

**DEPARTMENT OF TRANSPORTATION****Research and Special Programs  
Administration****49 CFR Parts 173 and 178**

[Docket No. HM-185, Amdt. Nos. 173-179,  
178-81]

**Standards for Polyethylene  
Packagings; Revisions**

**AGENCY:** Materials Transportation  
Bureau (MTB), Research and Special  
Programs Administration, Department of  
Transportation.

**ACTION:** Final rule; petitions for  
reconsideration and revisions.

**SUMMARY:** This document contains  
revisions to a final rule published under  
Docket HM-185 (49 FR 24684; June 14,  
1984) which amended the Hazardous  
Materials Regulations applicable to  
polyethylene packagings used for  
hazardous materials. This amendment to  
the final rule: (1) Removes the

authorization in § 173.247(a)(21) which permits use of Specification 34 polyethylene drums as packagings for thionyl chloride; (2) revises § 173.119(m)(19) to authorize use of Specification 34 drums for flammable liquids which are also corrosive liquids; and (3) revises manufacturing requirements in § 178.19-3(a) to permit a wall thickness of 0.090 inch rather than 0.125 inch, in corners and undercuts only, for Specification 34 drums of greater than 15 gallons capacity. These changes are made in response to two petitions for reconsideration.

**EFFECTIVE DATE:** October 1, 1984.

**FOR FURTHER INFORMATION CONTACT:**

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**SUPPLEMENTARY INFORMATION:** On August 26, 1982, MTB published a notice of proposed rulemaking (Docket HM-185, Notice 82-7) in the *Federal Register* (47 FR 37592). Based on the proposals contained in the notice and the merits of comments received from the public in response thereto, on June 14, 1984, MTB published a final rule in the *Federal Register* (49 FR 24684). As part of this rulemaking § 178.19 was revised: (1) To authorize a Specification 34 polyethylene drum of 55 gallons maximum capacity, (2) to add a provision for continued use of 55 gallon polyethylene drums manufactured under the terms of exemptions, and (3) to add authorizations for use of Specification 34 for a number of materials previously authorized in polyethylene drums only under exemptions.

Two petitions for reconsideration were received, one jointly from Hedwin Corporation (Hedwin) and Container Corporation of America (CCA) and the other from Union Carbide Corporation (Union Carbide). The Hedwin and CCA petition requests reconsideration concerning authorization for use of Specification 34 for thionyl chloride and minimum thickness requirements for Specification 34. The Union Carbide petition requests reconsideration concerning the use of Specification 34 for flammable liquids which are also corrosive liquids.

With regard to the authorization for use of Specification 34 for thionyl chloride, the Hedwin and CCA petition states:

*Thionyl chloride.* The amendment authorizes polyethylene packaging for this commodity in Section 173.247. To our knowledge, this addition is based only upon exemptions held by CCA and Greif Bros. Both exemption holders are deeply concerned

from the standpoint of product quality, i.e., contamination from polyethylene. There also is a tangible safety concern, although more testing would be required to document this. This concern arises from information developed since addition of this commodity to the exemptions, and relates primarily to long term storage and reuse of the packaging.

We understand that Mobay and Occidental are the only shippers who were interested in this authority, and that only four shipments have occurred. The rationale expressed in the preamble for adding this material is not consistent with such a small number of shipments: "MTB notes that all of these materials have successful shipping experience under exemption and that there has been over one year of additional experience acquired since comments were submitted to Notice 82-7".

Accordingly, until further investigation can resolve the doubts regarding this material, were petition for removal of the authorization of Specification 34 for thionyl chloride.

MTB notes that Greif Bros. Corporation supports this petition. Upon further consideration and based on this demonstration of concern and allegation of insufficient shipping experience by the exemption holders, MTB agrees that the packaging of thionyl chloride in polyethylene drums should remain under the terms of exemptions. Therefore, the final rule is revised to remove § 173.247(a)(21), which contains the authorization for use of Specification 34 for thionyl chloride.

With regard to minimum thickness requirements for Specification 34 drums, the Hedwin and CCA petition is quoted again as follows:

*Minimum thickness in corners and undercuts.* Under paragraph 7.a.ii of exemption E-6883, Hedwin is authorized to produce polyethylene drums with a wall thickness no less than 0.140 inch measured on any point of the container "except for no less than 0.110 inch measured in the chime area" as shown on the Hedwin drawing accompanying the original exemption application.

