



DEPARTMENT OF TRANSPORTATION  
MATERIALS TRANSPORTATION BUREAU  
WASHINGTON, D.C. 20590

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Title 49—Transportation  
CHAPTER I—DEPARTMENT OF TRANSPORTATION, MATERIALS TRANSPORTATION BUREAU  
SUBCHAPTER C—OFFICE OF HAZARDOUS MATERIALS OPERATIONS  
[Docket No. HM-124, Amdt. 178-38]  
PART 178—SHIPPING CONTAINER SPECIFICATIONS

Bottom Outlet Valves on MC 312 Cargo Tanks

The purpose of this amendment to § 178.343-5(b) of the Hazardous Materials Regulations is to provide an alternate means of protecting bottom outlet valves on MC 312 cargo tanks to assure against the accidental escape of liquid cargoes. Section 178.343-5(b) presently requires this protection be provided by the use of bottom outlet valves equipped with a shear section.

On March 26, 1975, the Hazardous Materials Regulations Board published a notice of proposed rulemaking, HM-124; Notice No. 75-2, in the FEDERAL REGISTER (40 FR 13316) which would permit the use of bottom outlet valves without shear sections on MC 312 cargo tanks if protection for the valves is provided by suitable guards capable of absorbing a concentrated horizontal force of at least 8,000 pounds.

A number of commenters suggested that the proposed alternate method be revised to require that the bottom outlet valves be located in the protective envelope provided by the suspension sub-assembly of the cargo tanks. The Bureau believes it overly restrictive to allow the suspension sub-assembly to serve as the only alternate to a shear section. As proposed, § 178.343-5(b)(1)(ii) will permit the suspension sub-assembly or any other method which will meet the strength criteria to serve as valve protection. For this reason, § 178.343-5(b)(1)(ii) remains as proposed in the notice.

One commenter agreed that bottom outlet valve protection can be provided by the use of guards; however, it was suggested that the guards provide protection at least equivalent to that afforded top outlets for overturn protection. The Bureau does not have data available at this time to prescribe strength requirements for guards on MC 312 cargo tanks other than those that are presently presented for the MC 306 and MC 307 cargo tanks (see 49 CFR

178.340-8(d)(1)(ii). In addition, the Bureau is not aware of any data that would indicate that the present requirements are not adequate. Therefore, the strength criteria of guard protection for bottom outlet valves on MC 312 cargo tanks will remain as proposed.

Another commenter pointed out that the word "emergency" is not used in the present wording of § 178.343-5(b)(1). It is recognized that this section deals with bottom outlet product piping and not necessarily emergency valve piping. Therefore, the word "emergency" is deleted from the proposed regulations.

In consideration of the foregoing, § 178.343-5 of Title 49, Code of Federal Regulations is amended by revising paragraphs (b)(1) and (b)(1)(i), and by adding paragraph (b)(1)(ii) to read as follows:

§ 178.343-5 Outlets.

(b) . . . . .

(1) Product piping must be protected in such a manner as to reasonably assure against the accidental escape of contents. Such protection must be provided by:

(i) A shear section located out-board of each valve seat and within 4 inches of the vessel which will break under strain and leave the valve seat and its attachment to the vessel and the valve head intact and capable of retaining product. The shear section shall be machined in such a manner as to abruptly reduce the wall thickness of the adjacent piping (or valve) material by at least 20 percent; or

(ii) By suitable guards capable of absorbing a concentrated horizontal force of at least 8,000 pounds applied from any horizontal direction, without damage to the discharge piping which will adversely affect the product retention integrity of the discharge valve.

(18 U.S.C. 834; 49 CFR 1.53(g))

Effective: March 31, 1976. However, immediate compliance with the regulations as amended herein is authorized.

Issued in Washington, D.C., on January 21, 1976.

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Director,  
Materials Transportation Bureau.

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