



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

September 23, 2021

Mr. Brick Keltner
Corporate Trainer Shop
Koorsen Fire & Security
2820 N. Webster
Indianapolis, IN 46219

Reference No. 21-0084

Dear Mr. Keltner:

This letter is in response to your August 4, 2021, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to fire suppression systems classified as fire extinguishers. Specifically, you reference the final rule published on December 28, 2020, titled “Hazardous Materials: Miscellaneous Amendments Pertaining to DOT-Specification Cylinders” [HM-234; 85 FR 85380].

We have paraphrased and answered your questions as follows:

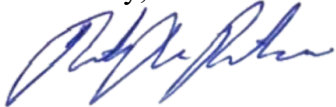
- Q1. You ask whether cylinders that are classified as fire extinguishers when installed in fire suppression systems must be requalified exclusively in accordance with § 180.209(j).
- A1. The answer is no. A cylinder that meets that definition of a fire extinguisher—as defined in the introductory text to § 173.309—may follow the requalification periods in § 180.209(j) for fire extinguishers. Alternatively, the cylinder may be requalified in accordance with any of the other eligible requalification periods that the cylinder meets in § 180.209.

Q2. You ask what the effective date is for the HM-234 final rule.

A2. The HM-234 final rule became effective on January 27, 2021. However, compliance with the amendments adopted in the HM-234 final rule is required beginning December 28, 2021.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dirk Der Kinderen".

Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

From: [Patrick, Eamonn \(PHMSA\)](#)
To: [Hillman, Kenetha CTR \(PHMSA\)](#)
Cc: [Dodd, Alice \(PHMSA\)](#); [DerKinderen, Dirk \(PHMSA\)](#); [Foster, Glenn \(PHMSA\)](#)
Subject: FW: Formal Interpretations
Date: Monday, August 9, 2021 9:55:15 AM

Good morning Kenetha,

Please check in the below email as a request for interpretation. Let me know if you have any questions, thanks!

-Eamonn

From: Brick Keltner <Brick.Keltner@koorsen.com>
Sent: Wednesday, August 04, 2021 12:38 PM
To: Patrick, Eamonn (PHMSA) <eamonn.patrick@dot.gov>
Subject: Formal Interpretations

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Mr. Eamonn, I would like a Formal Interpretation on the new ruling of the Fire Extinguisher definition in 49 CFR 173.309.

We service wet chemical kitchen hood suppression systems as well as dry chemical suppression systems that are manufactured by Amerex, Ansul, Pyro-chem & Kiddee/Badger. Both stored pressure & cartridge activated types.

I have a few questions in regards to this rule change.

1. Fire Suppression System cylinders are to be classified as Fire Extinguishers per DOT change in 173.309 and meet the requirements of 173.309 (a). The notice I recieved also says for the "purpose of Transportation". How does this change effect 180.209 (j)(1)(ii)(A), which states - By proof pressure test. A requalification must be performed by the end of the 12 years after the original test date an at 7-year intervals . Is this new change going to require 12/7 testing on these types of cylinders like other F/E's?
2. Also what is the effective date of the new rule?

Thank you for any information that you can give me. Brick Keltner, Koorsen Fire & Security

References:

NAFED Notice:

The U.S. Department of Transportation has made a major revision to CFR 49 Section 173.309 Fire Extinguishers. The revision was made to the opening section which describes what the US DOT classifies as fire extinguishers. This DOT description is not based on product use, NFPA, or other fire-related definitions. The DOT regulates the manufacturing, testing, and transportation of what it describes as fire extinguishers.

This revision makes pre-engineered and engineered fire extinguishing system cylinders "fire extinguishers" for transportation purposes. With this being the case, pre-engineered and engineered system cylinders would be required to be marked, labeled, and entered on the shipping papers as Fire Extinguisher, UN1044, Hazard Class 2.

CFR 49 §173.309 Fire extinguishers.

This section applies to portable fire extinguishers for manual handling and operation, fire extinguishers for installation in aircraft, fire extinguishers for installation as part of a fire suppression system, and large fire extinguishers. Fire extinguishers for installation as part of a fire suppression system include cylinders charged with either a compressed gas and an extinguishing agent or a gas which comprises the sole fire extinguishing agent in the system. A fire extinguisher does not include cylinders pressurized with a gas for purposes of expelling a separately stored extinguishing agent in the fire suppression system. Large fire extinguishers include fire extinguishers mounted on wheels for manual handling; fire extinguishing equipment or machinery mounted on wheels or wheeled platforms or units transported similar to (small) trailers; and fire extinguishers composed of a non-rollable pressure drum and equipment, and handled, for example, by fork lift or crane when loaded or unloaded. Cylinders filled with a compressed gas whose purpose is to expel a separately stored extinguishing agent may not be transported under this section when offered for transportation or transported apart from a suppression system.

