020 and July 17, 2020.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of UL.

UL provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will UL be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold UL harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

No Text on This Page

ULNORM.COM : Click to view the full PDF of UL 2152 2021



ANSI/UL 2152-2021

JANUARY 26, 2021



1

ANSI/CAN/UL/ULC 2152:2021

**Standard for Special Purpose Nonmetallic Containers and Tanks for Specific
Combustible or Noncombustible Liquids**

First Edition

January 26, 2021

This ANSI/CAN/UL/ULC Safety Standard consists of the First Edition.

The most recent designation of ANSI/UL 2152 as an American National Standard (ANSI) occurred on January 26, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, Preface or SCC Foreword.

This standard has been designated as a National Standard of Canada (NSC) on January 26, 2021.

COPYRIGHT © 2021 UNDERWRITERS LABORATORIES INC.

No Text on This Page

ULNORM.COM : Click to view the full PDF of UL 2152 2021

CONTENTS

Preface	5
---------------	---

INTRODUCTION

1 Scope	7
2 Units of Measurement	9
3 Referenced Publications	9
4 Glossary	10

CONSTRUCTION

5 General Construction of All Special Purpose Containers and Tanks	13
5.1 Containment type, shape, dimensions, capacity and materials	13
5.2 Openings and connections	14
5.3 Functional components and accessories	15
6 Specific Construction of Special Purpose Containers and Tanks	16
6.1 Liquid chemical containers and tanks	16
6.2 Cooking oil tanks	17
6.3 Lube oil tanks	22
6.4 Vehicle fluid tanks	23

PERFORMANCE TESTS

7 General Performance for All Special Purpose Containers and Tanks	24
--	----

MATERIAL PROPERTY AND COMPATIBILITY TESTS

8 General	25
9 Thermal Aging Tests	26
10 Stored Liquids Compatibility Tests	27
11 Chemical Resistance Tests	27
12 Sunlight Resistance Tests	28
13 Small Flame Resistance Tests	28
14 Special Compatibility Tests	29

DESIGN STRENGTH TESTS

15 General	29
16 Venting Tests	30
17 Leakage Test	31
18 Hydrostatic Strength Test	32

TANK ASSEMBLY AND INSTALLATION TESTS

19 General	33
20 Handling and Lug Strength Test	34
21 Drop Test	34
22 Top, Side and Shelf Loads Test	35
23 Stability Test	35
24 Support Load Test	36
25 Fitting Torque Test	37
26 Fitting Bending Test	37

27	Puncture Impact Test.....	38
28	Rain/Freeze Tests	38
	28.1 General.....	38
	28.2 Rain test	38
	28.3 Freeze/thaw cycle test	40
29	Fill Signal Device Test.....	40

FIRE RESISTANCE TESTS

30	General	40
31	Heated Rod Exposure Test	41
32	Small Flame Exposure Test.....	41
33	Pool Fire Test for Liquid Chemical Tanks	41
34	Comparative Fire Test for Cooking Oil Tanks	42

MANUFACTURING AND PRODUCTION TESTS

35	Production Leakage Test.....	43
----	------------------------------	----

MARKINGS

36	Marking Types, Method, Location and Size	44
37	General Information for All Special Purpose Vessels	44
38	Special Markings for Each Special Purpose Vessel Type	45

INSTRUCTIONS

39	General Instructions for All Special Purpose Tanks	46
40	Special Instructions for Each Special Purpose Tank Type	47

Annex A (NORMATIVE) – Safety Marking Translations

Annex B (NORMATIVE) – Guidance on Selection of Test Liquids

ANNEX C (NORMATIVE) – CANADIAN STANDARDS FOR PUMPS

Preface

This is the First Edition of ANSI/CAN/UL/ULC 2152, Standard for Special Purpose Nonmetallic Containers and Tanks for Specific Combustible or Noncombustible Liquids.

UL is accredited by the American National Standards Institute (ANSI) and the Standards Council of Canada (SCC) as a Standards Development Organization (SDO). ULC Standards is accredited by the Standards Council of Canada (SCC) as a Standards Development Organization (SDO).

This Standard has been developed in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization.

This ANSI/CAN/UL/ULC 2152 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

Annexes [A](#) and [B](#) are identified as Normative, as such, form mandatory parts of this Standard.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

This joint American National Standard and National Standard of Canada is based on, and now supersedes, the second issue of the outline of investigation UL 2152 and the first edition ULC/ORD-C142.14.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

UL's Standards for Safety are copyrighted by UL. Neither a printed nor electronic copy of a Standard should be altered in any way. All of UL's Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of UL.

To purchase UL Standards, visit the UL Standards Sales Site at <http://www.shopulstandards.com/HowToOrder.aspx> or call tollfree 1-888-853-3503.

This Edition of the Standard has been formally approved by the UL Standards Technical Panel (STP) on Combustible Liquid Tanks and Accessories, STP 2258.

This list represents the STP 2258 membership when the final text in this standard was balloted. Since that time, changes in the membership may have occurred.

