TECHNICAL COMMITTEE ON TRANSPORTATION OF FLAMMABLE LIQUIDS

NFPA 385 First Draft Meeting Agenda

Monday, May 4, 2020
10:00 a.m. - Noon (ET)

Web/Teleconference

1. Call to Order, Roll Call and Welcome. David Hollinger, Chair
2. Introductions and Update of Committee Roster, ***see page 2***.
3. Approval of F2016 March 10, 2016 Second Draft Meeting Minutes, ***see page 3***.
4. Staff updates. Mike Marando, NFPA Staff
   - Fall 2021 revision cycle schedule, ***see page 5***.
   - Overview of NFPA Process.
5. Review of ten (10) Public Inputs, ***see page 6***.
6. Old Business.
7. New Business.
8. Next Meeting.
9. Adjourn.

Address List No Phone

04/16/2020
Michael Marando

Transportation of Flammable Liquids

TRA-AAA

David W. Hollinger U 10/27/2009
Chair **TRA-AAA**
Drexel University
3201 Arch Street, Suite 350
Philadelphia, PA 19104-2756

Scott R. Connor IM 3/21/2006
Principal **TRA-AAA**
Team-1 Academy Inc.
760 Pacific Road, Unit 19
Oakville, ON L6L 6M5 Canada

Erick J Hawley-Saia U 08/08/2019
Principal **TRA-AAA**
Greenwich Terminals LLC
3301 S. Columbus Boulevard
Building 8
Philadelphia, PA 19148

Todd M. Hetrick SE 10/20/2010
Principal **TRA-AAA**
Exponent, Inc.
4580 Weaver Parkway, Suite 100
Warrenville, IL 60555

David Kearney E 08/03/2016
Principal **TRA-AAA**
Philadelphia Fire Department
240 Spring Garden Street
Philadelphia, PA 19123-2923

James R. Kittrell SE 1/1/1994
Principal **TRA-AAA**
KSE, Inc.
PO Box 368
Amherst, MA 01004

J. R. Nerat M 8/2/2010
Principal **TRA-AAA**
UTC/Badger Fire Protection
W-6615 Number 11.5 Road
Wallace, MI 49893

Jeff Sims M 1/15/2004
Principal **TRA-AAA**
Truck Trailer Manufacturers Association
7001 Heritage Village Plaza
Suite 220
Gainesville, VA 20155-3094

Jacob Waldschmidt E 7/29/2005
Principal **TRA-AAA**
City of Kenosha Fire Department
8201 61st Street
Kenosha, WI 53142-7249

Michael Marando 09/26/2019
Staff Liaison **TRA-AAA**
National Fire Protection Association
Staff Liaison
One Batterymarch Park
Quincy, MA 02169-7471

National Fire Protection Association
1 Batterymarch Park, Quincy, MA 02169-7471
Phone: 617-770-3000 • Fax: 617-770-0700 • www.nfpa.org

TECHNICAL COMMITTEE ON TRANSPORTATION OF FLAMMABLE LIQUIDS

MINUTES of MEETING

Technical Committee on Transportation of Flammable Liquids
NFPA 385 Second Draft Web Conference
Thursday, March 10, 2016

I. ATTENDANCE

S. R. Connor, Team-1 Academy Inc.
D. W. Hollinger, Drexel University, CHAIR
J. R. Kittrell, KSE, Incorporated
J. R. Nerat, UTC/Badger Fire Protection
J. Sims, Truck Trailer Manufacturers Association
J. Waldschmidt, City of Kenosha Fire Department

R. P. Benedetti, National Fire Protection Association, STAFF LIAISON
J. E. Shapiro, National Fire Protection Association, STAFF LIAISON

Technical Committee Members Unable to Participate:

T. M. Hetrick, Exponent, Inc.

II. MINUTES

1. The meeting was called to order by Technical Committee Chair Hollinger at 9:30 AM on Thursday, March 10, 2016.

2. Participants introduced themselves. There were no corrections for the Technical Committee roster.

3. The Minutes of the First Draft meeting, held June 11, 2015 via web conference, were unanimously approved as submitted.

4. There was no report from the Technical Committee Chair.

5. The Staff Liaison reported on the following:

   - Technical Committee Scope. No action necessary.

   - Technical Committee Membership. The Staff Liaison reported that efforts are still underway to secure a replacement for Mr. John Conley from the National Tank Truck Carriers.

