



DEPARTMENT OF TRANSPORTATION  
HAZARDOUS MATERIALS REGULATIONS BOARD  
WASHINGTON, D.C. 20590

1507

[Docket No. HM-80; Amdt. 172-18, 173-68]

**PART 172—COMMODITY LIST OF  
HAZARDOUS MATERIALS CON-  
TAINING THE SHIPPING NAME OR  
DESCRIPTION OF ALL ARTICLES  
SUBJECT TO PARTS 170-189 OF  
THIS CHAPTER**

**PART 173—SHIPPERS**

**Phosphorus Pentasulfide**

The purpose of this amendment to the Department's Hazardous Materials Regulations is to identify phosphorus pentasulfide by name as a flammable solid and to prescribe packaging requirements for its transportation.

On March 10, 1971, the Hazardous Materials Regulations Board published a notice of proposed rule making, Docket No. HM-80; Notice 71-7 (38 FR 4626) which proposed to classify phosphorus pentasulfide as a flammable solid. On July 18, 1972, the Board published another notice of proposed rule making in Docket No. HM-80, superseding Notice 71-7 (Notice 72-8 (37 FR 14239)). This later notice repeated the proposal to classify the material as a flammable solid and, in addition, proposed specification packaging. Several comments were received on this later notice.

One commenter objected to classification of the subject material as a flammable solid. In his comments, he referred to Docket No. HM-103, an advance notice of proposed rule making on a DOT Hazardous Information System (37 FR 12660), and cited that document as support for classification as a "Dangerous When Wet" material. The advance proposal, as set forth in Docket No. HM-103, does not establish "Dangerous When Wet" as a separate hazard classification, but rather establishes that the material has an additional hazard that is proposed to be specifically identified. It is contemplated that such materials will be classed and labeled as flammable solids. Therefore, since the Board does not intend to propose this additional hazard as a classification, the Board has classed this material as a flammable solid.

Some commenters pointed out that costly modification of certain bin-type packagings would be necessary if the Board pursued its proposed action. Six incidents involving phosphorus pentasulfide have been reported, three of which involved fire. The Board has considered the cost/benefit aspects of the rule and, in view of the incidents that have occurred and the experiences noted in the development of DOT specification 56 and the experience with present

packaging, it has concluded that such modifications are warranted. Strengthening of the side-opening door closure in these types of packaging has been a concern of the Board for some time. This conclusion is consistent with its decision in the amendments to Docket HM-68 (37 FR 2885 and 3524) which were based on observed deficiencies in the closure which resulted in sifting of certain materials. The Board acknowledges that these modifications will require a certain period of time in order that the flow of traffic of this material will not be disrupted and is of the opinion that an 8-month modification period is reasonable if no further incidents occur. In this respect, the Board advises shippers to exercise special precautions in preparing these packagings for shipment during the interim period. Some commenters requested that the regulations provide for nonspecification (DOT) packaging. However, other commenters objected to the use of any packaging other than DOT specification packaging. After considering the incidents involving this material, and considering the nature of the product, the Board does not find justification for authorizing other than DOT specification packaging except for material that is fused solid.

One commenter suggested that the packaging for phosphorus pentasulfide be limited to the packaging authorized for phosphorus sesquisulfide. Adoption of such packaging criteria would severely restrict available packaging options for shipment and would in fact entail a substantial deviation from present practices for packaging this chemical. After reviewing the properties of the material and transportation experience with packaging now in use, the Board is of the opinion that DOT specification packagings should be prescribed, but that the restriction to use only packagings now listed in § 173.225 is not warranted. However, the Board does agree that the packaging used must be water-tight, i.e., a packaging design to prohibit the ingress of water, and has provided such a requirement in this amendment.

The note for specification 53 portable tanks indicating that new construction is not authorized has not been included in § 173.225(b)(2) because this specification is no longer shown in Part 178 and continued use is controlled by the requirements of § 173.32(d). The note would be redundant.

In consideration of the foregoing, 49 CFR Parts 172 and 173 are amended as follows:

I. In § 172.5 paragraph (a), the List of Hazardous Materials is amended as follows:

§ 172.5 List of hazardous materials.  
(a) \* \* \*

Article	Classed as—	Exemption and packing (see sec.)	Label required if not exempt	Maximum quantity in 1 outside container by rail express
(add)				
Phosphorus pentasulfide.....	F.S.....	No exemption, 173.225.....	Yellow.....	11 pounds.

II. (A) In Part 173 table of contents, § 173.225 is amended to read as follows:  
Sec.

173.225 Phosphorus sesquisulfide and phosphorus pentasulfide.

(B) In § 173.225, the heading is amended; paragraph (b) is added to read as follows:

§ 173.225 Phosphorus sesquisulfide and phosphorus pentasulfide.

(b) Phosphorus pentasulfide must be packed as follows:

(1) In any packaging prescribed in § 173.154 which will not permit water to come in contact with the lading.

(2) Specification 53 or 56 (§§ 178.251, 178.252 of this subchapter). Metal portable tank.

NOTE 1: Non-DOT specification metal portable tanks or bins similar to specification 53 or 56 may be used until August 30, 1973.

(3) Metal drum not over 15 gallons capacity. Authorized only for phosphorus pentasulfide fused into a solid mass before transportation.

This amendment is effective June 30, 1973. However, compliance with the regulations as amended herein is authorized immediately.

(Sec. 831-835, title 18, United States Code, section 9 of the Department of Transportation Act, 49 U.S.C. 1657; title VI, sec. 902(h); Federal Aviation Act of 1958, 49 U.S.C. 1421-1430, 1472(h), and 1655(c))

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KENNETH L. PIERSON,  
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