Under paragraph 7.a.i. of E-7072, CCA is authorized to produce a drum having a wall thickness no less than 0.12 inch measured on any point on the container "except for no less than 0.090 inch measured in a small area of the top chime."

Greif Bros. Corporation wrote to the Exemptions Branch on December 21, 1983, asking for a similar revision to their E-7933. Although their application has not been acted upon, as noted above, Greif Bros. supports this petition for reconsideration.

In the notice of proposed rulemaking in Docket No. HM-185, this subject was addressed in the preamble as follows: "A minimum container wall thickness of 0.125 inch would be required with 0.090 inch thickness authorized in corners and undercuts." This was expressed in footnote "3" to proposed § 178.19-3: "A minimum thickness of 0.090 inch is authorized in corners and undercuts."

This part of the proposal was not adopted. In the preamble to the final rule, the MTB said, "Several commenters contended that it is in the best interests of safety not to provide a reduction of material thickness in corners and undercuts. MTB agrees with this contention and the final rule requires a minimum wall thickness of 0.125 inch throughout the container."

There were but three comments against this issue, and in essence these constitute but one comment since the three were the Chemical Packaging Committee and two of its members. The CPC's comments were based only upon a "feeling" of its members that reduced thickness should not be authorized "despite any exemption experience which would seem to indicate otherwise."

Pennwalt commented generally, without any specifics: "Our experience shows that palletization is sometimes not optimum (thick deck, wide board spacing, etc.) which puts abnormal stress load on chime areas which sometimes causes failures particularly in thin areas." Hedwin has provided polyethylene drums to Pennwalt for years, but has no record of a single incident being reported to them along the lines described by Pennwalt's Bob Schaefer. CCA, the other exemption holder, did not provide drums to Pennwalt but has no reports of such failures from other customers. Accordingly, it is difficult to identify the failures Mr. Schaefer claimed in this comment.

He went on to say, "If 12 manufacturers can meet the 0.125 min., the thirteenth should be able to." He obviously was unaware of the fact that there are two existing exemptions related to wall thickness, held by manufacturers, who together accounted for a large proportion of the 55-gallon polyethylene drums in commerce at the time. His comment also predated the Greif Bros. application for similar authority.

Du Pont commented in a fashion similar to the Packaging Institute: "While, to the best of our knowledge, no negative experience has been reported to date under exemptions, it is our belief that this reduction at these stress points would not be in the best interest of safety."

In contrast to these unsubstantiated comments and "belief," Hedwin has the very real experience of shipping nearly 800,000 drums under this exemption without difficulty attributable to this aspect of the exemption. Also in contrast to such comments is CCA's experience in the production of over 200,000 drums without a failure.

In short, the reality of these companies' vast experience grossly outweighs the unsubstantiated and incorrect beliefs of two members of the Chemical Packaging Committee and the reflection of their views in the CPC's composite comments.

The MTB's failure to adopt the proposed 0.090 provision, a rulemaking designed to eliminate the need for most polyethylene drum exemptions, in fact, forces the continuation of two of them. In addition, the Greif application ought to be granted. More applications may be expected, because we have been in contact with other companies in the industry who may seek this authority.

Experience justifies a general rule in the codified volume of 49 CFR, not the continuation or new issuance of exemptions.

We also are mindful of the many drums made under these exemptions that are in use in the field. The grandfather clause offered in the amendment was to mark Spec. 34 on those exemption drums for which the exemption is no longer necessary. Thus, declining to adopt the 0.090 proposal means that these drums remain under the exemption.

We seek to eliminate unnecessary exemptions for several reasons. The most obvious is the administrative burden on the companies and the agency alike, in the application, review, issuance and renewal processes. In addition, while before HM-185 virtually every plastic drum was under exemption, that is no longer the case, and we are concerned that there may be a competitive disadvantage to those few containers that must remain under the exemption.

The alternative to maintaining these exemptions and issuing new ones would be to increase the overall weight of the container to achieve the 0.125 minimum in the corners and undercuts. The increase in costs has not been thoroughly documented as of this filing, but is generally estimated at between 5-10%.

Simply stated, the petitioners have actual experience in transportation of approximately one million drums meeting the 0.090 standard. It is a fact that there is no safety or quality problem with these drums. This is countered in the file only by comments that acknowledge this good experience, and yet oppose the proposal based only upon unsubstantiated "feeling" and "belief." Feeling and belief may be all one can rely upon when no facts are available, but that is not the case here.