   - Fall 2016 Document Revision Schedule. The Staff Liaison reviewed the revision schedule for the 2017 edition of NFPA 385.

6. The Technical Committee reviewed and took action on all public comments to the First Draft report on proposed revisions to the 2012 edition of NFPA 385.

7. There was no correspondence requiring the Technical Committee's attention.

8. There was no "Old Business" requiring the Technical Committee's attention.

9. There was no "New Business" requiring the Technical Committee's attention.

10. The Technical Committee deferred scheduling the next meeting until the next revision cycle is entered. This will be the Fall 2021 cycle.

11. The meeting was adjourned at 10:00 AM.

Fall 2021 Master Schedule

Process Stage	Process Step	Dates for TC	Dates for TC with CC
Public Input Stage (First Draft)	Public Input Closing Date*	1/09/2020	1/09/2020
	Final Date for TC First Draft Meeting	6/18/2020	3/19/2020
	Posting of First Draft and TC Ballot	8/06/2020	4/30/2020
	Final date for Receipt of TC First Draft ballot	8/27/2020	5/21/2020
	Final date for Receipt of TC First Draft ballot - recirc	9/03/2020	5/28/2020
	Posting of First Draft for CC Meeting		6/04/2020
	Final date for CC First Draft Meeting		7/16/2020
	Posting of First Draft and CC Ballot		8/06/2020
	Final date for Receipt of CC First Draft ballot		8/27/2020
	Final date for Receipt of CC First Draft ballot - recirc		9/03/2020
	Post First Draft Report for Public Comment	9/10/2020	9/10/2020
Comment Stage (Second Draft)	Public Comment Closing Date*	11/19/2020	11/19/2020
	Notice Published on Consent Standards (Standards that received no Comments) Note: Date varies and determined via TC ballot.		
	Appeal Closing Date for Consent Standards (Standards that received no Comments)		
	Final date for TC Second Draft Meeting	5/20/2021	2/11/2021
	Posting of Second Draft and TC Ballot	7/01/2021	3/25/2021
	Final date for Receipt of TC Second Draft ballot	7/22/2021	4/15/2021
	Final date for receipt of TC Second Draft ballot - recirc	7/29/2021	4/22/2021
	Posting of Second Draft for CC Meeting		4/29/2021
	Final date for CC Second Draft Meeting		6/10/2021
	Posting of Second Draft for CC Ballot		7/01/2021
	Final date for Receipt of CC Second Draft ballot		7/22/2021
	Final date for Receipt of CC Second Draft ballot - recirc		7/29/2021
	Post Second Draft Report for NITMAM Review	8/05/2021	8/05/2021
Tech Session Preparation (& Issuance)	**Notice of Intent to Make a Motion (NITMAM) Closing Date**	9/02/2021	9/02/2021
	Posting of Certified Amending Motions (CAMs) and Consent Standards	10/14/2021	10/14/2021
	Appeal Closing Date for Consent Standards	10/29/2021	10/29/2021
	SC Issuance Date for Consent Standards	11/08/2021	11/08/2021
Tech Session	Association Meeting for Standards with CAMs		
Appeals and Issuance	Appeal Closing Date for Standards with CAMs		
	SC Issuance Date for Standards with CAMs		

TC = Technical Committee or Panel
CC = Correlating Committee

As of 12/13/2017

Public Input No. 10-NFPA 385-2020 [Section No. 2.2]

2.2 NFPA Publications.

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

NFPA 10, *Standard for Portable Fire Extinguishers,* 2017 edition.

NFPA 18A, Standard on Water Additives for Fire Control and Vapor Mitigation

NFPA 30, *Flammable and Combustible Liquids Code,* 2015 edition.

NFPA 58, *Liquefied Petroleum Gas Code,* 2017 edition.

NFPA 70®, *National Electrical Code®,* 2017 edition.

NFPA 407, *Standard for Aircraft Fuel Servicing,* 2017 edition.

