



# **NATIONAL FIRE PROTECTION ASSOCIATION**

The leading information and knowledge resource on fire, electrical and related hazards

## **NFPA 495/498 AGENDA**

### **NFPA Technical Committee on Explosives (EXP-AAA) NFPA 495/498 Second Draft Meeting (Fall 2022)**

April 18<sup>th</sup>, 2022  
1 p.m. – 4 p.m. (ET)

Web/Teleconference

To join the meeting, please contact [scaldwell@nfpa.org](mailto:scaldwell@nfpa.org)

- 1. Call to order.** Amy Theis.
- 2. Introductions.** See committee roster attached.
- 3. Chair report.** Amy Theis.
- 4. Staff liaison report.** Alex Ing.
- 5. Previous meeting minutes.** February 11, 2021 Web/Teleconference. See attached.
- 6. NFPA 495 Second Draft.**
  - a. **Public Comments.** See attached.
  - b. **Task group report(s).**
    - i. **Alternative Container Construction.** Matt Egloff.
    - ii. **UN GHS Harmonization .** Ben Barrett.
  - c. **Committee Inputs.** See attached.
- 7. NFPA 498 Second Draft.**
  - a. **Committee Inputs.** See attached.
- 8. Other Business.**
- 9. Future meetings.**
- 10. Adjournment.**

## **Attachment: Technical Committee Roster**

# Address List No Phone

02/18/2022

Alex Ing

EXP-AAA

## Explosives

<b>Amy Theis</b> <b>Chair</b> Dekra Process Safety 113 Campus Drive Princeton, NJ 08540 <b>Alternate: Michael Carolan</b>	<b>RT 08/08/2019</b> <b>EXP-AAA</b>	<b>Ben Barrett</b> <b>Principal</b> DG Advisor PO Box 248 Dubois, WY 82513 <b>Sporting Arms and Ammunition Manufacturers Institute</b> <b>Alternate: Matt Spencer</b>	<b>M 1/1/1996</b> <b>EXP-AAA</b>
<b>Clark D. Bonner</b> <b>Principal</b> Dyno Nobel Inc. 2795 E Cottonwood Parkway Suite 500 Salt Lake City, UT 84121-5695	<b>M 10/18/2011</b> <b>EXP-AAA</b>	<b>David L. Bowman</b> <b>Principal</b> Bowman Global Enterprise Group 6572 SE 173rd Court Ocklawaha, FL 32179	<b>SE 12/07/2021</b> <b>EXP-AAA</b>
<b>John E. Capers</b> <b>Principal</b> Austin Powder Company 62534 US Highway 50 McArthur, OH 45651	<b>M 3/2/2010</b> <b>EXP-AAA</b>	<b>Chris Case</b> <b>Principal</b> Municipality Of Chatham Kent Chatham Kent Fire & Emergency Services 5 Second Street Chatham, ON N7M 5X2 Canada	<b>U 04/04/2017</b> <b>EXP-AAA</b>
<b>Matt Egloff</b> <b>Principal</b> Montana Tech, University of Montana General Engineering Department 1300 West Park Street Butte, MT 59701	<b>SE 1/10/2008</b> <b>EXP-AAA</b>	<b>Kenneth K. Eltschlager</b> <b>Principal</b> US Department of the Interior Office of Surface Mining Reclamation & Enforcement 3 Parkway Center Pittsburgh, PA 15220 <b>Alternate: Joshua S. Rockwell</b>	<b>E 10/18/2011</b> <b>EXP-AAA</b>
<b>Frank H. Fenton, III</b> <b>Principal</b> The Township of Northampton 55 Township Road Richboro, PA 18954	<b>E 10/01/1993</b> <b>EXP-AAA</b>	<b>J. Winston Forde</b> <b>Principal</b> International Society of Explosives Engineers 30325 Bainbridge Road Cleveland, OH 44139 <b>International Society of Explosives Engineers</b> <b>Alternate: Brian Wingfield</b>	<b>U 10/29/2012</b> <b>EXP-AAA</b>
<b>Joshua Hoffman</b> <b>Principal</b> Institute of Makers of Explosives (IME) 1212 New York Avenue NW, Suite 650 Washington, DC 20005	<b>U 08/17/2018</b> <b>EXP-AAA</b>	<b>Jeremy Hudson</b> <b>Principal</b> Lake City Army Ammunition Plant 25201 MO-78 Independence, MO 64056	<b>M 08/24/2021</b> <b>EXP-AAA</b>

