



Public Input No. 2-NFPA 312-2023 [Section No. 2.2]

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471. NFPA 10

NFPA 10 , Standard for Portable Fire Extinguishers, 2018 edition.

NFPA 18A, Standard for Water Additives for Fire Control and Vapor Mitigation, 2022 edition.

NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, 2020 edition.

NFPA 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, 2019 edition.

NFPA 70®, National Electrical Code®, 2020 edition.

NFPA 306, Standard for the Control of Gas Hazards on Vessels, 2019 edition.

NFPA 307, Standard for the Construction and Fire Protection of Marine Terminals, Piers, and Wharves, 2021 edition.

Statement of Problem and Substantiation for Public Input

NFPA 18A, standard for Water Additives for Fire Control and Vapor Mitigation. Agents able to pass section 7.7 Spherical Micelle Stability Test have been extensively tested and shown to be very effective extinguishing agents for lithium-ion batteries fires. The Third-party agencies are listed in Annex 4.3. Section 12 covers Design Guidelines for all the Class of fire Agents passing the section 7.7 testing are effective on, including 3 dimensional fires and combustible and flammable vapors.

Submitter Information Verification

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Submittal Date: Fri May 26 11:50:32 EDT 2023

Committee: SHI-AAA

Committee Statement

Resolution: In accordance with the NFPA Manual of Style for NFPA Technical Committee Documents, 2004 Edition, Sections 1.6.2.1 and 1.6.2.2 - Chapter 2 shall only contain the referenced publications that apply to and are referenced in NFPA 312. NFPA 18A is not a mandatory referenced document in NFPA 312.



Public Input No. 6-NFPA 312-2023 [Section No. 2.3]

2.3 Other Publications.

2.3.1 U.S. Government Publications.

U.S. Government Publishing Office, Washington, DC 20402.

Title 29, Code of Federal Regulations, Part 1915.7, "Competent Person."

Title 29, Code of Federal Regulations, Part 1915.506, "Training."

2.3.2 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

[NTA 8133 : 2021 Dutch Standard for Portable Fire Extinguishers - Preformance requirements, test methods, and markings for suitability for extinguishsing lithium-ion battery fires](#)

Statement of Problem and Substantiation for Public Input

Royal National Standardization Institute (NEN) NTA 8133:2021 Portable fire extinguishers- Performance requirements, test methods and markings for suitability for extinguishing lithium-ion battery fires.

Since there currently is no test standard, rating, or making for lithium-ion battery fire extinguishers this standard should be adopted for fire extinguishers for lithium-ion batteries

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Submittal Date: Tue May 30 15:35:18 EDT 2023

Committee: SHI-AAA

Committee Statement

Resolution: In accordance with the NFPA Manual of Style for NFPA Technical Committee Documents, 2004 Edition, Sections 1.6.2.1 and 1.6.2.2 - Chapter 2 shall only contain the referenced publications that apply to and are referenced in NFPA 312. The document: NTA 8133 : 2021 Dutch Standard for Portable Fire Extinguishers - Performance requirements, test methods, and markings for suitability for extinguishing lithium-ion battery fires, is not a mandatory referenced document in NFPA 312.



Public Input No. 4-NFPA 312-2023 [Section No. 4.12.7.1]

4.12.7.1

Approved portable fire-fighting and extinguishing appliances, such as hand extinguishers, in suitable numbers for Class A, Class B, ~~and Class C~~ Class C and Class L lithium-ion battery fires, shall be provided at convenient locations throughout vessels.

Statement of Problem and Substantiation for Public Input

Extinguishers passing and listed to the NTA 8133:2021 test for a lithium-ion battery fire extinguisher, test and has marking requirements for batteries up to 600 Wh battery. NFPA 18A Encapsulator Agents passing section 7.7 Spherical Micelle Stability Test have been tested on batteries up to 3,400 Wh, these test have proven these agents capable of reducing all hazards burning lithium-ion batteries present, reduction of HF gases, reduction of explosive hydrogen gas, reduction in toxicity of water runoff, and the ability to stop thermal runaway/propagation.

Submitter Information Verification

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Submittal Date: Fri May 26 12:08:51 EDT 2023

Committee: SHI-AAA

Committee Statement

Resolution: As noted in NFPA 18A, Standard on Water Additives for Fire Control and Vapor Mitigation, 2022 Edition, A.4.3: lithium-ion battery and lithium-ion battery energy storage system (BESS) fires are unique electrochemical fire hazards that involve multiple fire classes (Class A, Class B, Class C, Class D) within one entity. While BESS are covered by NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, 2023 Edition, it should be noted that lithium-ion battery fires as a stand-alone hazard are not currently addressed in any NFPA standard. There is no technical data or information presented by the submitter in support of this Public Input. Nor is there any know listing by a recognized testing laboratory for portable extinguishers that utilize encapsulating agents for extinguishing fires involving lithium-ion batteries or lithium-ion energy storage systems. Section 4.12.7.2 of NFPA 312 requires portable extinguishers shall be provided and used in accordance with NFPA 10, Standard for Portable Fire Extinguishers. There presently is no Class-L (lithium-ion battery) classification for portable fire extinguishers in NFPA 10. The Committee wishes to see research and testing information from a nationally recognized research and testing facility regarding extinguishers that utilize encapsulating agents for extinguishing fires involving lithium-ion batteries or lithium-ion energy storage systems.



Public Input No. 5-NFPA 312-2023 [Section No. 4.12.8]

4.12.8

Alternate means shall be available for extinguishing Class A, Class B, ~~and Class C~~ Class C and Class L lithium-ion battery fires that cannot be controlled by the limited capacity of portable hand extinguishers.

Statement of Problem and Substantiation for Public Input

Extinguishers passing and listed to the NTA 8133:2021 test for a lithium-ion battery fire extinguisher, test and has marking requirements for batteries up to 600 Wh battery. NFPA 18A Encapsulator Agents passing section 7.7 Spherical Micelle Stability Test have been tested on batteries up to 3,400 Wh, these test have proven these agents capable of reducing all hazards burning lithium-ion batteries present, reduction of HF gases, reduction of explosive hydrogen gas, reduction in toxicity of water runoff, and the ability to stop thermal runaway/propagation.

Submitter Information Verification

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Submittal Date: Fri May 26 12:18:12 EDT 2023

Committee: SHI-AAA

Committee Statement

Resolution: As noted in NFPA 18A, Standard on Water Additives for Fire Control and Vapor Mitigation, 2022 Edition, A.4.3: lithium-ion battery and lithium-ion battery energy storage system (BESS) fires are unique electrochemical fire hazards that involve multiple fire classes (Class A, Class B, Class C, Class D) within one entity. While BESS are covered by NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, 2023 Edition, it should be noted that lithium-ion battery fires as a stand-alone hazard are not currently addressed in any NFPA standard. There is no technical data or information presented by the submitter in support of this Public Input. Nor is there any know listing by a recognized testing laboratory for portable extinguishers that utilize encapsulating agents for extinguishing fires involving lithium-ion batteries or lithium-ion energy storage systems. Section 4.12.7.2 of NFPA 312 requires portable extinguishers shall be provided and used in accordance with NFPA 10, Standard for Portable Fire Extinguishers. There presently is no Class-L (lithium-ion battery) classification for portable fire extinguishers in NFPA 10. The Committee wishes to see research and testing information from a nationally recognized research and testing facility regarding extinguishers that utilize encapsulating agents for extinguishing fires involving lithium-ion batteries or lithium-ion energy storage systems.