CFR 49 §180.209 Requirements for requalification of specification cylinders

(j)(1)(ii)(a) For a cylinder having a water capacity over 5.44 kg (12 pounds), by the water-jacket, direct expansion or proof pressure test methods as prescribed in CGA C-1. For the water-jacket or direct expansion test, the requalification must be performed by the end of 12 years after the original test date and at 12-year intervals thereafter. For the proof-pressure test, a requalification must be performed by the end of 12 years after the original test date and at seven (7) year intervals.

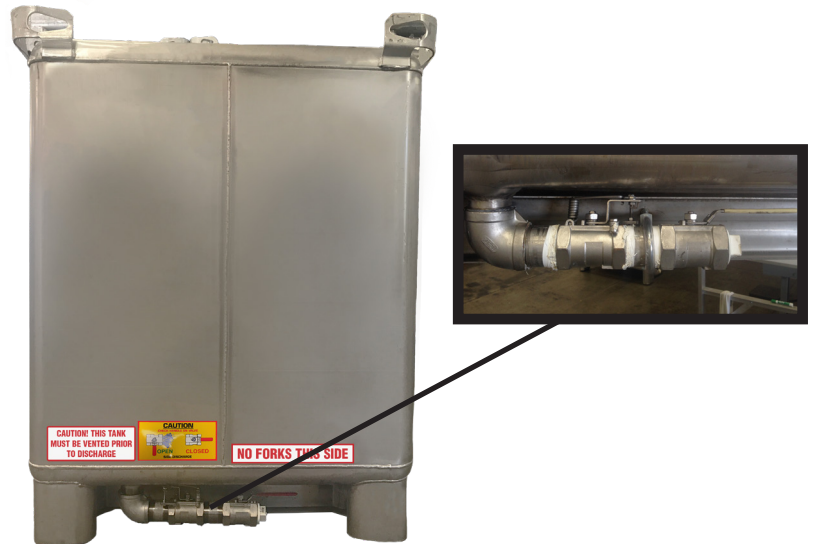
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FIRE SAFE VALVE

SP 12412 authorizes the discharge of liquid hazardous materials of Class 3, PG II or PG III with a flashpoint of less than 100° F, from UN/DOT IBCs without removing the IBCs from the vehicle transporting them as long as the IBCs confirm to the outlet requirement in 178.275(d)(3) or 178.345-11. Precision IBC's Fire Safe valve meets CFR 178.345-11 not only providing an external stop-valve that is thermally activated at a temperature not over 250° F but also includes the manually operated ball valve as well as the dust cap.

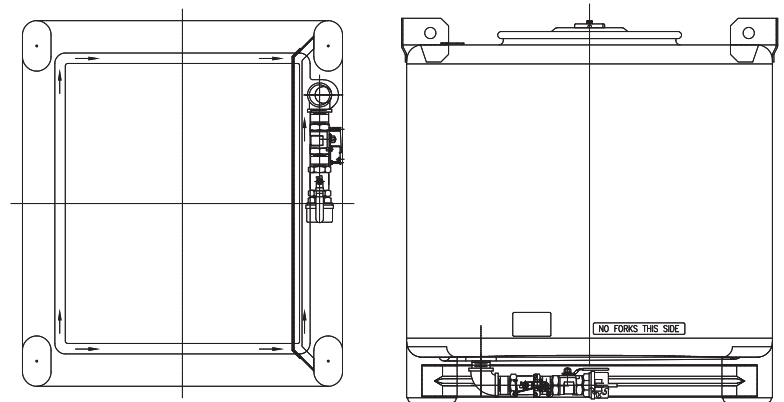
FEATURES:

- Stainless steel ball valve
- Stainless steel actuator spring
- Stainless steel fusible link set to activate at not more than 250° F
- Blow out proof stem design
- 100% test air under water at 100psi
- Working pressure 1,000psi WOG
- Temperature range -60° to 450° F
- Positive seal in the closed position
- End types: NPT threaded



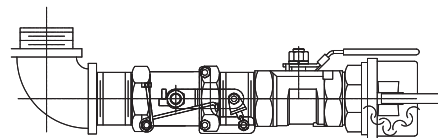
BENEFITS:

- Economical and affordable, no need to purchase special order tank
- Flexible, can be added to standard IBCs
- Retro fits to all your side discharge IBCs and most center discharge IBCs
- Minimal required maintenance
- No bolts to be torqued after each fill
- Spring loaded auto shut off
- Valve does not add significant weight allowing you to ship more of your product



FIRE VALVE OUTLET ASSY

SCALE: NONE



Drawings provided for visual purposes only. Actual installation may be different. JAN '18



Believe in better service.