# Address List No Phone

02/18/2022

Alex Ing

**EXP-AAA**

## Explosives

<b>Joseph T. Lombardi</b> <b>Principal</b> Connecticut State Police Fire & Explosion Investigation Unit 269 Maxim Road Hartford, CT 06114	<b>E 08/17/2018</b> <b>EXP-AAA</b>	<b>Rory Lynch</b> <b>Principal</b> Olin Corporation- Winchester Ammunition 33 County Road 166 Oxford, MS 38655	<b>M 12/07/2021</b> <b>EXP-AAA</b>
<b>Lawrence J. Lyon</b> <b>Principal</b> Northrop Grumman Corporation/Orbital ATK Corporate Safety 601 Carlson Parkway Suite 600 Minnetonka, MN 55305 <b>Alternate: Bernard T. Price</b>	<b>M 7/26/2007</b> <b>EXP-AAA</b>	<b>Robert C. Morhard</b> <b>Principal</b> ExploConsult, LLC 3670 Bayedge Lane Southport, NC 28461	<b>SE 9/30/2004</b> <b>EXP-AAA</b>
<b>William O'Brien</b> <b>Principal</b> US Bureau of Alcohol, Tobacco, Firearms & Explosives 99 New York Avenue NE #6N-672 Washington, DC 20002-3325	<b>E 08/17/2015</b> <b>EXP-AAA</b>	<b>Tod B. Ossmann</b> <b>Principal</b> Willis Towers Watson 200 Liberty Street New York, NY 10281	<b>I 08/17/2015</b> <b>EXP-AAA</b>
<b>Ali Reza</b> <b>Principal</b> Exponent, Inc. 5401 McConnell Avenue Los Angeles, CA 90066-7027 <b>Alternate: James Karnesky</b>	<b>SE 7/26/2007</b> <b>EXP-AAA</b>	<b>Douglas Rudenko</b> <b>Principal</b> Vibra-Tech Engineers, Inc. 109 East First Street Hazleton, PA 18201	<b>M 03/05/2012</b> <b>EXP-AAA</b>
<b>Glen Saraduke</b> <b>Principal</b> Saraduke Technical Services, Inc. 400 Estate Drive Johnstown, CO 80534	<b>SE 03/03/2014</b> <b>EXP-AAA</b>	<b>David S. Shatzer</b> <b>Principal</b> Shatzer & Associates Consulting 1114 Broadway Altoona, PA 16601-5311	<b>SE 10/1/1993</b> <b>EXP-AAA</b>
<b>Arthur R. Stithem</b> <b>Principal</b> Battelle/Pacific Northwest National Laboratory PO Box 999, MSIN: J2-25 Richland, WA 99352	<b>U 10/20/2010</b> <b>EXP-AAA</b>	<b>Richard Turcotte</b> <b>Principal</b> Natural Resources Canada Canadian Explosives Research Laboratory 555 Booth Street, BCC #12 Ottawa, ON K1A 0G1 Canada Research <b>Alternate: Jonathan Lavoie</b>	<b>RT 10/27/2005</b> <b>EXP-AAA</b>
<b>Mark Wendt</b> <b>Principal</b> Hodgdon Powder Company, Inc. 2577 Q Avenue Herington Air Park Herington, KS 67449	<b>M 10/29/2012</b> <b>EXP-AAA</b>		

