



ASBESTOS INFORMATION ASSOCIATION

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VI.E.16
PRIORITY ATTENTION
PLEASE

6 December 1978

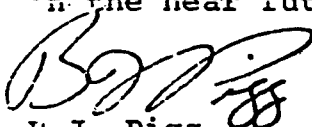
MEMORANDUM FOR: Messrs. Carson - Asbestos Corp. LTD.
Carlson - Special Asbestos Co.
Ciskowski - Jim Walter Research Corp.
Coats - Calavaras Asbestos LTD
Brown - Connell Bros. LTD.
Donner - Vermont Asbestos Group
Gritzuk - Cassair Asbestos Corp. LTD
Morgan - Continental Products Corp.
Novak - Huxley Development Corp.
Poutiatine - Johns-Manville Corp.
Rhodes - Union Carbide Corp.

SUBJECT: Department of Transportation Final Rule on
Transportation of Asbestos

It will be recalled that the Department of Transportation issued a proposed rulemaking with regard to loading, shipping and handling of asbestos fiber in the March 2, 1978 issue of the Federal Register.

By notice in the Federal Register of December 4, 1978, DOT amends its regulations for hazardous materials by issuing a final rule for transportation of asbestos. The new regulation is hurried to addressees without comment. It becomes effective April 30, 1979.

An assessment of the enclosure is in progress and will follow in the near future.


B.J. Pigg
Executive Director

cc: Executive Committee
Standards Advisory Committee
Mr. Filteau, QAMA
Mr. S. Masuda, Mitsubishi, Canada LTD.
Mr. Muth, ASARCO
Sir Neville Stack, AIA

Enclosure

A19679

[4910-60-M]

Title 49—Transportation

CHAPTER I—RESEARCH AND SPECIAL
PROGRAMS ADMINISTRATION, DE-
PARTMENT OF TRANSPORTATION(Docket No. HM-160; Amdt. Nos. 172-47,
173-123, 174-33, 175-7, 176-6, 177-44)

TRANSPORTATION OF ASBESTOS

Miscellaneous Amendment

AGENCY: Materials Transportation
Bureau, Research and Special Pro-
grams Administration, DOT.

ACTION: Final Rule.

SUMMARY: These amendments re-
quire shipments of commercial asbes-
tos fibers to be packaged in rigid, air-
tight or dust and sift proof packag-
ings. Except when the shipment is by
private carrier, non-rigid packages,
such as bags, must be palletized and
unitized using shrink-wrapping or
strapped fiberboard wrapping. These
amendments represent minimum
safety requirements and are intended
to reduce the risks to the public
health associated with the generation
of airborne concentrations of asbestos
that may result from the packaging
and handling of asbestos fiber ship-
ments in commercial transportation.

EFFECTIVE DATE: These regula-
tions are effective April 30, 1979.ADDRESS: All written comments re-
ceived in this rulemaking action are
available for examination during regu-
lar business hours in the Dockets
Branch, Room 6500, Trans Point
Building, 2100 Second Street SW.,
Washington, D.C.FOR FURTHER INFORMATION
CONTACT:Douglas A. Crockett, Standards Divi-
sion, Materials Transportation
Bureau, Research and Special Pro-
grams Administration, 2100 Second
Street SW., Washington, D.C. 20590,
phone 202-426-2075.

SUPPLEMENTARY INFORMATION: On March 2, 1978, a notice of proposed
rulemaking (HM-160; Notice 78-3) was
published in the FEDERAL REGISTER (43
FR 8562) stating that the MTB was
planning to exercise regulatory con-
trol over the transportation of asbes-
tos. Specific regulatory requirements
were proposed for the control of cer-
tain forms of asbestos (e.g., milled or
crude asbestos fibers). No require-
ments were proposed for asbestos
fibers which are immersed or fixed in
a natural or artificial binder material,
or for manufactured products contain-
ing asbestos. Interested persons were
invited to participate in the rulemak-
ing proceeding through submission of
written comments on the proposal to

the MTB. All submissions, including
late submissions, that were received on
the proposal were fully considered by
the MTB in the development of this
final rule.

