



U.S. Department  
of Transportation

1200 New Jersey Avenue SE  
Washington, DC 20590

**Pipeline and Hazardous  
Materials Safety  
Administration**  
**DEC 21 2011**

Sergeant Brad C. Gibson  
Texas Highway Patrol  
Commercial Vehicle Training Unit  
Texas Department of Public Safety  
455 "B" State Highway 1  
Georgetown, TX 78628

Reference No. 11-0153

Dear Sergeant Gibson:

This is in response to your July 6, 2011 letter and e-mail requesting clarification on how tube trailer motor vehicles are defined under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180), and ask if Reference No. 10-0116 supercedes Reference No. 88-0026. You refer to two letters of clarification this Office issued under Reference Nos. 88-0026 (to Paul Horgan; 4/28/1998) and 10-0116 (to Neil Banman; 5/12/2011). Specifically, you ask under what circumstances manifolded, non-bulk packagings would be considered a single bulk packaging.

Because the two letters describe different packagings with different associated risks, which we restate later in this letter, the letter issued under Reference No. 10-0116 does not supercede the letter issued under Reference No. 88-0026. Manifolded cylinders have inherent design risks, such as exposed cylinder shells and piping, opportunities for product backflow and backflash, and are usually designed to carry larger quantities of gas. All of these factors can contribute to the loss of an entire load during an incident. Therefore, it is the opinion of this Office that:

- cylinders interconnected through manifolding that use a common outlet (e.g., a pressure regulator) operate as an integral unit;
- non-bulk cylinders that are manifolded in a tube trailer such that the aggregate capacity of the tube trailer meets the definition prescribed in § 171.8 of the HMR for a bulk packaging must be treated as one bulk packaging;
- individual non-bulk cylinders that are not manifolded and are designed to operate separately with their own stop valves are non-bulk packagings.

The Reference No. 88-0026 letter states two compartments permanently attached to a motor vehicle and used in the same manner as a cargo tank to dispense gasoline and diesel fuel to other vehicles that are manifolded together without valves to separate them are considered a bulk packaging if they have an aggregate capacity that exceeds 450 L. In

addition, this letter states manifolded bulk packagings permanently attached to a motor vehicle that are designed to perform as cargo tanks contain safety features and appurtenances and are sometimes subject to different or lesser stresses than tube trailer cylinders. This letter also states if each compartment has valving that is closed during transportation, each compartment is considered a separate packaging regardless of whether the compartments have a contiguous shell. You state that based on Reference No. 88-0026 your organization has maintained the view that:

- 1) manifolded, non-bulk packagings with their own stop valve in the closed position are separate packagings;
- 2) manifolded, non-bulk packagings with their own stop valve in the open position are a single bulk packaging when their aggregate capacity exceeds 450 L; and
- 3) manifolded, non-bulk packagings without their own stop valve are a single bulk packaging when their aggregate capacity exceeds 450 L.

We disagree. The Reference No. 88-0026 letter concerned packagings designed to operate as cargo tanks. For the reasons stated earlier in this letter, it is the opinion of this Office that manifolded cylinders have the ability to release their entire contents during an incident regardless of whether they have individual stop valves in the opened or closed position or they are without stop valves.

The Reference No. 10-0116 letter states a tube trailer that contains non-bulk cylinders is a bulk packaging because it is a transport vehicle, and because it is designed to transport gas in an aggregate quantity greater than 3,000 L (792 gallons), which meets the definition of a bulk packaging under § 171.8 of the HMR. This letter also states cylinders in a tube trailer that each have their own shut-off valve and are connected with stainless steel tubing through a header, heat exchanger, and several additional valves to an automated valve that controls outlet pressure are also one bulk packaging under the HMR.

I hope this satisfies your request.

Sincerely,



T. Glenn Foster  
Chief, Regulatory Review and Reinvention Branch  
Standards and Rulemaking Division

Edmonson  
\$172.800  
\$171.8 Security Plans  
11-0153

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July 6, 2011

Mr. Charles E. Betts  
Director, Office of Hazardous Materials Standards  
U.S. DOT/PHMSA (PHH-10)  
1200 New Jersey Avenue, SE East Building, 2<sup>nd</sup> Floor  
Washington, DC 20590-0001

Dear Mr. Betts,

I am requesting written clarification on the manifolding of non-bulk packages and its subsequent effect on the packages' status of becoming a single bulk package, when statutorily defined amounts are met, or remaining separate non-bulk packages. There seems to be some confusion in the enforcement community, since interpretation 10-0116 was issued by your office on May 12, 2011, on whether manifolded non-bulk packages, each with its own shut-off valve, transported in the closed position, retain their status as non-bulk packages or become a single bulk package.

In your office's letter to Mr. Paul Hogan, on April 28, 1998, it is written by your office, "Two compartments manifolded together without valves to separate the compartments would be considered a bulk package if the aggregate capacity exceeds 450 liters. When valving is present and closed during transport each compartment is considered a separate packaging. This remains true whether or not the packagings have a contiguous shell." We understand this to mean that closed valving constitutes an intermediate form of containment for the purposes of determining if a package meets the definition of a bulk package or not.

Our Department has long used the above language to view: 1) separate non-bulk packages, manifolded together, each with their own stop valve in the closed position during transport, as separate non-bulk packages, 2) separate non-bulk packages, manifolded together, each with their own stop valve in the open position during transport, as a single bulk package (when the aggregate capacity exceeds 450 liters) and 3) separate non-bulk packages, manifolded together, each without their own stop valve, as a single bulk package (when the aggregate capacity exceeds 450 liters).

Our officers often encounter trucks and trucks and trailers transporting multiple non-bulk packages containing combustible liquids that are manifolded. Our understanding is that based upon the presence of a stop valve for each package, in a closed position during transport, the packages remain non-bulk and exempt from the HMRs, while the absence of a stop valve for each package or presence of a stop valve for each package, in an open position during transport, the packages are then considered to be a bulk package and the HMRs become applicable. In some of the configurations we encounter, the non-bulk packages can be filled and/or drained simultaneously and some configurations further utilize anti-backflow valves.