# Address List No Phone

02/18/2022

Alex Ing

EXP-AAA

## Explosives

<b>Serge Dionne</b> <b>Voting Alternate</b> Natural Resources Canada Explosives Regulatory Division 580 Booth Street Ottawa, ON K1A 0E4 Canada Enforcement	<b>E</b> 04/05/2016 <b>EXP-AAA</b>	<b>Michael Carolan</b> <b>Alternate</b> Dekra Process Safety - Chilworth Technology 113 Campus Drive Princeton, NJ 08540 <b>Principal: Amy Theis</b>	<b>RT</b> 04/03/2019 <b>EXP-AAA</b>
<b>James Karnesky</b> <b>Alternate</b> Exponent, Inc. 5401 McConnell Avenue Los Angeles, CA 90066-7027 <b>Principal: Ali Reza</b>	<b>SE</b> 08/03/2016 <b>EXP-AAA</b>	<b>Jonathan Lavoie</b> <b>Alternate</b> Natural Resources Canada 1 Haanel Drive Building 12A Ottawa, ON K1A 1M1 Canada Research <b>Principal: Richard Turcotte</b>	<b>RT</b> 12/06/2019 <b>EXP-AAA</b>
<b>Bernard T. Price</b> <b>Alternate</b> Orbital ATK, Inc./Northrop Grumman Innovation Systems 8400 West 5400 South Magna, UT 84044 <b>Principal: Lawrence J. Lyon</b>	<b>M</b> 04/03/2019 <b>EXP-AAA</b>	<b>Joshua S. Rockwell</b> <b>Alternate</b> US Department of the Interior Office of Surface Mining Reclamation & Enforcement 1849 C Street, NW Mail Stop 4550 Washington, DC 20240 <b>Principal: Kenneth K. Eltschlager</b>	<b>E</b> 04/14/2021 <b>EXP-AAA</b>
<b>Matt Spencer</b> <b>Alternate</b> Hornady Manufacturing Company 3625 West Old Potash Highway Grand Island, NE 68803 <b>Sporting Arms and Ammunition Manufacturers Institute</b> <b>Principal: Ben Barrett</b>	<b>M</b> 10/29/2012 <b>EXP-AAA</b>	<b>Brian Wingfield</b> <b>Alternate</b> International Society of Explosives Engineers 11 Meadow Wood Est Scott Depot, WV 25560 <b>International Society of Explosives Engineers</b> <b>Principal: J. Winston Forde</b>	<b>U</b> 11/30/2016 <b>EXP-AAA</b>
<b>Mark Hagemann</b> <b>Nonvoting Member</b> US Department of Labor Occupational Safety & Health Administration 200 Constitution Avenue NW, Room N3609 Washington, DC 20210	<b>E</b> 4/15/2004 <b>EXP-AAA</b>	<b>Alex Ing</b> <b>Staff Liaison</b> National Fire Protection Association One Batterymarch Park Quincy, MA 02169	10/23/2017 <b>EXP-AAA</b>

## **Attachment: Previous Meeting Minutes**



# NATIONAL FIRE PROTECTION ASSOCIATION

The leading information and knowledge resource on fire, electrical and related hazards

## NFPA 495/498 First Draft MINUTES

### NFPA Technical Committee on Explosives (EXP-AAA) NFPA 495/498 First Draft Meeting (Fall 2022)

February 11, 2021 and March 3, 2021  
1:00 pm – 4 pm (ET)

Web/Teleconference

1. **Call to order.** Lon Santis, chair, called the meeting to order at 1:00 pm on February 11<sup>th</sup>, 2021.
2. **Introductions.** Attendees introduced themselves and identified their affiliation and NFPA staff took attendance.
3. **Chair report.** Lon Santis welcomed attendees and provided an overview of the meeting.
4. **Staff liaison report.** Alex Ing provided an overview of the standards development process and the revision cycle schedule.
5. **Previous meeting minutes.** The minutes from April 5<sup>th</sup>, 2017 Teleconference were approved without revision.
6. **NFPA 495/498 First Draft.**
  - a. **Review of Public Inputs.** The Technical Committee reviewed the Public Inputs and developed First Revisions and Committee Inputs as necessary. These will be available in the First Draft Report at [www.nfpa.org/495](http://www.nfpa.org/495) and [www.nfpa.org/498](http://www.nfpa.org/498)
  - b. **New task groups.** The following task groups were appointed to work subsequent to the meeting:
    - i. **Alternative Container Construction.** TG Chair: Matt Egloff. Members: Glen Saraduke, Frank Fenton, Tod Ossmann, Ben Barrett, Ali Reza, Dave Shatzer. The TG will look at alternative construction methods for containers for small arms ammunition.
    - ii. **UN GHS Harmonization .** TG Chair: Ben Barrett. Members: Larry Lyon, Dave Shatzer, Bob Morhard, Matt Spencer, Ali Reza, Jim Karnesky, Matt Egloff, Glen Saraduke, William O'Brien, Robert Ford, Tod Ossmann. The TG will evaluate and implement possible updates to NFPA 495 resulting from the Revision 9 update of the UN Globally Harmonized System, Chapter 2.1 on classification of explosives, to harness refinements in explosives classification and enable more granular and accurate requirements for varying explosive storage scenarios..
7. **Other Business.**

**8. Future meetings.** The next committee meeting will be April 2022. A meeting notification will be posted at [www.nfpa.org/495next](http://www.nfpa.org/495next) or [www.nfpa.org/498next](http://www.nfpa.org/498next) next when the meeting is scheduled.