NEED TO REGULATE THE
TRANSPORTATION OF ASBESTOS

Several commenters felt that the
MTB had failed to establish a need to
regulate the transportation of asbes-
tos. One of the commenters suggested
that there was no need for the pro-
posed regulatory control of asbestos in
transportation because the "methods
and procedures now in use for the
packaging and transport of asbestos
meet the requirements of Part 173.
24(A)(sic) of the Transportation Act,
that is 'under conditions normally in-
cident to transportation there will be
no significant release of the hazardous
materials to the environment' and 'the
effectiveness of the packaging will not
be substantially reduced' . . . (t)he
proposal contains no documentation to
justify additional regulation." This
commenter, while apparently believing
that asbestos is a hazardous material,
was incorrect in suggesting that asbes-
tos is currently regulated by the MTB;
or in suggesting that the purpose of
Notice 78-3 was to justify the addition-
al regulation by the MTB of asbestos
in transportation. The transportation
of asbestos is not now regulated by the
MTB. It was precisely the purpose of
Notice 78-3 that it should be. If, as the
commenter suggests, the transporta-
tion of asbestos is now "in compliance
with pertinent provisions of the Trans-
portation Act," this rulemaking action
will formalize and insure in a uniform
and systematic manner that this is the
case.

Another commenter stated that
Notice 73-8 did "not establish a founda-
tion for regulation, in that it does
not document, or even allege for that
matter, the actual release of fiber
during the transportation of asbestos." As
was pointed out in Notice 78-3, the
MTB has "no detailed information on
the amount of asbestos fibers released
during transportation." The MTB does
not now regulate asbestos, and has not
therefore systematically collected acci-
dent data on the amounts of asbestos
released in transportation or data on
the frequency of such accidents. Most
asbestos fiber, however, is currently
shipped in bags, and it is undeniable
that these bags can and do break, or
can be and are being torn or punc-
tured, with a consequent release of
some or all of the bag contents. It can
be speculated, moreover, that if all of
the 750,000 tons of asbestos annually
shipped in the United States were
packaged in, as one commenter states,
the "standard package" of a 100-pound
bag; and if as little as one-tenth of one
percent of these bags were damaged in

transportation during the year (one
out of a thousand) and if on the aver-
age 1 percent of the contents of the
bags so damaged were released, the
total amount of asbestos released per
year would equal about 7.5 tons. These
calculations give a general idea of the
magnitude of asbestos fiber that
would be released, given a 99.9 percent
efficiency factor for "bag integrity" in
transportation, and a 99.0 percent effi-
ciency factor in minimizing the
amount of asbestos released given a
tear in the bag. The rather evident
fact that asbestos has been accidental-
ly released during transportation has
not been contradicted by anything
submitted to the public docket on this
rulemaking action. One commenter,
for example, in discussing the use of
open-bed trailers with side racks and
tarpaulins to transport asbestos stated
that there is no evidence that the use
of such trailers "has contributed to
bag breakage and the release of air-
borne concentrations of asbestos
fiber." The Asbestos Information As-
sociation, an incorporated nonprofit
organization representing 51 firms in
the United States and Canada engaged
in the manufacture or processing of
asbestos-containing products and the
mining/milling of asbestos fibers,
stated that with "the very large
volume of asbestos shipped, occasional
container damage may occur."

Although several commenters who
discussed this matter do not contend
that asbestos has not been released in
transportation, they generally are of
the view that the amounts that are
being released are not significant or of
a sufficient amount to pose an unrea-
sonable risk to public health. The
MTB does not agree; it believes that
the amounts of asbestos fibers that
are being released now, or would be re-
leased in the future, in the absence of
these amendments, may pose an un-
reasonable risk to health.

