ULC
STANDARD

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(Reaffirmed 2016)

STANDARD FOR CLASS “A” FOAMS

Prepared and Published by:

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ULC STANDARDS COMMITTEE ON FIRE FIGHTING FOAMS

NAME	AFFILIATION	REGION	CATEGORY
K. Cookson	Ontario Ministry of Natural Resources	Ontario	General Interest
J. DiFilippo	Kidde Canada Inc.	Canada	Producer
M. Figliola	Greater Toronto Airports Authority	Ontario	User
M. Gravel	Department of National Defence	Canada	User
M. Hubert	The Solberg Company	USA	Producer
A. Kim	National Research Council Canada	Canada	General Interest
B. Rowswell	National Foam	Canada	Producer
J. Tardif	Ministère de la Sécurité publique	Quebec	Regulator
G. Vestergom Jr.	Unifoam Company Ltd.	Canada	Producer
B. Shugarman	UL LLC.	USA	Associate Member (Non-Voting)
M. Ramlochan	ULC Standards	Canada	Project Manager (Non-Voting)

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

REFERENCE PUBLICATIONS

The documents shown below are referenced in the text of this Standard. Unless otherwise stated elsewhere in this Standard such reference shall be considered to indicate the edition and/or revisions of the document available at the date on which the Committee approved this ULC Standard.

Documents Published by the American Society for Testing and Materials (ASTM)
100 Barr Harbour Drive, PO Box C700, West Conshohocken, PA 19428-2959 U.S.A.
Telephone: (610) 832-9585
www.astm.org

- ASTM D 92-05a, Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester
- ASTM D 97-05a, Standard Test Method for Pour Point of Petroleum Products
- ASTM D 323-99a, Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)
- ASTM D 638-03, Standard Test Method for Tensile Properties of Plastics
- ASTM D 1141-98 (Reapproved 2003), Standard Practice for the Preparation of Substitute Ocean Water
- ASTM D 1173-53 (Reapproved 2001), Standard Test Method for Foaming Properties of Surface-Active Agents
- ASTM D 1331-89 (Reapproved 2001), Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface-Active Agents
- ASTM D 1693-05, Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics
- ASTM D 2281-68 (Reapproved 2005), Standard Test Method for Evaluation of Wetting Agents by the Skein Test
- ASTM E 729-96 (Reapproved 2002), Standard Guide for Conducting Acute Toxicity Tests on Test Materials with Fishes, Macroinvertebrates, and Amphibians
- ASTM G 26-96, Standard Practice for Operating Light - Exposure Apparatus (Xenon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials

Document published by Bombardier Aerospace
P.O. Box 6087, Station Centreville, Montreal, QC H3C 3G9, Canada
Tel: (514) 855-6734

- CMS 532-18, Fiberglass Cloth, Preimpregnated, Epoxy Resin 250°F Cure
- CMS 565-01, Fluid Resistant (FR) Epoxy Primer
- CMS 565-02, Fluid Resistant (FR) Polyurethane Coating
- MPS 138-43, Application of Fluid Resistant (FR) Primer
- MPS 138-44, Application of Fluid Resistant (FR) Polyurethane Coating
- MPS 160-8, Cadmium Plating of Steels Heat Treated to Less Than 220,000 PSI and Copper Alloys
- MPS 160-20, Chemical Conversion Treatment for Aluminium Alloys Immersion Process
- MPS 160-32, Sulphuric Acid Anodizing
- MPS 180-15, Passivation of Corrosion Resistant Steels
- MPS 180-31, Cleaning and Deoxidizing Corrosion and Heat Resistant Alloys and Titanium Alloys

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Document published by Organization for Economic Cooperation and Development (OECD)

- Guideline for Testing of Chemicals, Section 301D; Closed Bottle Test; July 17, 1992

Document published by U.S. Department of Commerce,
National Technical Information Source (NTIS), Springfield, VA 22161, U.S.A.
Telephone : (703) 605-6000
www.ntis.gov

- Pesticide Assessment Guidelines, Subdivision F, Hazardous Evaluation: Human and Domestic Animals, U.S. Environmental Protection Agency, Washington DC - Protocols: FIFRA guidelines, USDA, Subdivision F, Series 81 - Acute Toxicity and Irritation Studies.

Document available from the U.S. Department of Transportation
Research and Special Programs Administration
400 7th Street S.W., Washington, DC 20590-0001, U.S.A.

- Specification for reusable molded polyethylene drum for use without overpack. Removable head not authorized. 49 CFR Part 178.509, 12-31-91.

Document published by the General Services Administration
Business Service Center, Region 3
Seventh and D Streets, S. W., Washington 25, DC U.S.A.

- Federal Test Method Standard No. 601 - Method 3021 – Hardness, Durometer Rubber: Sampling and Testing

Document Published by Transport Canada
330 Sparks Street, Ottawa, ON K1A 0N5 Canada
Telephone: (613) 990-2309
Fax: (613) 954-4731
www.tc.gc.ca

- Transportation of Dangerous Goods Regulations.

STANDARD FOR CLASS “A” FOAMS

PREFACE

This is the Second Edition of the Standard for Class “A” Foams.

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, 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 Second Edition ULC Standard is based on the First Edition, and now has been reaffirmed.

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.

The review and action to revise or reaffirm this Standard will not exceed 5 years from the date of publication, unless the Standard is identified as fitting within a stabilized category, whereby the review will commence within the appropriate time frame set out by ULC Standards.

This Standard is intended to be used for conformity assessment.

1. SCOPE

1.1 This Standard specifies requirements and test procedures for foam chemicals used on Class “A” fuels.

2. GLOSSARY

NOTE: Terms used in this Standard that are in *italics* are defined as follows:

Class “A” foam - A *foam* produced from concentrate designed to fight fires in ordinary combustible material, such as wood and other Class “A” fuels.

Foam - A relatively stable aggregation of small bubbles having a lower density than water. The *foam* bubbles and the solution draining from them attach to and penetrate Class “A” fuels due to the reduced surface tension imparted to the water by the *foam concentrate*. The bubbles hold moisture and release it as the *foam* breaks down, prolonging the time the moisture may be absorbed by the fuels. The *foam* tends to cling to horizontal and vertical fuels excluding air from the fuel, enveloping the volatile combustible vapour and the fuel interface when applied in adequate quantities, and resisting disruption due to wind, heat, and flame.

Foam concentrate - A liquid containing all the *ingredients* which when added to water and applied, yields *foam*.

Foam solution - The combination of water and *foam concentrate* which is aerated to produce the *foam* used for actual fire suppression.

Ingredient - Each single chemical used in the formulation of the product.

Use-level - The concentration(s) of *foam concentrate* in water specified by the manufacturer for application onto a fire. *Use-levels* for *Class "A" foams* are generally between 0.1 and 1.0% by volume.

3. REQUIREMENTS

3.1 CLASSIFICATION

3.1.1 General

3.1.1.1 *Class "A" foam* shall be classified according to the application methods and *use-level* as described in Subsections 3.1.2 and 3.1.3.