Statement of Problem and Substantiation for Public Input

NFPA 18A Standard on Water Additives for Fire Control and Vapor Mitigation is the next generation of fire suppression agents known as Encapsulator Agents. These are fluorine free agent (friendly to the environment). The basic building block of Encapsulator Agent is a Spherical Micelle. A Spherical Micelle is a molecular structure capable of encapsulating carbon and hydrocarbon molecules thus separating the fuel from the oxygen on a chemical/molecular level (i.e. smothering the fire) as opposed to foams, currently in this standard, that separate the fuel from the oxygen on a mechanical macro level (i.e., smothering the fire). One key difference is molecular encapsulation can be accomplished in a 3D environment where mechanical separation is only accomplishable in a 2D environment (i.e., flat surface).

Submitter Information Verification

Submitter Full Name: Jeffrey Bonkoski
Organization: JB HazMat Consulting
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jan 07 17:01:19 EST 2020
Committee: TRA-AAA

Public Input No. 8-NFPA 385-2020 [Section No. 2.3.3]

2.3.3 ASTM Publications.

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

ASTM B209, *Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate*, 2014.

ASTM D5/D5M, *Standard Test Method for Penetration for Bituminous Materials*, ~~2013~~ 2019 .

ASTM D323, *Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)*, 2015a.

ASTM D4359, *Standard Test for Determining Whether a Material is a Liquid or a Solid*, ~~2013~~ 1990 (2019) .

Statement of Problem and Substantiation for Public Input

date updates. ASTM D4359 has a 1990 date and has been reapproved without change in 2019.

Submitter Information Verification

Submitter Full Name: Marcelo Hirschler
Organization: GBH International
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 02 13:25:43 EST 2020
Committee: TRA-AAA

Public Input No. 4-NFPA 385-2020 [Section No. 3.3.4]

3.3.4 Combustible Liquid.

See ~~3~~ 4 .3. ~~9.~~ 1 .

Statement of Problem and Substantiation for Public Input

This PI prevents duplication. It sends directly to the section that explains what to do.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 3-NFPA 385-2020 [Chapter 4]	
Public Input No. 3-NFPA 385-2020 [Chapter 4]	
Public Input No. 5-NFPA 385-2020 [Section No. 3.3.6]	
Public Input No. 6-NFPA 385-2020 [Section No. 3.3.9]	

Submitter Information Verification

Submitter Full Name: Marcelo Hirschler
Organization: GBH International
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 02 12:57:49 EST 2020
Committee: TRA-AAA

Public Input No. 5-NFPA 385-2020 [Section No. 3.3.6]

3.3.6 Flammable Liquid.

See ~~3~~ 4 .3. ~~9.~~ 2 .

Statement of Problem and Substantiation for Public Input

This PI prevents duplication. It sends directly to the section that explains what to do.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 3-NFPA 385-2020 [Chapter 4]	
Public Input No. 4-NFPA 385-2020 [Section No. 3.3.4]	
Public Input No. 3-NFPA 385-2020 [Chapter 4]	
Public Input No. 6-NFPA 385-2020 [Section No. 3.3.9]	

Submitter Information Verification

Submitter Full Name: Marcelo Hirschler
Organization: GBH International
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 02 12:59:50 EST 2020
Committee: TRA-AAA

Public Input No. 6-NFPA 385-2020 [Section No. 3.3.9]

3.3.9 Liquid.

~~Any material that (1) has a fluidity greater than that of 300 penetration asphalt when tested in accordance with ASTM D5/D5M, *Standard Test Method for Penetration for Bituminous Materials* , or (2) is a viscous substance for which a specific melting point cannot be determined but that is determined to be a liquid in accordance with ASTM D4359, *Standard Test for Determining Whether a Material is a Liquid or a Solid* .~~ [**30,** ~~2015~~] See 4.2

3.3.9.1* Combustible Liquid.

~~Any liquid that has a closed-cup flash point at or above 100°F (37.8°C), as determined by the test procedures and apparatus set forth in Section 4.4 of NFPA 30. Combustible liquids are classified according to Section 4.3 of NFPA 30.~~ [**30,** ~~2015~~] See 4.3.1

3.3.9.2* Flammable Liquid.