**9. Adjournment.** The meeting was adjourned at 3:00 pm on March 3<sup>rd</sup>, 2021.

**Attendees**

**Committee Members:**

✓	<b>Santis, Lon</b>	Chair	Explosives Risk Managers, LLC
✓	<b>Robert Bachman</b>	Principal	Winchester Ammunition
✓	<b>Barrett, Ben</b>	Principal	Sporting Arms and Ammunition
	<b>Bonner, Clark</b>	Principal	Dyno Nobel Inc.
✓	<b>Capers, John</b>	Principal	Austin Powder Company
	<b>Case, Chris</b>	Principal	Municipality Of Chatham Kent
✓	<b>Egloff, Matt</b>	Principal	Montana Tech, University of Montana
✓	<b>Elt Schlager, Kenneth</b>	Principal	US Department of the Interior
✓	<b>Fenton, Frank</b>	Principal	The Township of Northampton
	<b>Forde, J. Winston</b>	Principal	International Society of Explosives
✓	<b>Hoffman, Joshua</b>	Principal	Institute of Makers of Explosives (IME)
	<b>Lombardi, Joseph</b>	Principal	Connecticut State Police
✓	<b>Lyon, Lawrence</b>	Principal	Northrop Grumman Corporation/Orbital
✓	<b>Morhard, Robert</b>	Principal	ExploConsult, LLC
✓	<b>O'Brien, William</b>	Principal	US Bureau of Alcohol, Tobacco, Firearms
✓	<b>Ossmann, Tod</b>	Principal	Willis Towers Watson
✓	<b>Reza, Ali</b>	Principal	Exponent, Inc.
✓	<b>Rudenko, Douglas</b>	Principal	Vibra-Tech Engineers, Inc.
✓	<b>Saraduke, Glen</b>	Principal	Saraduke Technical Services, Inc.
✓	<b>Shatzer, David</b>	Principal	Shatzer & Associates Consulting
	<b>Stithem, Arthur</b>	Principal	Battelle/Pacific Northwest National
✓	<b>Theis, Amy</b>	Principal	Dekra Process Safety
✓	<b>Turcotte, Richard</b>	Principal	Natural Resources Canada
✓	<b>Wendt, Mark</b>	Principal	Hodgdon Powder Company, Inc.
	<b>Dionne, Serge</b>	Alternate	Natural Resources Canada
	<b>Carolan, Michael</b>	Alternate	Dekra Process Safety - Chilworth



✓	<b>Karnesky, James</b>	Alternate	Exponent, Inc.
✓	<b>Lavoie, Jonathan</b>	Alternate	Natural Resources Canada
✓	<b>Price, Bernard</b>	Alternate	Orbital ATK, Inc./Northrop Grumman
✓	<b>Spencer, Matt</b>	Alternate	Sporting Arms and Ammunition
	<b>Wingfield, Brian</b>	Alternate	International Society of Explosives
	<b>Hagemann, Mark</b>	Nonvoting Member	Occupational Safety & Health

Total number in attendance: 23

**Attachment: NFPA 495 Public Comment and  
Committee Input Report**



## Public Comment No. 1-NFPA 495-2021 [ Section No. 14.3 ]

### 14.3 Smokeless Propellants.

#### 14.3.1

Quantities of smokeless propellants not exceeding 11.3 kg (25 lb) in shipping containers approved by the U.S. DOT shall be permitted to be transported in a private vehicle.

#### 14.3.2

Quantities of smokeless propellants exceeding 11.3 kg (25 lb), but not exceeding 22.7 kg (50 lb), transported in a private vehicle, shall be transported in a portable magazine having wood walls of at least 25.4 mm (1 in.) nominal thickness.

#### 14.3.3

Transportation of more than 22.7 kg (50 lb) of smokeless propellants in a private vehicle shall be prohibited.