Accordingly, exemption holders Hedwin and CCA, with the support of Greif Bros., hereby petition for reconsideration of this aspect of the amendment, and urge adoption of footnote "3" as originally proposed for the table in § 178.19-3.

Based on the foregoing discussion, it appears that at least two exemptions may be continued in effect because they do not meet minimum thickness requirements as adopted in the final rule and that other polyethylene drum manufacturers may apply for exemption from this provision. MTB shares the petitioners' desire to eliminate unnecessary exemptions. Also, MTB notes that another polyethylene drum manufacturer has submitted comments in support of this petition. The manufacturer claims that in laboratory testing of drums with 0.090 inch wall thickness in undercut areas there was no difference in performance to drums with 0.125 inch wall thickness in undercut areas, with respect to stacking tests and drop tests. MTB agrees with petitioners that there has been an adequate demonstration of safety for drums constructed with wall thicknesses

of less than 0.125 inch, in corners and undercuts. Therefore, the final rule is revised, by adding a footnote to the table in § 178.19-3(a), to permit a minimum wall thickness of 0.090 inch rather than 0.125 inch, in corners and undercuts only, for Specification 34 drums of greater than 15 gallons capacity.

In the final rule, MTB had added authorizations for use of Specification 34 based on commenters' input, experience acquired under the terms of various polyethylene drum exemptions, and reliance on new permeation and compatibility standards added in § 173.24(d). Authorizations were added for flammable liquids with flash points above 20° F., organic peroxides (including those classed as flammable liquids), hydrobromic acid (not over 49%), poisonous liquids, n.o.s., and cyanide solutions. Union Carbide has petitioned MTB to amend the final rule at § 173.119(m)(19) to authorize use of Specification 34 for both flammable liquids which are also organic peroxides and those flammable liquids which are also corrosive. The petitioner contends that current authorizations under various DOT exemptions are a basis for amending § 173.119(m)(19) and that the amendment would be consistent with MTB's stated intent of reducing the burden of regulatory compliance imposed under the terms of exemptions on manufacturers of polyethylene packagings and shippers who use these packagings.

With the addition of permeation and compatibility standards in § 173.24(d) as adopted in the final rule and shipping experience acquired under exemptions, MTB sees no reason for denying this petition. Therefore, § 173.119(m)(19) in the final rule is revised to authorize use of Specification 34 for flammable liquids which are also corrosive.

The change to § 173.247(a) made by this document negates the change made in the final rule; making it effective when that rule is scheduled to take effect would preserve the regulatory status quo and therefore avoid cost and confusion. Consequently, good cause exists for making this amendment effective October 1, 1984, the effective date of the final rule that it amends.

The other two changes provide relief from certain requirements adopted in the final rule. For this reason it is appropriate that the effective date of this amendment corresponds to the effective date of the final rule that they amend, that is, October 1, 1984.

Based on limited information available concerning size and nature of entities likely to be affected by this amendment, I certify that this

amendment will not have a significant economic impact on a substantial number of small entities because the overall economic impact of this amendment will be minimal. The MTB has determined that this rule, as promulgated, is not a major rule under the terms of Executive Order 12291 or significant under DOT implementing procedures (44 FR 11034). A regulatory evaluation and environmental assessment of the final rule are available for review in the docket. The economic impact of this document has been found to be so minimal that further evaluation is unnecessary.

#### List of Subjects

##### 49 CFR Part 173

Hazardous materials transportation. Packagings and containers.

##### 49 CFR Part 178

Hazardous materials transportation. Shipping container specifications.

In consideration of the foregoing, 49 CFR Parts 173 and 178 are amended as follows:

#### PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

1. In § 173.119, paragraph (m)(19) is revised to read as follows:

§ 173.119 Flammable liquids not specifically provided for.

(m) \* \* \*

(19) Specification 34 (§ 178.1 of this subchapter). Polyethylene drum. Authorized only for flammable liquids which are also organic peroxides or corrosive liquids. The shipper shall assure conformance with the requirements of § 173.24(d) of this part prior to first shipment.

##### § 173.24 [Amended]

2. In § 173.247, paragraph (a)(21) is removed and reserved.

#### PART 178—SHIPPING CONTAINER SPECIFICATIONS

3. In § 178.19-3, the table in paragraph (a) is revised by adding the superscript "2" following the figure ".125" in the column captioned *Minimum thickness (inches) measured on any point of container* and a second footnote is added to the table to read as follows:

"2 A minimum thickness of 0.090 inch is authorized in corners and undercuts."

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