

NFPA® 18

Standard on Wetting Agents

2011 Edition



NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471
An International Codes and Standards Organization

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NFPA® 18

Standard on Wetting Agents

2011 Edition

This edition of NFPA 18, *Standard on Wetting Agents*, was prepared by the Technical Committee on Water Additives for Fire Control and Vapor Mitigation and acted on by NFPA at its June Association Technical Meeting held June 7–10, 2010, in Las Vegas, NV. It was issued by the Standards Council on August 5, 2010, with an effective date of August 25, 2010, and supersedes all previous editions.

This edition of NFPA 18 was approved as an American National Standard on August 25, 2010.

Origin and Development of NFPA 18

This standard was originally sponsored by the NFPA General Committee on Special Extinguishing Methods and prepared by the NFPA Committee on Wetting Agents. Initiated and tentatively adopted in 1949, it was officially adopted in 1951. Extensive revisions, most of which were concerned with the use of wetting agent foam, were adopted in 1955. Subsequently, in 1959, responsibility for this standard was transferred to the Committee on Foam, and the standard was amended in 1972 and 1979.

The 1986 and 1990 editions of the standard were reconfirmations of the 1979 edition.

The 1995 edition of the document also was a reconfirmation. However, some editorial changes were incorporated in an effort to make the document more user friendly.

The 2006 edition underwent extensive revisions, both technical and editorial. Technical changes included clarifying the definition of wetting agents and their use on specific types of fires. Specific requirements for wetting agents and the methods for testing were detailed in Chapter 5, and Chapter 6 contained requirements for the supply of wetting agents. Specific packaging requirements were included in Chapter 7, and inspection, testing, and maintenance requirements for systems using wetting agents were detailed in Chapter 8. Editorial changes included updating the structure of the standard to comply with the *Manual of Style for NFPA Technical Committee Documents* and strengthening the language into specific requirements.

The 2011 edition also has undergone extensive technical and editorial revision. Technical changes include limits for aquatic toxicity for parity and consistency with other product standards. Editorial changes include updating the structure of the standard to further comply with the *Manual of Style for NFPA Technical Committee Documents*.



Technical Committee on Water Additives for Fire Control and Vapor Mitigation

Armand V. Brandao, *Chair*
FM Approvals, MA [I]

Michael T. Greiner, *Secretary*
Hazard Control Technologies, Inc., GA [M]

Paul E. Caron, Paul E. Caron Associates, MA [SE]

Dominic J. Colletti, Hale Products, Inc., PA [M]
Rep. Fire Apparatus Manufacturers Association

James M. Figueira, Environmental Chemical Solutions,
CA [M]

Charles W. George, IFSC Consultants, MT [SE]

Mitchell Hubert, Tyco International/Ansul Inc., WI [M]
Rep. Fire Suppression Systems Association

Cecilia W. Johnson, USDA Forest Service, MT [RT]

Blake M. Shugarman, Underwriters Laboratories Inc.,
IL [RT]

Robert E. Tinsley, Jr., Pyrocool Technologies, Inc.,
VA [M]

Howard L. Vandersall, Lawdon Fire Services, Inc.,
CA [SE]

Rep. TC on Forest and Rural Fire Protection

Alternates

Bob R. Carter, Hazard Control Technologies Canada,
Canada [M]

(Alt. to M. T. Greiner)

George Unger, Underwriters' Laboratories of Canada,
Canada [RT]

(Alt. to B. M. Shugarman)

Bennie Vincent, FM Global, MA [I]

(Alt. to A. V. Brandao)

Timothy A. Hawthorne, NFPA Staff Liaison

This list represents the membership at the time the Committee was balloted on the final text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the back of the document.

NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

Committee Scope: This Committee shall have primary responsibility for documents on the manufacture, testing, application, and use of water additives for the control and/or suppression of fire and flammable vapor mitigation including water additives used to prevent or reduce the spread of fire and the use of water additives in fixed, semi-fixed, mobile, and portable fire suppression systems.



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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (•) between the paragraphs that remain.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex B. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex B.

Chapter 1 Administration

1.1* Scope. This standard addresses qualification tests, methods of evaluation, and general rules for application of wetting agents and wetting agent solutions as related to fire control and extinguishment.

1.2 Purpose. This standard provides the requirements for the performance and use of wetting agents as related to fire control and extinguishment and is prepared for the guidance of the fire services, authorities having jurisdiction, and others concerned with judging the acceptability and use of any wetting agent offered for such a purpose.

1.3 Application. This standard applies to wetting agents and wetting agent solutions for use on Class A and Class B fires.

1.4 Retroactivity. The provisions of this document are considered necessary to provide a reasonable level of protection from loss of life and property from fire. They reflect situations and the state of the art at the time the standard was issued.

1.5 Equivalency. Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard. Tech-

nical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency. The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.6 Units and Formulas. When a primary value for measurement in metric units as given in this standard is followed by a parenthetical equivalent value in U.S. units, the primary metric value stated is to be regarded as the requirement.

1.6.1 Metric units of measurement in this standard are in accordance with the modernized metric system known as the International System of Units (SI).

1.6.2 The conversion procedure used for the U.S. units is to multiply the primary SI quantity by the conversion factor and then round the result (if necessary) to the appropriate number of significant digits.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2010 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2010 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 2007 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2011 edition.

NFPA 1150, *Standard on Foam Chemicals for Fires in Class A Fuels*, 2010 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus*, 2009 edition.

2.3 Other Publications.

2.3.1 ASTM Publications. ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM D 97, *Standard Test Method for Pour Point of Petroleum Products*, 2007.

ASTM D 323, *Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)*, 2008.

ASTM D 1293, *Standard Test Methods for pH of Water*, 1999 (2005).

ASTM D 1331, *Standard Test Methods for Surface and Interfacial Tension of Solutions of Surface-Active Agents*, 1989, Reapproved 2001.

ASTM D 2196, *Standard Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type) Viscometer*, 2005.

ASTM E 729, *Standard Guide for Conducting Acute Toxicity Tests on Test Materials with Fishes, Macroinvertebrates, and Amphibians*, 1996 (2000).

ASTM G 1, *Standard Practice for Preparing, Cleaning, and Evaluating Corrosion Test Specimens*, 2003.

ASTM G 31, *Standard Practice for Laboratory Immersion Corrosion Testing of Metals*, 1972, Reapproved 2004.

