



UL 2129

STANDARD FOR SAFETY

Halocarbon Clean Agent Fire Extinguishers

UL Standard for Safety for Halocarbon Clean Agent Fire Extinguishers, UL 2129

Third Edition, Dated January 5, 2017

Summary of Topics

This revision to ANSI/UL 2129 dated April 27, 2021 includes a Nameplate Abrasion Test Update; [60.2](#) and [60.3](#)

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated August 21, 2020 and November 20, 2020.

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This ANSI/UL Standard for Safety consists of the Third edition including revisions through April 27, 2021.

The most recent designation of ANSI/UL 2129 as an American National Standard (ANSI) occurred on April 27, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

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Preface

This is the common UL and ULC Standard for Halocarbon Clean Agent Fire Extinguishers. It is the Second edition of CAN/ULC-S566, and the Third edition of ANSI/UL 2129.

This common Standard was prepared by Underwriters Laboratories Inc., ULC Standards, and the UL/ULC Extinguisher Technical Harmonization Committee. The efforts and support of the Harmonization Technical Committee are gratefully acknowledged.

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.

Note: *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.*

Level of harmonization

This Standard is published as an identical standard between UL and ULC Standards. An identical standard is a standard that is the same in technical content except for conflicts in Codes and Governmental Regulations. Presentation shall be word for word except for editorial changes.

Interpretations

The interpretation by the SDO of an identical or equivalent standard shall be based on the literal text to determine compliance with the standard in accordance with the procedural rules of the SDO. If more than one interpretation of the literal text has been identified, a revision shall be proposed as soon as possible to each of the SDOs to more accurately reflect the intent.

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INTRODUCTION

1 Scope

1.1 These requirements cover the construction and performance, exclusive of performance during fire tests, of portable halocarbon clean agent fire extinguishers. Halocarbon clean agent fire extinguishers are intended to be utilized in accordance with the Standard for Portable Fire Extinguishers, NFPA 10 and with the National Fire Code of Canada.

1.2 The requirements for performance during fire testing of halocarbon clean agent fire extinguishers are specified in the Binational Standard for Rating and Fire Testing of Fire Extinguishers, ANSI/UL 711/CAN/ULC-S508.

1.3 As used in these requirements, the term "fire extinguisher" refers to all extinguishers or any part thereof covered by these requirements, unless specifically noted otherwise.

2 Units of Measurement

2.1 The metric unit shall be designated as the official unit for purposes of this standard. Where values of measurement are specified in both SI and English units, either unit is used. In cases of dispute, the metric unit shall be used.

3 Reference Publications

3.1 See Annex [A](#) for a list of publications referenced in this standard. Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard. When the latest edition of a standard is not applicable, the appropriate edition is indicated accordingly in Annex [A](#).

4 Components

4.1 Except as indicated in [4.2](#), a component of a product covered by this standard shall comply with the requirements for that component. A component shall comply with both the Underwriters Laboratories Inc. and the Underwriters' Laboratories of Canada standards for the component.

4.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or
- b) Is superseded by a requirement in this standard.

4.3 A component shall be used in accordance with its rating established for the intended conditions of use.

4.4 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.

5 Glossary

5.1 For the purpose of this Standard, the following definitions apply:

5.2 **CLEAN AGENT** – Electrically nonconducting, volatile, or gaseous fire extinguishant that does not leave a residue.

5.3 **DISPOSABLE (NONRECHARGEABLE) FIRE EXTINGUISHER** – A fire extinguisher not capable of nor intended to undergo complete maintenance including internal inspection of cylinder, replacement of parts and seals and hydrostatic testing.

5.4 **EFFECTIVE DISCHARGE** – The time of discharge of extinguishing agent from the extinguisher until gas point.

5.5 **EXPELLANT GAS** – A compressed or pressurized gas used to propel the clean agent from a single cylinder.

5.6 **GALVANIC COMPATIBILITY** – Fire extinguisher cylinder and component parts which are not susceptible to 10-day stress corrosion cracking nor corrosion from combination of dissimilar materials.

5.7 **GAS POINT** – The point in time when the discharge changes from extinguishing agent to a gas and agent combination.