~~Any liquid that has a closed-cup flash point below 100°F (37.8°C), as determined by the test procedures and apparatus set forth in Section 4.4 of NFPA 30, and a Reid vapor pressure that does not exceed an absolute pressure of 40 psi (276 kPa) at 100°F (37.8°C), as determined by ASTM D323, *Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method)* . Flammable liquids are classified according to Section 4.3 of NFPA 30.~~ [**30,** ~~2015~~] See 4.3.2

Statement of Problem and Substantiation for Public Input

This PI simply sends the user to the section that describes what to do. It is also consistent with the Manual of Style that states that definitions, which are not enforceable, cannot have requirements.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 4-NFPA 385-2020 [Section No. 3.3.4]	
Public Input No. 5-NFPA 385-2020 [Section No. 3.3.6]	
Public Input No. 3-NFPA 385-2020 [Chapter 4]	
Public Input No. 3-NFPA 385-2020 [Chapter 4]	

Submitter Information Verification

Submitter Full Name: Marcelo Hirschler
Organization: GBH International
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 02 13:02:06 EST 2020
Committee: TRA-AAA

Public Input No. 3-NFPA 385-2020 [Chapter 4]

Chapter 4 Classification of Flammable and Combustible Liquids

4.1 Scope.

4.1.1

This chapter shall establish a uniform system of defining and classifying flammable and combustible liquids for the purpose of proper application of this standard.

4.1.2

Classifications established by this chapter shall apply to any liquid within the scope of, and subject to, the requirements of this standard.

4.2 Liquids

A liquid is any material that (1) has a fluidity greater than that of penetration asphalt when tested in accordance with ASTM D5/D5M, Standard Test Method for Penetration for Bituminous Materials, or (2) is a viscous substance for which a specific melting point cannot be determined but that is determined to be a liquid in accordance with ASTM D4359, Standard Test for Determining Whether a Material is a Liquid or a Solid. [30, 2015]

4.3 Classification of Liquids.

Any liquid within the scope of this standard and subject to the requirements of this standard shall be classified in accordance with this section.

4.2 3 .1

~~Flammable liquids, as defined in 3.3.9.2 , shall be classified~~

Flammable liquids

4.3.1.1 A flammable liquid is any liquid that has a closed cup flash point below 100°F (37.8°C), as determined by the test procedures and apparatus set forth in Section 4.4 of NFPA 30, and a Reid vapor pressure that does not exceed an absolute pressure of 40 psi (276 kPa) at 100°F (37.8°C), as determined by ASTM D323, Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).

4.3.1.2 Flammable liquids shall be classified according to Section 4.3 of NFPA 30.

4.3.1.3 Flammable liquids shall be classified as Class I liquids and shall be further subclassified in accordance with the following:

(1) Class IA Liquid. Any liquid that has a flash point below 73°F (22.8°C) and a boiling point below 100°F (37.8°C).

(2) Class IB Liquid. Any liquid that has a flash point below 73°F (22.8°C) and a boiling point at or above 100°F (37.8°C).

(3) Class IC Liquid. Any liquid that has a flash point at or above 73°F (22.8°C) but below 100°F (37.8°C).

[**30,** 2015]

4.

~~2.2~~

~~Combustible liquids, as defined in 3.3.9.1 , shall be~~

3.1.4 For the purposes of this standard, a material with a Reid vapor pressure greater than an absolute pressure of 40 psi (276 kPa) shall be considered to be a gas and is, therefore, not within the scope of NFPA 30. See NFPA 58.

4.3.2 Combustible liquids

4.3.2.1 A combustible liquid is any liquid that has a closed cup flash point at or above 100°F (37.8°C), as determined by the test procedures and apparatus set forth in Section 4.4 of NFPA 30.

4.3.2.2 Combustible liquids shall be classified according to Section 4.3 of NFPA 30.

4.3.2.3 Combustible liquids shall be subclassified in accordance with the following:

(1) Class II Liquid. Any liquid that has a flash point at or above 100°F (37.8°C) and below 140°F (60°C).

(2) Class III Liquid. Any liquid that has a flash point at or above 140°F (60°C). Class III liquids shall be further subclassified in accordance with the following:

(3) Class IIIA Liquid. Any liquid that has a flash point at or above 140°F (60°C), but below 200°F (93°C).

(4) Class IIIB Liquid. Any liquid that has a flash point at or above 200°F (93°C).