Several commenters were concerned
with the statement appearing in
Notice 78-3 that "asbestos in its sev-
eral commercial forms, poses serious
health hazards to individuals subject
to long term exposure to airborne as-
bestos concentrations." One com-
menter stated that "not all long-term
exposures to airborne concentrations
pose any health hazards . . ." An-
other commenter suggested that the
statement needed "more explicit defi-
nition" and that "reference should
have been made to unanswered ques-
tions within the scientific community
concerning mineral type, fiber size and
smoking in the asbestos-cancer rela-
tionship." One commenter stated that
there is a dose-response relationship
between exposure to asbestos and dis-
ease causation, and that this conclu-
sion is supported by an OSHA state-
ment from its June 7, 1972 preamble

to its standard for exposure to asbestos dust (37 FR 11318). The OSHA statement is that: "No one has disputed that exposure to asbestos of high enough intensity and long enough duration is causally related to asbestosis and cancers" (emphasis added). Although the MTB had also quoted this statement in Notice 78-3, the words underlined for emphasis had been inadvertently omitted. Under these circumstances, some commenters apparently felt that the MTB was asserting the view that because, according to some commenters, asbestos is ubiquitous, long term exposure to ambient levels of asbestos fibers poses serious health hazards to all people, without regard to their occupational or para-occupational status. It was not the intention of the MTB to assert this view. That there are or can be "undisputed grave consequences from exposure to asbestos" (37 FR 11318) does not depend on the questioned conclusiveness of the evidence reported by OSHA (40 FR 47652) regarding the potential health hazards posed by low-level, brief or intermittent exposure to asbestos. The MTB relies on the foregoing FEDERAL REGISTER references for the general view that exposure to asbestos may pose an unreasonable risk to the public.

SECTION 173.1090(a) AND (b)

Several commenters stated that there are certain mineral ores, ore concentrates and milled mineral products which may have trace amounts of asbestos, or minor amounts of asbestos occurring as contaminants. They suggested that these materials presented no risk to property and little, if any, risk to public health and safety in transportation. Moreover, since the packaging requirements proposed in Notice 78-3 applied to only certain kinds of asbestos, namely milled or crude asbestos fibers produced by an asbestos mill, they further suggested that only "commercial asbestos fibers" be defined as a hazardous material.

The MTB recognizes that there are certain mineral ores, ore concentrates and milled mineral products, as well as other products, that contain certain amounts of asbestos, and that the commercial value of these minerals or products is not dependent on their asbestos content. The specific requirements in these amendments for the control of asbestos fibers in transportation do not apply to such materials or products, nor do they apply to asbestos as a waste product¹ or as a con-

taminating trace element. The amendments apply only to asbestos in its several commercial forms since it is those forms of asbestos that have been firmly established as posing serious health hazards to individuals. A new paragraph has been added which would define commercial asbestos as any material or product containing asbestos that has commercial value because of its asbestos content, and appropriate modifications have been made in the amendments to reflect this clarification. This new paragraph is identified in this amendment as paragraph (b) (paragraphs (b) and (c) in the notice are now paragraphs (c) and (d), respectively).

One commenter recommended that the scope of Notice 78-3 be amended to include, in addition to asbestos fibers, "all mineral and man-made (fibers) which have been identified by U.S. Government agencies as being carcinogenic and which may pose serious health risk." On December 9, 1976, the MTB published an Advance Notice of Proposed Rulemaking (41 FR 53824) in Docket No. HM-145 entitled "Environmental and Health Effects Materials." In that Notice, the MTB announced that it was considering whether new or additional transportation controls are necessary for certain classes of materials which are not generally subject to the existing Hazardous Materials Regulations. The question of whether all mineral and man-made fibers, which have been identified by U.S. Government agencies as being carcinogenic and which pose an unreasonable risk to public health, should be controlled in transportation will be considered in terms of the further development and resolution of the issues associated with Docket HM-145. Notice 78-3 however, pointed out that a large number of comments were received in Docket HM-145, and that a considerable amount of staff evaluation of these comments was still required before it would be possible to issue a notice or notices of proposed rulemaking for environmental and health effects materials, either on a comprehensive or on a selective basis.

SECTION 173.1090(c)(1)

Several commenters objected to the reference made to metal or fiber drums to illustrate the rigid packaging alternative for asbestos fibers. These commenters stated that the asbestos industry has not developed the technology to use this type of packaging alternative; that available technology is not transferable to the use of metal or fiber drums; and that, among other things, the use of this alternative could generate far greater airborne concentrations of asbestos than pack-

aging and shipping practices currently in effect. As one commenter pointed out:

Commercial asbestos is fluffy. It is difficult to pack this material in a rigid container, and, because the fiber would gradually compact during shipment, it would be difficult to remove it for introduction into the manufacturing process. It would also be extremely cumbersome, if not impossible, to empty rigid containers effectively and rapidly into hoods designed for bags. Spillage would no doubt occur and workers would be unnecessarily exposed to fibers.

Another commenter recommended that a DOT Specification 56 portable tank be included in the amended rule as an acceptable package "for the transportation of asbestos-type products." This commenter stated that "with the use of equipment designed for the purpose, the D.O.T. 56 package can be readily filled or emptied without release of any product dust to the atmosphere or contact with the product by the operator." Another commenter insisted that only metal drums and not fiber drums were acceptable for the transportation of asbestos fibers. These commenters apparently lost sight of the fact that proposed § 173.1090(c)(1) does not "mandate," as one commenter suggested, or even encourage the use of rigid, airtight packaging such as metal or fiber drums or even portable tanks. It provides an alternative method of shipping commercial asbestos fibers. As was indicated in Notice 78-3, the MTB believes that its proposed non-specification packaging standards as applied to the transportation of commercial asbestos is an effective and efficient means of precluding potential problems associated with asbestos airborne emissions occurring during transportation; and that they are consistent with the standards of the EPA and the OSHA. Some of the commenters however were also apparently unaware that the transportation standards for the control of asbestos are designed to be comprehensive in nature such that, once the standards are promulgated, commercial asbestos cannot be packaged and transported in any matter not specified in the amendments. If under more advanced technology the use of rigid, airtight packaging would lessen the likelihood of airborne asbestos emissions associated with bag breakages under current industry wide non-uniform non-standardized packaging practices, then it is necessary that alternative transportation standards be available so as not to preclude the development and utilization of such technology. Although the public record on Notice 78-3 contains statements that the asbestos industry is seeking to improve the technology involved in the shipment and handling of commercial asbestos so as to minimize the possibility for the accidental release of such asbestos incident to

¹Under Docket HM-145A (43 FR 22626, May 25, 1978), new standards and procedures were proposed for the transportation of hazardous waste materials. That proposal would include waste asbestos if so identified by EPA under Section 3001 of the Solid Waste Disposal Act as amended by the Re-

source Conservation and Recovery Act (Pub. L. 94-580).

transportation, it is by no means certain that the pace of such technological improvements is rapid enough or that the best, economically feasible technology is being considered. However, the classification of asbestos as an ORM-C will, for the first time, require the submission of incident reports to the MTB by carriers of any unintentional release of asbestos during transportation, and enable the MTB to monitor the safety performance record associated not only with the transportation alternatives available under current technology as provided for by these amendments, but also with any improvements in that technology.

For these reasons, the substance of proposed § 173.1090(c)(1) is being retained but modified to reflect an even broader range of permissible rigid, airtight packaging alternatives. This section now is identified in this amendment as § 173.1090(d)(1) because of the addition of new paragraph (b).

SECTION 173.1090(c)(2)

Proposed paragraph (c)(2) of Notice 78-3 covered the transportation alternative of shipping commercial asbestos in bags when in closed freight containers, motor vehicles, or rail cars that were loaded by the consignor and unloaded by the consignee. Several commenters noted that, unless reliance was placed on using the rigid, airtight packaging alternative provided in the proposal, this alternative would preclude the shipment of asbestos fibers by open-bed trailers. One commenter noted that there is "no evidence to indicate that the use of open-bed trailers with side racks and tarpaulins has contributed to bag breakage and the release of airborne concentrations of asbestos fiber." Another commenter noted that the type of bag permitted by proposed paragraph (c)(2) was not specified, and that the shipper could package asbestos in burlap bags, or very thin paper or polyethylene bags which could permit asbestos fibers to be easily released into the air during transit. Another commenter was concerned with "small volume users of asbestos and customers who, from time to time, require sample shipments for trial production runs of a few hundred pounds," and who under § 173.1090(c)(2) would be forced to acquire the exclusive use of a railcar or highway trailer, or rely on the alternative provided by § 173.1090(c)(1).