#### 14.3.4

Commercial shipments of smokeless propellants for small arms that have been classed in Division 1.3 shall be permitted to be reclassified as a Division 4.1 flammable solid for transportation purposes for shipment by motor vehicle, rail car, vessel, or cargo-only aircraft, subject to the conditions stated in the U.S. DOT, 49 CFR 173.171.

#### 14.3.5

Commercial shipments of smokeless propellants exceeding 45.4 kg (100 lb) or not packaged in accordance with the regulations cited in 14.3.4 shall be transported in accordance with the U.S. DOT regulations for Division 1.1 or Division 1.3 explosives.

#### 14.3.6

Smokeless propellants shall be stored in shipping containers specified by U.S. DOT, 49 CFR 100-199.

#### 14.3.7 Quantities.

##### 14.3.7.1

Smokeless propellants intended for personal use in quantities not exceeding 9.1 kg (20 lb) shall be permitted to be stored in original containers in residences.

##### 14.3.7.2

Quantities exceeding 9.1 kg (20 lb), but not exceeding 22.7 kg (50 lb), shall be permitted to be stored in residences where kept in a wooden box or cabinet having walls of at least 25.4 mm (1 in.) nominal thickness.

##### 14.3.7.3\*

As an alternative to wood, the walls of the box or cabinet shall be permitted to be made of a material that offers similar or better performance with respect to fire and mechanical protection.

#### 14.3.8

Not more than 22.7 kg (50 lb) of smokeless propellants, in containers of a 0.45 kg (1 lb) maximum capacity, shall be displayed in commercial establishments.

**14.3.9**

Commercial stocks of smokeless propellants shall be stored as follows:

- (1) Quantities exceeding 22.7 kg (50 lb), but not exceeding 45.4 kg (100 lb), shall be stored in portable wooden boxes having walls of at least a 25.4 mm (1 in.) nominal thickness.
- (2) Quantities exceeding 45.4 kg (100 lb), but not exceeding 363 kg (800 lb), shall be stored in nonportable storage cabinets having walls of at least a 25.4 mm (1 in.) nominal thickness.
- (3) Not more than 181 kg (400 lb) shall be permitted to be stored in any one cabinet.
- (4) Cabinets shall be separated by a distance of at least 7.63 m (25 ft) or by a fire partition having a fire resistance of at least 1 hour.
- (5) Quantities exceeding 363 kg (800 lb) but not exceeding 2268 kg (5000 lb) shall be permitted to be stored in a building, provided the following requirements are met:
  - (6) The warehouse or storage room shall not be accessible to unauthorized personnel.
  - (7) Smokeless propellants shall be stored in nonportable storage cabinets having wood walls of at least 25.4 mm (1 in.) nominal thickness and having shelves with no more than 0.92 m (3 ft) of separation between shelves.
  - (8) \* As an alternative to wood, the walls of the cabinet shall be permitted to be made of a material that offers similar or better performance with respect to fire and mechanical protection.
  - (9) No more than 181 kg (400 lb) shall be stored in any one cabinet.
  - (10) Cabinets shall be located against the walls of the storage room or warehouse with at least 12.2 m (40 ft) between cabinets.
  - (11) The separation between cabinets shall be permitted to be reduced to 6.1 m (20 ft) where barricades twice the height of the cabinets are attached to the wall, midway between each cabinet.
  - (12) The barricades shall extend at least 3 m (10 ft) outward, be firmly attached to the wall, and be constructed of 6.4 mm (1/4 in.) boiler plate, 51 mm (2 in.) thick wood, brick, or concrete block.
  - (13) Smokeless propellants shall be separated from materials classified by the U.S. DOT as flammable liquids, flammable solids, and oxidizing materials by a distance of 7.63 m (25 ft) or by a fire partition having a fire resistance of at least 1 hour.
  - (14) The building shall be protected by an automatic sprinkler system installed in accordance with NFPA 13.
- (15) Smokeless propellants not stored in accordance with 14.3.9(1) through 14.3.9(5) shall be stored in a Type 4 magazine constructed and located in accordance with Chapter 9.

A.14.3.7.3 Alternative materials to wood should offer comparable protection, and that needs to be based not just on fire performance (reaction to fire or fire resistance rating) but also on mechanical protection.

A14.3.9.(5)(c) See A.14.3.7.3

## Statement of Problem and Substantiation for Public Comment

The only change proposed is a new section 14.3.7.3 and a new item (c) in section 14.3.9 item (5), together with associated annex notes. Other changes are due to Terra.