STP 2258 Membership

Name	Representing	Interest Category	Region
Beaulieu, Michel	Roth Industries Inc.	Producer	Canada
Bourassa, Eric	Granby Industries LP	Non-voting member	Canada

STP 2258 Membership Continued on Next Page

STP 2258 Membership Continued

Name	Representing	Interest Category	Region
Corliss, Chuck	NH Department of Environmental Services	AHJ	USA
Deschamps, Claude	Régie du bâtiment du Québec (RBQ)	AHJ	QC, Canada
Fasel, Mark	Viega LLC	Producer	USA
Fernandes, Elson	ELFENT Ltd	Commercial / Industrial User	Canada
Juranty, Michael	NH Department of Environmental Services	AHJ	USA
Lacroix, J.	Vilco Ltd	Producer	Canada
Legault, Pierre	Integrated Review Services – Consulting	General	Canada
Levey, John	Oil Heat Associates	General	USA
Mailvaganam, Miles	M. Mailvaganam	General	Canada
Marando, Michael	National Fire Protection Association (NFPA)	Non-voting member	USA
Moulton, Peter	State of Maine	Government	USA
Olszewski, Ted	R W Beckett Corp	Producer	USA
Prusko, Jeffrey	Underwriters Laboratories Inc.	Project Manager – Non-voting member	USA
Ramert, Jason	Innovative Outdoor Solutions Inc.	Producer	USA
Riegel, Roland A.	UL LLC	Testing and Standards Org	USA
Wade, John A.	ULC Standards	Chair – Non-voting member	Canada
Werner, Laura	ULC Standards	Project Manager – Non-voting member	Canada

International Classification for Standards (ICS): 23.020.10, 75.080

For further information on UL standards, please contact:

Underwriters Laboratories Inc.
 171 Nepean Street, Suite 400
 Ottawa, Ontario K2P 0B4
 Phone: 1-613.755.2729
 E-mail: ULCStandards@ul.com
 Web site: ul.org

This Standard is intended to be used for conformity assessment.

The intended primary application of this standard is stated in its scope. It is important to note that it remains the responsibility of the user of the standard to judge its suitability for this particular application.

CETTE NORME NATIONALE DU CANADA EST DISPONIBLE EN VERSIONS FRANÇAISE ET ANGLAISE

INTRODUCTION

1 Scope

1.1 These minimum requirements cover special purpose nonmetallic containers and tanks (vessels) for specific aboveground use applications for combustible or non-combustible liquids as indicated for each special purpose type. The requirements address the specific designs, features, limitations, use factors and other unique characteristics of each type. The types of different special purpose vessels covered by this Standard are:

- a) Liquid Chemical Containers and Tanks designed for stationary storage of combustible or non-combustible liquids in non-residential applications, intended to be used in accordance with [Table 1.1](#). Liquid chemical tanks are limited to the specific liquid (s) or family of similar liquids and application(s) to which they are rated;
- b) Cooking Oil Tanks designed for storage of cooking oils and fats typically found in restaurant or similar commercial food preparing applications having engineered transfer systems. These tanks are intended for either delivery of fresh oil and/or collection of waste oils through piping networks by trained persons using service trucks with pressure or vacuum pumps. These tanks are limited to Class IIIB oils and fats, and are intended to be installed in cooking oil storage systems used in commercial kitchens, in accordance with [Table 1.1](#);
- c) Lube Oil Tanks designed for storage, dispensing and collection of Class IIIB motor oils (such as lubricating, transmission, cooling, etc.), working oils (such as hydraulic, brake, steering, cutting, etc.), and other petroleum or synthetic oils with similar chemical and physical properties used in equipment applications; and
- d) Vehicle Fluid Tanks for storage, dispensing and collection of non-combustible fluids such as antifreeze/coolants (ethylene-glycol and water mixtures), windshield washer (alcohol, water and detergent mixtures), DEF (nominally 1/3 urea and 2/3 water, diesel exhaust solution), and other optional fluid types typically used in vehicles.

**Table 1.1
Regulatory Applications**

Type	Liquids stored	U.S.A. Regulatory applications	Canada Regulatory applications
Liquid Chemical Containers and Tanks	Combustible and non-combustible [1.1(a)] Class II or III and non-combustible [4.16(a)]	NFPA 30-9.4 [1.1(a)]	NFC
	Class II and IIIA containers [6.1.2(a)]	NFPA 30-9.4.1 (4), etc. [6.1.2(a)]	NFC
	Class II and IIIA tanks [6.1.2(b)]	NFPA 30-9.4.1 (6), etc. [6.1.2(b)]	NFC
	Class IIIB [6.1.2(c)]	–	NFC
	non-combustible [6.1.2(c)]	–	NFC
Cooking Oil Tanks	Class IIIB oils and fats [1.1(b)]	NFPA 1-66.19.7 or NFPA 30-19.7 [1.1(b)]	NFC
Lube Oil Tanks	Class IIIB motor oils [1.1(c)]		
Vehicle Fluid Tanks	Non-combustible [1.1(d)]		

1.2 These requirements do not cover nonmetallic cans, containers or tanks for which there are separately published standards, such as: