



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

MAR 19 2005

Mr. Donald E. Warren
VP Engineering
Safecraft Safety Equipment
5165 C Commercial Circle
Concord, CA 94520

Ref. No.: 04-0202

Dear Mr. Warren:

This is in response to your request for a clarification of the requirements in § 173.309(a) of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). You state that your company plans to use non-specification stainless steel cylinders as a component in a fire suppression system for installation in vehicles, primarily race cars. We apologize for the delay in responding and any inconvenience it may have caused. Your questions are paraphrased and answered as follows:

- Q1. The cylinder will have, at a maximum, a volumetric capacity of 6.1 L (375 cubic inches), an operating pressure of 200 psig, a test pressure of 600 psig at 70° F, and a minimum burst pressure of 1200 psig at 70° F. The extinguishing agent will be an approved water-based surfactant and/or foam. The cylinder may be removed from the vehicle and transported via commercial carrier to a facility for refilling and/or retesting. The cylinder will be in compliance with the Department of Labor's Occupational and Safety Administration (OSHA) retest requirements in 29 CFR 1910.157(e). Does the cylinder comply with the requirements in § 173.309(a) of the HMR?
- A1. Your cylinder appears to meet the limited quantity requirements contained in § 173.309(a) (3)(i) through (a)(3)(iv). As stated in paragraph (a)(3)(iii), a criterion for these non-specification cylinders is that prior to initial shipment, each cylinder must be tested, without evidence of failure or damage, to at least three times its charged pressured at 21° C (70° F). Each fire extinguisher must be marked with the test date and with the words "MEETS DOT REQUIREMENTS". Because your cylinder has a capacity exceeding 900 ml (55 cubic inches), it may not contain any liquefied compressed gas. The extinguishing agent must meet the requirements in Special Provision 18 in § 172.102 of the HMR. Also note that OSHA's retest requirements are contained in paragraphs (e) and (f) in 29 CFR 1910.157.



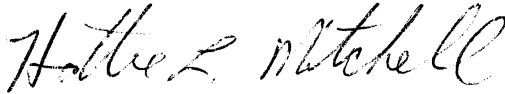
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173.309

- Q2. If the answer to Q1 is yes, may we use a cylinder with a capacity of not more than 18 L (1,100 cubic inches) charged to not more than 1660 kPa (241 psig) at 21°C (70 °F)?
- A2. Yes, provided the cylinder does not exceed the 18 L (1,100 cubic inches) maximum capacity limitation and is in full conformance with the requirement in § 173.309(a) if the charged cylinder is removed from the vehicle and offered for transportation. Also see §§ 173.24 and 173.29.

I hope this information is helpful.

Sincerely,

A handwritten signature in cursive script that reads "Hattie L. Mitchell". The signature is written in black ink and is positioned above the typed name.

Hattie L. Mitchell
Chief, Regulatory Review and Reinvention
Office of Hazardous Materials Standards



Mitchell
 § 173.309
 Fire Extinguishers
 04-0202 18 Aug 2004

Fax Msg 202/366-3012 Sheet 1 of 1

Attn: Ms. Hattie Mitchell, Chief
 Regulatory Review and Reinvention DHM-12
 Office of Hazardous Materials Standards
 U.S.DOT, RSPA

Re: Request for Confirmation on Requirements of 49 CFR 173.309, Fire Extinguishers

Dear Ms. Mitchell:

We request a conformity check for a specific fire extinguisher component we intend to manufacture and ship to our customers. It involves a conventional, pressurized, stainless steel cylinder, filled with an approved water-based surfactant and/or foam type agent. The application is for vehicle on-board fire suppression systems, primarily race cars. We believe that para. 173.309 is clear enough, but there still seems to be some confusion within the industry.

We believe our question to be simple enough, so it relates to the largest unit we expect to manufacture. Our fundamental question is, "Does the fire extinguisher described below, using a nonspecification cylinder, comply with 173.309(a) ?"

*yes,
 173.309
 173.309*

DESCRIPTION:

- 1. Size: Cylinder internal volume- 375 cu. In. (6.1 liters)
- 2. Pressure: Charged with nitrogen to 200 psig
- 3. Agent: 10 lbs. (277 cu. In.) 6% concentration wetting / foam agent in water
- 4. Test Pressure: 600 psig @ 70 F
- 5. Burst Pressure: 1200 psig minimum @ 70 F
- 6. Marking: Adhesive label (example) PRESSURE TESTED TO 600 PSIG (4240 kPa)
 MEETS DOT REQUIREMENTS [2004]
- 7. Retest: Compliance with OSHA 29 CFR 1910.157(e)

Comment: We recognize that 173.309(a)(3)(iv) requirements for subsequent shipment (e.g., refill) is for "portable" extinguishers. Our cylinder is a "fixed" extinguisher, but we would abide by the retest requirements cited.

In closing, if the answer to our question is yes, then we could extend our system capability to 1,100 cu.in. capacity cylinders charged to less than 241 psig @ 70 F, using a water-based agent and non-DOT cylinders.

Sincerely,

Donald E. Warren, VP Engineering

5165 C Commercial Circle, Concord, CA 94520 ; 1-800/400-2259, Fax 1-925/405-0311