The reason for the proposed change is that there is nothing unique about wood as material for the container. However, an alternate needs to provide both fire protection and mechanical protection comparable to that of 1 inch thick wood. For example, it would not be appropriate to replace the thick wood by a thin noncombustible board.

### Related Item

• fr7

## Submitter Information Verification

**Submitter Full Name:** Marcelo Hirschler  
**Organization:** GBH International  
**Street Address:**  
**City:**  
**State:**  
**Zip:**  
**Submittal Date:** Mon Dec 20 18:57:53 EST 2021  
**Committee:** EXP-AAA

**Committee Input No. 2-NFPA 495-2021 [ Chapter 14 ]****Chapter 14** Small Arms Ammunition and Primers, Smokeless Propellants, and Black Powder Propellants**14.1** Basic Requirements.**14.1.1**

In addition to all other applicable requirements of this code, intrastate transportation of small arms ammunition, small arms primers, smokeless propellants, and Black Powder shall comply with the U.S. DOT, 49 CFR 100–199.

**14.1.2**

This chapter shall apply to the users and distribution channels of small arms ammunition, small arms primers, smokeless propellants, and Black Powder.

**14.1.3**

This chapter shall not apply to in-process storage and intraplant transportation during manufacture.

**14.1.4**

This chapter shall apply to the transportation and storage of small arms ammunition and components.

**14.1.5**

This chapter shall not apply to safety procedures in the use of small arms ammunition and components.

**14.1.6**

The bulk repackaging of small arms ammunition, primers, smokeless propellants, or Black Powder propellants shall not be performed in retail stores.

**14.2** Small Arms Ammunition.**14.2.1**

No restrictions shall be imposed on transportation of small arms ammunition other than those imposed by the U.S. DOT or by the presence of other hazardous materials.

**14.2.2**

No quantity limitations shall be imposed on the storage of small arms ammunition in warehouses, retail stores, and other occupancies other than those imposed by the limitations of the storage facility and by public safety regulations.

**14.2.3**

Small arms ammunition shall be separated from materials classified by the U.S. DOT as flammable liquids, flammable solids, and oxidizing materials by a distance of 4.6 m (15 ft) or by a fire partition having a fire resistance of at least 1 hour.

**14.2.4**

Small arms ammunition shall not be stored together with Division 1.1, Division 1.2, or Division 1.3 explosives, except where the storage facility is suitable for the storage of explosive materials.

**14.2.5\*** Damaged Ammunition.**14.2.5.1**

Small arms ammunition that has been exposed to fire or has been damaged by exposure to water shall not be returned to commercial channels for reasons of consumer safety.

**14.2.5.2**

The manufacturer shall be contacted to obtain recommendations for the disposal of damaged ammunition.

**14.3** Smokeless Propellants.**14.3.1**

Quantities of smokeless propellants not exceeding 11.3 kg (25 lb) in shipping containers approved by the U.S. DOT shall be permitted to be transported in a private vehicle.

**14.3.2**

Quantities of smokeless propellants exceeding 11.3 kg (25 lb), but not exceeding 22.7 kg (50 lb), transported in a private vehicle, shall be transported in a portable magazine having wood walls of at least 25.4 mm (1 in.) nominal thickness or other container having a fire resistance of 1 hour.

**14.3.3**

Transportation of more than 22.7 kg (50 lb) of smokeless propellants in a private vehicle shall be prohibited.

**14.3.4**

Commercial shipments of smokeless propellants for small arms that have been classed in Division 1.3 shall be permitted to be reclassified as a Division 4.1 flammable solid for transportation purposes for shipment by motor vehicle, rail car, vessel, or cargo-only aircraft, subject to the conditions stated in the U.S. DOT, 49 CFR 173.171.

**14.3.5**

Commercial shipments of smokeless propellants exceeding 45.4 kg (100 lb) or not packaged in accordance with the regulations cited in 14.3.4 shall be transported in accordance with the U.S. DOT regulations for Division 1.1 or Division 1.3 explosives.

**14.3.6**

Smokeless propellants shall be stored in shipping containers specified by U.S. DOT, 49 CFR 100–199.

**14.3.7** Quantities.**14.3.7.1**

Smokeless propellants intended for personal use in quantities not exceeding 9.1 kg (20 lb) shall be permitted to be stored in original containers in residences.