Given the lack of detailed data on the amount of asbestos fibers released in transportation and the circum-

stances and causes for such release, the MTB is in general agreement with the thrust of these comments; accordingly, a new paragraph (d)(2) recognizes less restrictive handling of bagged asbestos than was proposed.

SECTIONS 174.840, 175.640, 176.906,
177.844

In these Sections, Notice 78-3 had proposed that, incident to its transportation, asbestos must be loaded, handled, and any asbestos contamination removed, in a manner that will prevent occupational exposure to airborne asbestos particles (emphasis added).

Some commenters objected to the word "prevent," believing that this word was intended to mean completely precluding the possibility of an accident occurring in which asbestos fibers would be released; or completely isolating people involved in the transportation, loading and unloading of asbestos from exposure to asbestos fibers from whatever source such fibers were generated. One commenter pointed out that with "the very large volume of asbestos shipped, occasional container damage may occur." Another commenter pointed out, although in a somewhat contradictory fashion, that since "asbestos is ubiquitous," therefore "airborne levels of asbestos fibers can be present in any place of employment, regardless of whether or not asbestos or products containing known quantities of asbestos are handled" (emphasis added). The Asbestos Information Association in its comments stated that "asbestos is ubiquitous, and there are no workplaces where there is zero occupational exposure to asbestos" (original emphasis). If Notice 78-3 was not as clear as it might have been on this point, it is only necessary to say that the basic purpose of these amendments is to minimize the exposure to airborne asbestos particles accidentally released during or incident to transportation; and appropriate changes to Parts 174, 175, 176, and 177 have been made to reflect this purpose.

ORM-C CLASSIFICATION

Notice 78-3 proposed that the classification for "asbestos" would be as an ORM-C, (Other Regulated Material, Group C). Several commenters were uncertain and concerned about the marking requirements associated with ORM-C classifications. One commenter noted that the designation ORM-C would "carry no meaningful warning to the person handling or opening the package." Another noted that the present regulations of the Occupational Safety and Health Admin-

istration (OSHA) on labeling requirements for asbestos convey much more information than an ORM-C marking requirement. These commenters were apparently not completely familiar with the marking requirements associated with ORM-C designated materials. The ORM-C marking not only warns when a package contains hazardous material, but it is also a certification by the person offering the package for transportation that the material is properly described, classed, packaged, marked, and labeled (when appropriate) and in proper condition for transportation according to applicable regulations of the Department. Neither function precludes or preempts OSHA labeling requirements or creates "contradictory regulatory requirements for labeling" as one commenter suggested. For these reasons, no changes have been made with respect to any marking requirements for asbestos packages.

ECONOMIC/INFLATIONARY IMPACT

In reviewing the potential economic and inflationary impacts associated with the final rule, the MTB has determined that such impacts will be minimal. Based on the comments received, and the consequent modification of Notice 78-3, the only economic costs associated with final amendment pertain to the reporting requirements to be submitted to MTB on the accidental releases of commercial asbestos fibers during or incident to transportation. The absolute annual magnitude of these costs will be, of course, a function of the total number of incident reports that are submitted on accidental releases of asbestos fibers; but in view of the undisputed grave consequences from exposure to asbestos fibers, these reporting requirements will not impose an unnecessary burden on the economy, on individuals, or on public and private organizations.