PRECISIONIBC.COM

BROUSSARD, LA
888.805.1247

FAIRHOPE, AL
800.544.7069

CASE STUDY: FIRE SAFE RETROFIT VALVE

COST EFFECTIVE, WEIGHT SAVING, FLEXIBLE, DOT SP 12412 COMPLIANT

CUSTOMER'S CHALLENGE:

In December of 2005 the U.S. Department of Transportation changed the regulation governing the discharge of liquid hazardous materials from the back of a motor vehicle in Intermediate Bulk Containers (IBCs) and DOT Specification 57 portable tanks. The new special permit, SP 12412, detailed that any IBC or Specification 57 portable tank that contains a liquid hazardous product of Class 3, Packaging Group II, or Packaging Group III with a flash point of less than 100 F must have an automatic thermal activated safety valve installed.

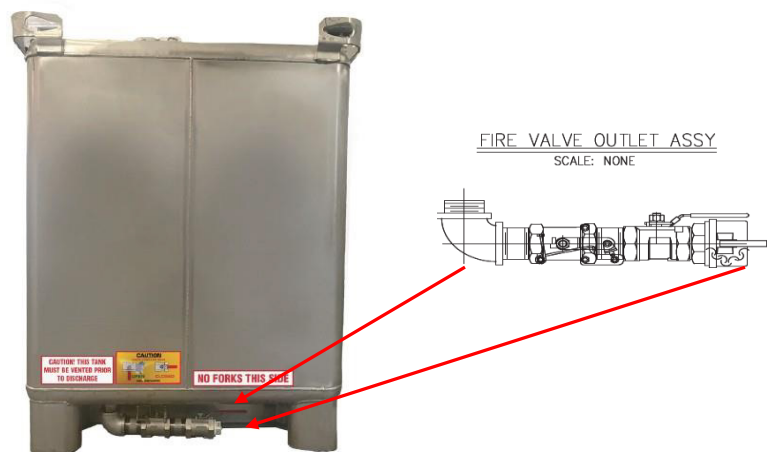
PRECISION IBC'S SOLUTION:

Precision IBC successfully negotiated a 6 month extension to SP 12412 while a solution could be developed that met the special permits requirements. After evaluating different options and discussing with customers, Precision IBC determined that the safest and most cost effective solution to meet the requirements of the special permit was a fire safe valve. The benefit of the fire safe valve is that it can be retrofitted to existing IBC fleets, rental or customer owned. This solution differed markedly from other approaches followed in the industry, the most notable example being the expensive cargo tank.

VALUE GENERATED:

The decision to adopt a retrofit fire safe valve solution as opposed to the more expensive cargo tank solution represented an affordable, cost effective and flexible solution for Precision IBC's customers. The retrofit fire safe valve provides key benefits to the customer not found using other solutions:

- **Flexibility** - The fire safe valve can be retrofitted to all side discharge and most center discharge tanks. Depending on the application and the IBC, the fire safe valve retrofit has the potential to make any IBC a "pump off" tank.
- **Affordability** - The cost of purchasing a fire safe valve that can be added to an existing IBC fleet as opposed to purchasing a dedicated cargo tank represents a tremendous savings for the end user. A fire safe valve is approximately 12x less expensive than a cargo tank.
- **Shipping/Handling** - Due to IBC weight requirements and restrictions while in transit, the heavier the IBC, the less product that can be shipped. Precision IBC's fire safe valve does not represent a significant weight increase as opposed to the heavier cargo tank which is approximately 150 lbs heavier than a standard tank.
- **Safety** - The fire safe valve is an automatic emergency shut off valve. Once the fusible link melts the valve shuts off, there is no requirement to manually pull a lever on the tank as there is with the cargo tank. The fire safe valve is installed in-line with the discharge assembly so there are no special bolts that must be torqued down after each discharge — another requirement with the cargo tank.



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Actual installation may be different.



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