**14.3.7.2**

Quantities exceeding 9.1 kg (20 lb), but not exceeding 22.7 kg (50 lb), shall be permitted to be stored in residences where kept in a wooden box or cabinet having walls of at least 25.4 mm (1 in.) nominal thickness or other container having a fire resistance of 1 hour.

**14.3.8**

Not more than 22.7 kg (50 lb) of smokeless propellants, in containers of a 0.45 kg (1 lb) maximum capacity, shall be displayed in commercial establishments.

**14.3.9**

Commercial stocks of smokeless propellants shall be stored as follows:

- (1) Quantities exceeding 22.7 kg (50 lb), but not exceeding 45.4 kg (100 lb), shall be stored in portable wooden boxes having walls of at least a 25.4 mm (1 in.) nominal thickness or other container having a fire resistance of 1 hour .
- (2) Quantities exceeding 45.4 kg (100 lb), but not exceeding 363 kg (800 lb), shall be stored in nonportable storage cabinets having walls of at least a 25.4 mm (1 in.) nominal thickness or other container having a fire resistance of 1 hour .
- (3) Not more than 181 kg (400 lb) shall be permitted to be stored in any one cabinet.
- (4) Cabinets shall be separated by a distance of at least 7.63 m (25 ft) or by a fire partition having a fire resistance of at least 1 hour.
- (5) Quantities exceeding 363 kg (800 lb) but not exceeding 2268 kg (5000 lb) shall be permitted to be stored in a building, provided the following requirements are met:
  - (6) The warehouse or storage room shall not be accessible to unauthorized personnel.
  - (7) Smokeless propellants shall be stored in nonportable storage cabinets having wood walls of at least 25.4 mm (1 in.) nominal thickness or other container having a fire resistance of 1 hour and having shelves with no more than 0.92 m (3 ft) of separation between shelves.
  - (8) No more than 181 kg (400 lb) shall be stored in any one cabinet.
  - (9) Cabinets shall be located against the walls of the storage room or warehouse with at least 12.2 m (40 ft) between cabinets.
  - (10) The separation between cabinets shall be permitted to be reduced to 6.1 m (20 ft) where barricades twice the height of the cabinets are attached to the wall, midway between each cabinet.
  - (11) The barricades shall extend at least 3 m (10 ft) outward, be firmly attached to the wall, and be constructed of 6.4 mm (1/4 in.) boiler plate, 51 mm (2 in.) thick wood, brick, or concrete block.
  - (12) Smokeless propellants shall be separated from materials classified by the U.S. DOT as flammable liquids, flammable solids, and oxidizing materials by a distance of 7.63 m (25 ft) or by a fire partition having a fire resistance of at least 1 hour.
  - (13) The building shall be protected by an automatic sprinkler system installed in accordance with NFPA 13.
- (14) Smokeless propellants not stored in accordance with 14.3.9(1) through 14.3.9(5) shall be stored in a Type 4 magazine constructed and located in accordance with Chapter 9.

**14.4 Black Powder.****14.4.1**

Black Powder shall be transported in accordance with the U.S. DOT. (See also Chapter 8.)

**14.4.2**

Black Powder shall be stored in shipping containers approved by the U.S. DOT.

**14.4.3**

Black Powder intended for personal use in quantities not exceeding 9.1 kg (20 lb) shall be permitted to be stored in residences where kept in the original containers and stored in a wooden box or cabinet having walls of at least a 25.4 mm (1 in.) nominal thickness or other container having a fire resistance of 1 hour .

**14.4.4**

No more than 0.45 kg (1 lb) of Black Powder shall be displayed in commercial establishments.

**14.4.5**

Commercial stocks stored in buildings in quantities not exceeding 22.7 kg (50 lb) shall be stored in a Type 4 indoor magazine.

**14.4.6**

Commercial stocks in quantities exceeding 22.7 kg (50 lb) shall be stored in a Type 4 outdoor magazine.

**14.4.7**

Where smokeless propellants are stored in the same magazine with Black Powder, the total quantity shall not exceed that permitted for Black Powder.

**14.4.8**

Commercial shipments of Black Powder for small arms that have been classed in Division 1.3 shall be permitted to be reclassified as a Division 4.1 flammable solid for transportation purposes for shipment by motor vehicle, rail car, vessel, or cargo-only aircraft, subject to the conditions stated in the U.S. DOT, 49 CFR 173.171.