[**30,** 2015]

Statement of Problem and Substantiation for Public Input

This PI moves the definitions from section 3 into section 4 so that everything is together and to comply with the manual of style which says that definitions (which are not enforceable) cannot contain requirements. A parallel PI sends to this section from chapter 3. No requirements are changed.
The annex note to flammable liquids has been added here because it is really information that is required by the standard.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 4-NFPA 385-2020 [Section No. 3.3.4]	
Public Input No. 5-NFPA 385-2020 [Section No. 3.3.6]	
Public Input No. 6-NFPA 385-2020 [Section No. 3.3.9]	
Public Input No. 4-NFPA 385-2020 [Section No. 3.3.4]	
Public Input No. 5-NFPA 385-2020 [Section No. 3.3.6]	
Public Input No. 6-NFPA 385-2020 [Section No. 3.3.9]	

Public Input No. 7-NFPA 385-2020 [Section No. A.3.3.9.1]

Submitter Information Verification

Submitter Full Name: Marcelo Hirschler
Organization: GBH International
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 02 12:41:52 EST 2020
Committee: TRA-AAA

Public Input No. 1-NFPA 385-2017 [Section No. 9.2.14]

9.2.14

Smoking ~~on or about any~~ within 25 ft of a tank vehicle while loading or unloading any flammable or combustible liquid shall be forbidden.

Statement of Problem and Substantiation for Public Input

The current requirement is unenforceable as no specific distance is included. As written anyone could be cited for smoking 50 or 100 ft. from a vehicle while unloading or loading. The 25 ft distance is cited in many similar documents.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 2-NFPA 385-2017 [Section No. 9.2.15]	

Submitter Information Verification

Submitter Full Name: Theodore Lemoff
Organization: TLemoff Engineering
Affiliation: None
Street Address:
City:
State:
Zip:
Submittal Date: Mon Oct 30 10:16:17 EDT 2017
Committee: TRA-AAA

Public Input No. 2-NFPA 385-2017 [Section No. 9.2.15]

~~9.2.15~~ –

~~Extreme care shall be taken in the loading or unloading of any flammable liquid into or from any cargo tank to keep fire away and to prevent persons in the vicinity from smoking, lighting matches, or carrying any flame or lighted cigar, pipe, or cigarette.~~

Statement of Problem and Substantiation for Public Input

The paragraph is the same requirement in the previous paragraph (9.2.14) and is not needed.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 1-NFPA 385-2017 [Section No. 9.2.14]	

Submitter Information Verification

Submitter Full Name: Theodore Lemoff
Organization: TLemoff Engineering
Affiliation: None
Street Address:
City:
State:
Zip:
Submittal Date: Mon Oct 30 10:19:51 EDT 2017
Committee: TRA-AAA

Public Input No. 7-NFPA 385-2020 [Section No. A.3.3.9.1]

A.3.3.9.1 Combustible Liquid.

For classification of combustible liquids, see 4. ~~2~~ 3 . ~~2~~ 1 of this standard and Chapter 4 of NFPA 30.

Statement of Problem and Substantiation for Public Input

Sends to the new section.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 3-NFPA 385-2020 [Chapter 4]	

Submitter Information Verification

Submitter Full Name: Marcelo Hirschler
Organization: GBH International
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 02 13:09:50 EST 2020
Committee: TRA-AAA

Public Input No. 9-NFPA 385-2020 [Section No. C.1.2.2]

C.1.2.2 ASTM Publications.

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

ASTM D86, *Standard Test Method for Distillation of Petroleum Products at Atmospheric Pressure*, ~~2012~~ 2018 .

ASTM D92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester*, ~~2012b~~ 2018 .

ASTM D4206, *Standard Test Method for Sustained Burning of Liquid Mixtures Using the Small Scale Open-Cup Apparatus Tester (Open Cup)*, ~~2013~~ 1996 (2018) .

ASTM E502, *Standard Test Method for Selection and Use of ASTM Standards for the Determination of Flash Point of Chemicals by Closed Cup Methods*, 2007 (2013) .

ASTM Manual on Flash Point Standards and Their Use, 2007.

Statement of Problem and Substantiation for Public Input

date updates -
ASTM D4206, Standard Test Method for Sustained Burning of Liquid Mixtures Using the Small Scale Open-Cup Apparatus Tester (Open Cup) has a date of 1996 and was reapproved without change in 2018
ASTM E502, Standard Test Method for Selection and Use of ASTM Standards for the Determination of Flash Point of Chemicals by Closed Cup Methods, has a date of 2007 and has been reapproved without change in 2013

Submitter Information Verification

Submitter Full Name: Marcelo Hirschler
Organization: GBH International
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jan 02 13:27:57 EST 2020
Committee: TRA-AAA