CAN/ULC 563:2022

STANDARD FOR HIGH-PERFORMANCE AND AVIATION SYNTHETIC FLUORINE-FREE FOAM LIQUID CONCENTRATES

ULC Standards
Normes ULC

SCC CCN

Underwriters Laboratories of Canada (ULC) was established in 1920 by letters patent issued by the Canadian Government. It maintains and operates laboratories and certification services for the examination, testing and certification of appliances, equipment, materials, constructions and systems to determine their relation to life, fire and property hazards as well as providing inspection services.

ULC Standards develops and publishes standards and other related publications for building construction, security and burglar protection, environmental safety, electrical equipment, fire protection equipment, gas and oil equipment, thermal insulation products, materials and systems, energy use in the built environment and electrical utility safety.

ULC Standards is a not-for-profit organization and is accredited by the Standards Council of Canada as a Standards Development Organization.

National Standards of Canada developed by ULC Standards conform to the criteria and procedures established by the Standards Council of Canada. Such standards are prepared using the consensus principle by individuals who provide a balanced representation of interests relevant to the subject area on a national basis.

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.

For further information on ULC standards, please contact:

ULC STANDARDS
Telephone: (613) 755-2729
E-mail: ULCStandards@ul.com

To purchase ULC Standards, visit: canada.ul.com/ulcstandards/

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 the particular application.

Copies of this National Standard of Canada may be ordered from ULC Standards.

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

Standard for High-Performance and Aviation Synthetic Fluorine-Free Foam Liquid Concentrates, CAN/ULC 563

Third Edition, Dated September 26, 2022

Summary of Topics

This Third Edition of CAN/ULC 563 dated September 26, 2022 as been issued to reflect the latest SCC approval date, and to incorporate the proposals dated April 22, 2022.

The requirements are substantially in accordance with Proposal(s) on this subject dated April 22, 2022.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

UL COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM UL INC.

CAN/ULC 563:2022

STANDARD FOR HIGH-PERFORMANCE AND AVIATION SYNTHETIC FLUORINE-FREE FOAM LIQUID CONCENTRATES

ICS 13.220.10; 13.220.99; 71.100.99

ULC Standards
Normes ULC

scc ccn

First Edition . . . . . September 1998
Second Edition . . . . . April 2006
THIRD EDITION . . . . . SEPTEMBER 26, 2022

Copyright © 2022

ULC Standards

All rights reserved. No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior permission.

UL COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM UL INC.

CONTENTS

ULC STANDARDS COMMITTEE ON FIRE FIGHTING FOAMS 7

PREFACE 9

INTRODUCTION

1 Scope 11
2 Components 11
3 Units of Measurement 11
4 Referenced Publications 12

CONSTRUCTION

5 General 13

PERFORMANCE

6 General 13
7 Stability and Storage 14
7.1 General 14
7.2 High and low temperature cycling (concentrate) 14
7.3 High temperature stability (solution) 14
7.4 Viscosity 15
8 Fire Performance 15
9 Corrosion 15
10 Test Methods 15
10.1 Sedimentation 16
10.2 Precipitation 16
10.3 Environmental Impact 16
10.4 Expansion and drainage 17
10.5 Stability 17
10.6 Fire Tests 18
11 Compatibility 22
11.1 With dry chemical agent 22
11.2 Dry chemical compatibility burnback test procedure 23
12 Container Requirements 23
12.1 General 23
12.2 Drop test 23
12.3 Nonmetallic container tests 23

MARKINGS

13 General 24

UL COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM UL INC.

ULC STANDARDS COMMITTEE ON FIRE FIGHTING FOAMS

Name	Representing	Interest Category	Region
T. Aitken	Greater Toronto Airports Authority	AHJ/Regulator	Ontario
A. Barragan	Bioex	Producer	USA
P. Clarke	Department of National Defence	Government	Canada
K. Henderson	Canadian Airports Council	Consumer	Canada
V. Hourdebaigt	Environment and Climate Change Canada	AHJ/Regulator	Canada
M. Hubert	The Solberg Company	Producer	USA
Y. Ko	National Research Council Canada	Government	Canada
B. Rowswell	National Foam	Producer	Canada
B. Shugarman	UL Solutions	Testing and Standards Org.	USA
B. Valois	Autopyro	General Interest	Canada
G. Vestergom Jr.	Unifoam Company Ltd.	Producer	Canada
G. Edwards (Project Manager)	UL Standards & Engagement	Non-voting	USA
D. Haithcock (Chair)	UL Standards & Engagement	Non-voting	USA

This list represents the membership at the time the committee balloted on the final text of this document. Since that time, changes in membership may have occurred.

UL COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM UL INC.

PREFACE

This is the Third Edition of CAN/ULC 563, Standard for High-Performance and Aviation Synthetic Fluorine-Free Foam Liquid Concentrates.

This Edition of the Standard has been formally approved by the ULC Standards Committee on Fire Fighting Foams.

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

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

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

This Third Edition National Standard of Canada is based on, and now supersedes, the Second Edition CAN/ULC-S563, Standard for Category 3 Film-Forming Fluoroprotein (FFFP) Foam Liquid Concentrates.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patents rights. ULC Standards shall not be held responsible for identifying any or all such patents rights.

Requests for interpretation of this Standard should be sent to ULC Standards. The requests should be worded in such a manner as to permit a “yes” or “no” answer based on the literal text of the requirement concerned.

This CAN/ULC 563 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of 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.

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/canada.

This Standard is intended to be used for conformity assessment.

UL COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM UL INC.

INTRODUCTION

1 Scope

1.1 This Standard refers to High-Performance and Aviation Synthetic Fluorine-Free Foam Liquid Concentrates.

Note: The requirements for High-Performance and Aviation Foam Liquid Concentrates (aqueous film-forming foam) are contained in the Standard CAN/ULC-S560.

1.2 The foam liquid concentrate, at 3 %, or 6 % dilution with fresh or sea water are intended primarily for use in aircraft rescue and firefighting vehicles (ARFF) but are also suitable for use in mobile, portable and fixed foam installations, including foam-water sprinkler systems which have been proven suitable to meet the requirements of the Standard for Foam Equipment and Liquid Concentrates, ULC-S564, in surface extinguishment of fires involving ordinary hydrocarbon flammable liquids

1.3 These requirements do not supersede requirements prescribed in legislation or regulation by the authority having jurisdiction.

2 Components

2.1 A component of a product covered by this Standard shall:

a) Comply with the requirements for that component as specified in this Standard;

b) Be used in accordance with its rating(s) established for the intended conditions of use; and

c) Be used within its established use limitations or conditions of acceptability.

2.2 A component of a product covered by this Standard is not required to comply with a specific component requirement that:

a) Involves a feature or characteristic not required in the application of the component in the product;

b) Is superseded by a requirement in this Standard; or

c) Is separately investigated when forming part of another component, provided the component is used within its established ratings and limitations.

2.3 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

2.4 A component that is also intended to perform other functions such as overcurrent protection, ground-fault circuit-interruption, surge suppression, any other similar functions, or any combination thereof, shall comply additionally with the requirements of the applicable ULC standard(s) that cover devices that provide those functions.

3 Units of Measurement

3.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

UL COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM UL INC.