In consideration of the foregoing, Title 49, Code of Federal Regulations, Parts 172, 173, 174, 175, 176, and 177 are amended as follows:

PART 172—HAZARDOUS MATERIALS TABLE AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

1. In § 172.101 the Hazardous Materials Table is amended by adding a new entry, immediately following "Arsine," to read as follows:

RULES AND REGULATIONS

58687

[4910-60-C]

§ 172.101 Hazardous materials table.

(1) * w/ A	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(4) Labels(s) required (if not excepted)	(5) Packaging		Maximum net quantity in one package		(7) Water shipments		
				(a) Exception	(b) Specific requirements	(a) Passenger carry- ing aircraft or railer	(b) Cargo only aircraft	(a) Cargo vessel	(b) Pas- senger vessel	(c) Other requirement
*	(Add) Asbestos	ORM-C	None	173.1090 (c)	173.1090 (d)	No Limit	No Limit	1, 2	1, 2	Stow and handle to avoid air- borne particles.

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RULES AND REGULATIONS

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

2. Section 173.1090 is added preceding Subpart N to read as follows:

§ 173.1090 Asbestos.

(a) Asbestos includes any of the following - hydrated mineral silicates: chrysotile, crocidolite, amosite, anthophyllite asbestos, tremolite asbestos, actinolite asbestos, and every product containing any of these minerals.

(b) Commercial asbestos is any material or product containing asbestos that has commercial value because of its asbestos content.

(c) Asbestos which is immersed or fixed in a natural or artificial binder material (such as cement, plastic, asphalt, resins or mineral ore) and manufactured products containing asbestos or any materials or products whose commercial value is not dependent on their asbestos content, are not subject to the requirements of this subchapter.

(d) Commercial asbestos must be offered for transportation and transported in—

(1) Rigid, airtight packagings such as metal or fiber drums, portable tanks, or

(2) Bags and other non-rigid packagings that are dust and sift proof. When transported by other than a private carrier by highway, bags and other non-rigid packagings containing asbestos must be palletized and unitized by methods such as shrink-wrapping in plastic film or wrapping in fiberboard secured by strapping.

PART 174—CARRIAGE BY RAIL

3. A Subpart M Heading is added immediately following § 174.812 to read as follows:

Subpart M—Detailed Requirements for Other Regulated Materials

4. Section 174.840 is added to read as follows:

§ 174.840 Special loading and handling requirements for asbestos.

Asbestos must be loaded, handled, and unloaded, and any asbestos contamination of rail cars removed, in a manner that will minimize occupational exposure to airborne asbestos particles released incident to transportation. (See § 173.1090 of this subchapter.)

PART 175—CARRIAGE BY AIRCRAFT

5. Section 175.640 is added to read as follows:

§ 175.640 Special requirements for other regulated materials.

Asbestos must be loaded, handled,

and unloaded, and any asbestos contamination of aircraft removed, in a manner that will minimize occupational exposure to airborne asbestos particles released incident to transportation. (See § 173.1090 of this subchapter.)

PART 176—CARRIAGE BY VESSEL

6. Section 176.906 is added to read as follows:

§ 176.906 Stowage and handling of asbestos.

Asbestos must be stowed, handled, and unloaded, and any asbestos contamination of vessels removed, in a manner that will minimize occupational exposure to airborne asbestos particles released incident to transportation. (See § 173.1090 of this subchapter.)

PART 177—CARRIAGE BY PUBLIC HIGHWAY

7. Section 177.844 is added to read as follows:

§ 177.844 Other regulated materials.

Asbestos must be loaded, handled, and unloaded, and any asbestos contamination of transport vehicles removed, in a manner that will minimize occupational exposure to airborne asbestos particles released incident to transportation. (See § 173.1090 of this subchapter.)

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e).)

NOTE.—The Materials Transportation Bureau has determined that these amendments do not require a regulatory analysis under the terms of Executive Order 12044 and DOT implementing procedures (43 FR 9532). A regulatory evaluation is available for review in the docket.

Issued in Washington, D.C., on November 27, 1978.

L. D. SANTMAN,
Director, Materials
Transportation Bureau.

(FR Doc. 78-33771 Filed 12-1-78; 8:45 am)