5.8 **HALOCARBON AGENT** – A clean agent that contains as primary components one or more of the elements fluorine, chlorine, bromine or iodine. Examples include hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and fluoriodocarbons (FICs) type agents. The words "clean agent" as used in this document shall mean "halocarbon agent" unless otherwise indicated.

5.9 **LOWEST OBSERVABLE ADVERSE EFFECT LEVEL (LOAEL)** – The lowest concentration at which an adverse physiological or toxicological effect has been observed.

5.10 **PORTABLE FIRE EXTINGUISHER** – A fire extinguisher carried or on wheels and operated by hand.

5.11 **PRESSURE GAUGE** – A gauge that shows the pressure in the cylinder and the operating range of the extinguisher based upon the operating temperature-pressure relationship in appropriate pressure units.

5.12 **PRESSURE INDICATOR** – An indicator that shows that the extinguisher is pressurized with its rated expellant gas pressure.

5.13 **RECHARGEABLE (REFILLABLE) FIRE EXTINGUISHER** – A fire extinguisher capable of undergoing complete maintenance including internal inspection of cylinder, replacement of parts and seals and hydrostatic testing.

5.14 **STORED PRESSURE TYPE FIRE EXTINGUISHER** – A fire extinguisher in which both the extinguishing agent and expellant gas are in a single cylinder.

CONSTRUCTION

6 General

6.1 The construction of an extinguisher shall be such that the method of operation is obvious after observing the operating instructions.

6.2 The construction of an extinguisher shall be such that after discharge of the agent is initiated, the operator of the extinguisher is not required to take further manual actions to maintain the extinguisher.

possible flow of agent, other than holding the operating device in the fully opened position. The extinguisher shall be usable by one operator, without assistance from a second individual.

6.3 A disposable extinguisher shall not be rechargeable.

6.4 An extinguisher having a volume in excess of 2.3 L (140 in³) shall be capable of standing in the upright position without support.

6.5 A material for an extinguisher part, the deterioration of which causes the extinguisher to become inoperable or results in risk of injury to persons, shall not be susceptible to stress corrosion.

6.6 A polymeric or other nonmetallic part, other than an "O" ring or gasket, shall be evaluated on the basis of:

- a) Mechanical strength, including resistance to impact, see Handle and Mounting Device Test, Clause [28](#); Hydrostatic Pressure Test, Clause [39](#); Vibration Test, Clause [40](#); Roadability and Rough Usage Tests, Clause [41](#); Burst Strength Test – Gauges and Indicators, Clause [50](#); Nameplate Exposure Tests, Clause [58](#);
- b) Moisture absorption, see Salt Spray Corrosion Test, Clause [45](#); One-Year Time Leakage Test, Clause [48](#); Nameplate Exposure Tests, Clause [58](#);
- c) Flammability, see [6.7](#);
- d) Resistance to deterioration due to aging, see Aging Tests – Polymeric Materials, Clause [43](#); One-Year Time Leakage Test, Clause [48](#); Nameplate Exposure Tests, Clause [58](#);
- e) Exposure to light and water, see [43.3](#); Nameplate Exposure Tests, Clause [58](#); and
- f) Exposure to the extinguishing agent, see [43.2](#).

6.7 With reference to flammability, polymeric materials shall be classified as HB, V-0, V-1, V-2, 5VA, or 5VB, when tested in accordance with the Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances, UL 94. Other nonmetallic materials shall have equivalent characteristics.

6.8 An extinguisher shall operate as intended from the minimum storage temperature to 49°C (120°F), inclusive. Currently recognized minimum storage temperatures are minus 40°C (minus 40°F) and minus 54°C (minus 65°F). See Operating Temperature Limits Test, Clause [33](#).

6.9 The edges and surfaces of a valve, cap, closure, hose, cylinder, handle, mounting device, and similar items, shall not be sufficiently sharp to constitute a risk of injury to persons in maintenance and use.

6.10 Whenever reference measurements are required to determine that a part as described in [6.9](#) is not sufficiently sharp to constitute a risk of injury to persons, the method described in the requirements for the test for sharpness of edges on equipment, the Standard for Test for Sharpness of Edges on Equipment, UL 1439, is to be employed.

6.11 A hand-portable extinguisher shall have a gross weight not exceeding 27 kg (60 lb).

6.12 A pressurizing adaptor for a rechargeable stored pressure type extinguisher shall have threads or other mechanical means for securement to the valve assembly.