**14.5 Small Arms Primers.****14.5.1**

Small arms primers shall be transported or stored in containers approved by the U.S. DOT.

**14.5.2**

Transportation of small arms primers shall comply with U.S. DOT Regulations.

**14.5.3**

No more than 25,000 small arms primers shall be permitted to be transported in a private vehicle.

**14.5.4**

For small arms primers classified by the U.S. DOT as 1.4S, the limit shall be permitted to be increased to 150,000.

**14.5.5**

No more than 10,000 small arms primers shall be permitted to be stored in residences.

**14.5.6**

For small arms primers classified by the U.S. DOT as 1.4S, the limit stored in residences shall be permitted to be increased to 150,000.

**14.5.7**

No more than 10,000 small arms primers shall be permitted to be displayed in commercial establishments.

**14.5.8**

For small arms primers classified by the U.S. DOT as 1.4S, the limit displayed in commercial establishments shall be permitted to be increased to 150,000.

**14.5.9**

Commercial stocks of small arms primers shall be stored as follows:

- (1) Quantities not exceeding 750,000 shall be permitted to be stored in a building where not more than 100,000 are stored in any one pile and where piles are at least 4.6 m (15 ft) apart.
- (2) Quantities exceeding 750,000 shall be permitted to be stored in a building, provided the following conditions are met:
  - (3) The warehouse or storage room shall not be accessible to unauthorized personnel.
  - (4) Primers, other than DOT type 1.4S, shall be stored in cabinets.
  - (5) No more than 200,000 primers, other than DOT type 1.4S, shall be stored in any one cabinet.
  - (6) Shelves in cabinets shall have a vertical separation of at least 0.6 m (2 ft).
  - (7) Cabinets shall be located against the walls of the warehouse or storage room with at least 12.2 m (40 ft) between cabinets.
  - (8) The separation between cabinets shall be permitted to be reduced to 6.1 m (20 ft) where barricades twice the height of the cabinets are attached to the wall, midway between each cabinet.
  - (9) The barricades shall extend at least 3 m (10 ft) outward, be firmly attached to the wall, and be constructed of 6.4 mm (1/4 in.) boiler plate, 51 mm (2 in.) thick wood, brick, or concrete block.
  - (10) Primers shall be separated from materials classified by the U.S. DOT as flammable liquids, flammable solids, and oxidizing materials by a distance of 7.63 m (25 ft) or by a fire partition having a fire resistance of at least 1 hour.
  - (11) The building shall be protected by an automatic sprinkler system installed in accordance with NFPA 13.
- (12) Small arms primers not stored in accordance with 14.5.9(1) and 14.5.9(2) shall be stored in a magazine meeting the requirements of Chapter 9.

**Submitter Information Verification**

**Committee:** EXP-AAA

**Submittal Date:** Thu Feb 11 15:09:32 EST 2021

**Committee Statement and Meeting Notes**

**Committee Statement:** The committee would like to consider alternative construction for containers other than 1' nominal of wood and has formed a task group to look into alternatives. Fire resistance is not the only consideration when constructing these containers.

**Response Message:** CI-2-NFPA 495-2021

[Public Input No. 4-NFPA 495-2020 \[Chapter 14\]](#)



## **Attachment: NFPA 498 Committee Input Report**



## Committee Input No. 1-NFPA 498-2021 [ New Section after 4.3.4 ]

4.3.5 Diesel Particulate Filter (DPF) regeneration shall not be allowed to occur while the vehicle is in the safe haven.

4.3.5.1 Trucks undergoing DPF regeneration shall not enter the safe haven.

4.3.5.2 The DPF regeneration feature shall not be initiated while in the safe haven.

### Submitter Information Verification

**Committee:** EXP-AAA

**Submittal Date:** Wed Mar 03 13:31:13 EST 2021

### Committee Statement and Meeting Notes

**Committee Statement:** Diesel Particulate Filter (DPF) regeneration is a known source of ignition with several incidents involving DPF regeneration starting fires. The committee is seeking input from transportation carriers, manufacturers, and vehicle manufacturers on this issue. The committee is also looking for input if this feature can be disabled on the truck.

**Response Message:** CI-1-NFPA 498-2021